

Overweight or obese population

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http://www.oecd.org/document/30/0,3343,en_2649_34631_12968734_1_1_1_37407,00.html

<http://www.ecosante.fr/index2.php?base=OCDE&langh=ENG&langs=DEU&sessionid=>

The **Body Mass Index (BMI)** is a single number that evaluates an individual's weight status in relation to height (weight/height^2) with weight in kilograms and height in meters.

Estimates relate to the adult population (normally the population aged 15+ unless otherwise stated) and are based on national health interview surveys for most countries (self-reported data), except for Australia, the Czech Republic (since 2005), Japan, Luxembourg, New Zealand, the Slovak Republic (since 2004), the United Kingdom and the United States where estimates are based on the actual measurement of weight and height. This difference in survey methodologies limits data comparability, as estimates arising from the actual measurement of weight and height are significantly higher than those based on self-report.

- **Overweight** is defined as a BMI between 25 and 30 kg/m^2 ($25 \leq \text{BMI} < 30 \text{ kg/m}^2$).

- **Obesity** is defined as a BMI of 30 kg/m^2 or more ($\text{BMI} \geq 30 \text{ kg/m}^2$).

- **Overweight or obese** population is the sum of the population with a BMI over 25 kg/m^2 ($\text{BMI} \geq 25 \text{ kg/m}^2$).

For further details on the BMI classification, see

http://www.who.int/bmi/index.jsp?introPage=intro_3.html.

Sources and Methods

Australia

* **i** Note that all data are for persons aged 25 to 64 years old.

* **1980, 1983 and 1989** data are from the National Heart Foundation's Risk Factor Prevalence Surveys. Data are for participants living in State capital cities aged 25-64 years old, weight and height measured by trained nurses. BMI calculated for all participants except pregnant women.

* **1995** data are from Australian Bureau of Statistics National Nutrition Survey. 9,599 respondents aged 18 and over. Height and weight measured by trained nutritionists.

* **1999** data are from the 1999-00 Australian Diabetes, Obesity and Lifestyle Study (AusDiab), conducted by the International Diabetes Institute. Approximately 10,000 respondents aged 25 years and over throughout Australia (excluding the Australian Capital Territory). Height and weight were measured.

* **2001** data from the 2001 National Health Survey (approximately 26,900 persons from all states and territories, and all age groups) are not reported in the table since they are self-reported. For information, the reported prevalence of overweight for the population aged 25-64 was 34.9%, and obesity for the population aged 25-64 was 17.9%.

Australian Bureau of Statistics 2002. National Health Survey 2001, Summary of Results. ABS Cat. No. 4364.0. Canberra: ABS.

* **2004-05** data from the 2004-05 National Health Survey (25,906 persons from all states and territories and all age groups) are not reported in the table since they are based on self-reported data. The reported prevalence of overweight for the population aged 25-64 was 34.4%, and obesity for the population aged 25-64 was 18.7%. Note that these may be underestimates.

* **i** Further care should be exercised in comparing data as they do not represent the same populations:

-1980 and 1983 data for state capital cities only.

-1989 data for all capital cities.

-1995 data for all Australia.

-1999-2000 data represent all Australia although the ACT was not surveyed.

* Trend data (age-standardised) are available from the bulletin: "AIHW: Dixon T & Waters A-M 2003. A growing problem: trends and patterns in overweight and obesity among adults in Australia, 1980 to 2001. Bulletin No. 8. AIHW Cat. No. AUS 36. Canberra: AIHW." which can be found at

<http://www.aihw.gov.au/riskfactors/overweight.cfm>.

Austria

1991, 1999: Microcensus "Questions on Health", BMI for population aged 20 years and over.
2006/2007: **Austrian Health Survey**, BMI for population aged 15 years and over.

Belgium

1997, 2001 and 2004 **Health Interview Survey**.

Canada

Statistics Canada. National Population Health Survey (NPHS), biennial, 1994-95, 1996-97 and 1998-99 for the years 1994, 1996 and 1998, and the Canadian Community Health Survey (CCHS), biennial, 2000-01, 2002-03, and 2005 for the years 2001, 2003, 2005 and 2007.

* Data based on reported height and weight of respondents (proxy responses allowed, no physical measurements were performed). The NPHS data for 1994, 1996 and 1998, and the CCHS data for 2001, 2003 and 2005, describe the Canadian household population 15 years of age and older, but exclude persons living on Indian Reserves or Crown lands, residents of institutions, full-time members of the Canadian Armed Forces, and residents of certain remote regions.

* Note: overweight is defined as having a BMI in the range 25.0 - 29.9, and obese as a BMI of 30.0 or more.

* **Statistics Canada**. Canadian Community Health Survey (CCHS) Cycle 2.2 - Nutrition, one time, for 2004, custom tabulations. CCHS - Nutrition, 2004, collected measured height and weight. These data are reported in a separate table (see below) for information.

* CCHS - Nutrition data for 2004 describe the household population 15 years of age and older, living in the ten provinces (not in the Territories), with generally the same exclusions as the two other surveys.

Overweight females	29.5%
Overweight males	40.8%
Overweight population	35.1%
Obese females	22.5%
Obese males	22.3%
Obese population	22.4%
Overw./obese females	52.1%
Overw./obese males	63.0%
Overw./obese population	57.5%

Czech Republic

Data for years 1993, 1996, 1999 and 2002:

Institute of Health Information and Statistics of the Czech Republic.

* Health Interview Survey in the Czech Republic (HIS CR).

* National representative survey of population aged 15 years and over on random sample of about 2400 persons.

Data for year 2005:

Czech Society for the Study of Obesity (www.obesitas.cz). Lifestyle and obesity study 2005.

* Nationally representative sample survey of 2096 persons.

* Population aged 18 years and more is covered.

* Data is based on measured weight and height.

Denmark

National Institute of Public Health.

Denmark's Health Interview Survey (1987, 1994, 2000 and 2005).

Finland

National Institute for Health and Welfare (THL). Department of Epidemiology and Health Promotion. Health Promotion Research Unit. Health Behavior among the Finnish Adult Population/Satu Helakorpi.

* Survey since 1978. Annual postal surveys. A random sample population of Finnish adults aged 15-64 years old.

* The sample size is 5000. The average response rate is 75%.

France

Institut de Recherche et Documentation en Economie de la Santé (IRDES). "Enquête Santé, Soins et Protection Sociale".

* Recall period: 2 years.

* For the year 2004: <http://www.irdes.fr/Publications/Bibliographies/bibresusom/2006/rap1621.htm> and <http://www.irdes.fr/EspaceRecherche/Enquetes/ESPS/EnqueteESPS.html>.

Germany

Federal Statistical Office, Microcensus survey - Questions on health, published in 'Living in Germany – households, families and health, results of the 2005 microcensus'.

<http://www.destatis.de/> or <http://gbe-bund.de>.

* The microcensus is an omnibus survey containing health-related topics (about weight and height).

* Data are available for the years 1999, 2003 and 2005.

* Data before 1999 is not available.

Greece

Data for 2008 derived from "Hellas Health II" survey, conducted by the **Center for Health Services Research, Medical School, University of Athens**. Sample: 1490 persons (representative of the Greek population).

* Coverage: population aged 18+.

Data for 2006 derived from "Hellas Health I" survey, conducted by the **Center for Health Services Research, Medical School, University of Athens**. Sample: 1005 persons (representative of the Greek population).

* Coverage: population aged 18+.

Hungary

Johan Béla National Center of Epidemiology (OEK), National Population Health Survey (OLEF2000, OLEF2003). www.oek.hu.

* Questionnaire survey based on representative samples, started in 2000, repeated about every 3 years. The survey is conducted for the population aged 18 years old and over (instead of 15 years old and over).

Iceland

Icelandic Nutrition Council. National Nutrition Survey's 1990 and 2002. A random sample of the Icelandic population 15-80 years. Height and weight self-assessed.

The Public Health Institute of Iceland: The Health and well being of the Icelandic Population 2007 is a mail survey research project administered at the Public Health Institute of Iceland in collaboration with The Directorate of Health, The Icelandic Cancer Society, Icelandic Nutrition Council, Administration of Occupational Safety and Health in Iceland, University of Iceland, Reykjavik University, University of Akureyri, the Agricultural University of Iceland, the Iceland University of Education. A stratified random sample of the Icelandic population 18-79 year-old. Height and weight self-assessed.

* 1990: Interview survey. Size of sample 2000. Response rate 72%.

* 2002: Telephone survey. Size of sample 2000. Response rate 70.6%.

* 2007: Mail survey. Sample size of 9807, Response rate 60.3%

Ireland

SLÁN (Survey of Lifestyle, Attitudes and Nutrition).

The Slán (**Survey of Lifestyle, Attitudes and Nutrition**) surveys are published in the National Health and Lifestyle Surveys and are carried out every four years. The results for 1998, 2002 and 2007 are estimates that relate to the adult population aged 18+ and are based on self-reported data.

* For information, see the table below showing results for 2007, relating to the adult population aged 18+ and based on measured data.

	Females	Males	Total
Overweight	32%	45%	38%
Obese	24%	22%	23%
Overweight / Obese	56%	67%	61%

* The results of the Slán 07 (Survey of Lifestyle, Attitudes and Nutrition) were published in April 2008 and are available at http://www.dohc.ie/publications/slan07_report.html.

SLAN 2007 Coverage: The study involved face-to-face interviews with 10,364 adults (62% response rate) along with a sub-study on body size of 967 younger adults (18-44 years old) and a more detailed physical examination of approximately 1,250 adults over the age of 45.

* **Periodicity:** The national health and lifestyle survey, SLÁN was first undertaken in 1998 and repeated in 2002 and 2007.

Italy

ISTAT, Istituto Nazionale di Statistica (National Institute of Statistics).

* Survey "Health conditions and recourse to health services, 1994", run every 5 years, is the data source used for 1994 data.

* Survey "Health conditions and recourse to health services, 1999-2000", runs every 5 years, is the data source used for 1999 and 2000 data.

* Survey "Aspect of daily living", runs every year and is the data source used for 2001- 2007.

* ⓘ 1994, 1999 and 2000 data refers to people aged 15 years old and over, while 2001, 2002, 2003, 2005, 2006 and 2007 data refer to people aged 18 years old and over.

Japan

National Health and Nutrition Survey.

* Data refers to the population aged 20 years old and over.

* The survey uses a stratified random sampling method from 300 unit areas and it surveyed 3,599 households in 2006. The survey actually measures the height and weight of people at examination sites. In 2006, 8,060 persons were checked (around 6,000 for those over 20). To be precise, the survey rule allows self-report but it is unusual in fact. For information, see the outline of the survey (in Japanese only) at <http://www.mhlw.go.jp/houdou/2008/04/h0430-2.html>.

Korea

Korea Institute for Health and Social Affairs , Report on the National Health and Nutrition Survey in 1998, 2001 and 2005.

Luxembourg

Source: Basic File: **Service de médecine au travail multisectoriel** (STM).

* Administrative data concerning the resident working population aged from 15 to 65 years old. Data is taken by the work-doctor at the time of the recruiting examination or of a medical check-up following a prolonged sick leave for disease or accident. Pregnant women were removed from the file. Only one observation (the most recent) was retained per year and per capita. Statistics development: **Inspection Générale de la Sécurité Sociale** (IGSS).

* The variables retained to measure the sample representativeness are sex, age and activity sector. The variables distributions being significantly different between the studied sample and the working population, some adjustments have been made.

* ⓘ Note: The sample is, however, not completely representative of the resident working population. The reasons are as follows:

- Some sectors are not represented in the sample, particularly health, public and railroad sectors.

- The professional statute of the individual is, with the sex and the age, one of the three variables to be considered. However, information on this variable is not available. In addition, the working resident population is not representative of the resident population as a whole.

Mexico

National Health and Nutrition Survey. Ministry of Health. National Institute of Public Health 2006.

* Results are from 48 000 households. Data included 32 states. The survey is representative at national and state level. Data refer to the population aged 20 years old and over .

* ⓘ Note: overweight is defined as having a BMI in the range 25.0 - 29.9, and obese as a BMI of 30.0 or more.

Netherlands

Centraal Bureau voor de Statistiek (Statistics Netherlands), Vademecum gezondheidsstatistiek Nederland (several issues); Maandbericht gezondheidsstatistiek (several issues).

* All data from Netherlands's Health Interview Survey, 1981-1996; from 1997 onwards the Integrated System of Social Surveys (ages 20+).

New Zealand

* 1989: **Life in New Zealand (LINZ) Survey**, 1989-90.

* 1997: **National Nutrition Survey**, 1997.

* 2003: **New Zealand Health Survey 2002-03**, Ministry of Health. The five-yearly surveys involve face-to-face interviews with adults aged 15 years and over (approximately 13,000 in 2002-03). For more information, see: <http://www.moh.govt.nz/moh.nsf/ea6005dc347e7bd44c2566a40079ae6f/3d15e13bfe803073cc256eeb0073cfe6?OpenDocument>.

* 2007: **New Zealand Health Survey 2006-07**, Ministry of Health. The five-yearly surveys involve face-to-face interviews with adults aged 15 years and over. The 2006/07 survey was carried out from October 2006 to November 2007, collecting information on 4921 children aged from birth to 14 years, and 12,488 adults aged 15 years and over.

* Height and weight are measured during the interview to determine BMI.

* In previous submissions different BMI cut off points were used for people of Maori and Pacific Islands ethnicities. The BMI cut-offs for people of Maori and Pacific ethnicity were $26 \leq \text{BMI} \leq 32$ for overweight and $\text{BMI} \geq 32$ for obesity. For those of NZ European ethnicity and other ethnicities the BMI cut-offs were $25 \leq \text{BMI} \leq 30$ for overweight and $\text{BMI} \geq 30$ for obesity. The cut-offs were different on the grounds that those of Maori and Pacific ethnicity have a higher level of muscle mass at the same BMI. NZ has now reverted to the standard BMI international cut-off points for all ethnicities. The World Health Organisation BMI cut-off points were used for adults aged 18 years and over. For participants aged 2–17 years, BMI cut-off points developed by the International Obesity Taskforce (IOTF) were used to define thinness, overweight and obesity (Cole et al 2000; Cole et al 2007). The IOTF BMI cut-off points are sex and age-specific, and have been designed to coincide with the WHO BMI cut-off points for adults at age 18 years (18.5, 25 and 30 for underweight, overweight and obesity, respectively). NZ has made this change to definitions in order to comply with international practice. Data for 2002/03, 1997, and 1989 have been reanalyzed to use the standard BMI cut-off international definition.

* Please refer to the online body size technical report for more information (<http://www.moh.govt.nz/moh.nsf/indexmh/portraitof-health>).

Norway

Data from **Norway's Survey on Living Conditions - Health, Care and Social contact**, 1998. **Statistics Norway**, Division of Health Statistics.

* Population aged 16 years old and over.

* Statistics Norway do not have data for years after 2005.

Poland

1996, 2004: **Central Statistical Office**.

Health Interview Surveys conducted by CSO.

* Data adjusted for age and sex.

Portugal

Ministry of Health, Departamento de Estudos e Planeamento da Saúde, Instituto Nacional de Saúde - Dr. Ricardo Jorge.

* 1987: National Health Survey.

* 1995-1996: National Health Survey.

Ministry of Health, Instituto Nacional de Saúde - Dr. Ricardo Jorge.

* 1998-1999: National Health Survey.

Slovak Republic

Public Health Office.

* In 1993, 1998, 2003 data are from WHO – CINDI screening programme performed on a random sample of respondents (e.g. in 2003 there were 2600 respondents and only 1582 respondents actively took part in the

screening).

*  In 2004, 2005 and 2007, data are from voluntary public outpatient programme (i.e. preventive and consulting programme with no fees and which includes some examinations : e.g. search for biological parameters, blood pressure measuring, measuring of waist-line, lip-size and height measuring, calculation of BMI index, etc). All provided data were measured by researchers from Public Health Offices of the Slovak Republic. Data cover population from all regions of the Slovak Republic.

* In the year 2004, there were 12,353 persons examined for the first time (4,338 of which were males and 8,015 were females). In the year 2005, there were 11,240 persons examined for the first time (3,772 of which were males and 7,468 were females). In the year 2007, there were 15 948 voluntary examined persons (of which 5383 were males and 10565 females) in that voluntary public outpatient programme.

Spain

Ministry of Health and Consumer Affairs. National Health Survey 1987, 1993, 1995, 1997, 2001, 2003 and 2006. <http://www.msc.es/estadEstudios/estadisticas/encuestaNacional/home.htm>.

* Percentages computed excluding missing values.

* From 2003, probabilistic sample.

Sweden

Statistics Sweden Data, National Survey of Living Conditions (ULF).

* The surveys are conducted as personal interviews with a random sample from the population (including the institutionalised) aged 16 to 84 years old.

* 12000 to 13000 people are interviewed over a period of 2 years.

* As a result of membership in the European Union, the Living Conditions Survey has been improved and harmonised to meet the requirements of the EU regulation concerning Statistics on Income and Living Conditions (EU-SILC). Up until now, the adaptation process for the Living Conditions Survey has allowed Statistics Sweden to decide on a quality-assured transition to telephone interviews as the main method for data collection starting in 2007, instead of the previous method of face-to-face interviews.

Switzerland

Office Fédéral de la Statistique, Enquête suisse sur la santé, 1992, 1997, 2002, 2007.

Turkey

National Burden of Disease and Cost Effectiveness Study carried out by the **School of Public Health of the Ministry of Health** .

*  Data is for the population aged 18 years old and over.

United Kingdom

Office for National Statistics (ONS), See below for sources in various years.

1980, 1987: Great-Britain; 1991 onwards: England only.

* Adults aged 16 and over.

* 1980 data - Office of Population Censuses and Surveys (OPCS - now ONS) report 'The Heights and Weights of Adults in Great Britain' (this survey only covered the population aged 16 to 64 years old).

* 1987 data - OPCS Adult Nutrition Survey, carried out during October 1986 to August 1987.

* 1991 onwards - Department of Health 'Health Survey for England' annual surveys. Based on actual measurement of weight and height. Data available electronically from 1994 onwards at <http://www.ic.nhs.uk/pubs/hseupdate05/tables/file>.

* Total percentage of population (persons) calculated by applying Health Survey for England male/female percentages to the England male/female populations and summing both as proportion of total England population.

* From 2003 onwards, weighted data has been used.

* 2005 source: The Information Centre. 'Health Survey for England 2005', Table 2.1 – 'Body Mass Index (BMI) by Gender, 1993-2005'. <http://www.ic.nhs.uk/pubs/obesity>.

* 2006 source: The Information Centre for Health and Social Care, 'Health Survey for England, 2006'. Table 4 – 'Body Mass Index (BMI) by survey year; by age and sex.'

* 2007 source: Health Survey for England, 2007: Table 4. The NHS Information Centre for health and social care.

United States

NCHS Data brief. <http://www.cdc.gov/nchs/products/pubs/pubd/databriefs/databriefs.htm>.

* Odgen CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. (2006). Prevalence of Overweight and Obesity in the United States, 1999-2004. JAMA Vol 295. No. 13. 1549-1555. National Health and Nutrition Examination Survey (NHANES). National Center for Health Statistics, Center for Disease Control & Prevention.

* NHANES website: <http://www.cdc.gov/nchs/nhanes.htm>.

Coverage: National Representative Sample of the U.S. Civilian Non-Institutionalized Population.

Periodicity: Data collected annually.

Deviation from the definition: Data does not match OECD definition.

* U.S. estimates are based on data collected through the National Examination Survey, not the Health Interview Survey. National examination survey data based on measured weight and height data provide the best opportunity to track trends in weight in the United States.

* Health interview surveys, such as the National Health Interview Survey (NHIS), the Behavioral Risk Factor Surveillance System (BRFSS) have methodological limitations because their estimates are based on self-reported weight and height. Obesity prevalence estimates, based on self-reported data, tend to be lower than those based on measured data (Mokdad, Serdula, Dietz, et al., 1999).

* U.S. adult population definition covers ages 20 to 74 years old.

* Estimated prevalence for the whole U.S. population (20-74 years) were age-standardised by the direct method to the 2000 US Census population, using age groups 20-39, 40-59, and 60-74 years.

* The results are presented for the middle year of the survey period.

SURVEY	YEAR
NHANES I	1970-1974
NHANES II	1976-1980
NHANES III	1988-1994
NHANES	1999-2000
CONTINUOUS	
NHANES	2001-2002
CONTINUOUS	
NHANES	2003-2004
CONTINUOUS	
NHANES	2005-2006
CONTINUOUS	

* The National Health and Nutrition Examination Survey (NHANES) program of the National Center for Health Statistics, Center for Disease Control and Prevention, includes a series of cross-sectional nationally representative health examinations surveys beginning in 1960. Each cross-sectional survey provides a national estimate for the US population at the time of the survey, enabling examination of trends over time in the US population. In each survey, a nationally representative sample of the US civilian non-institutionalised population was selected using a complex, stratified, multistage probability cluster sampling design.

Deviation from the calculation method: Calculation methods match OECD definition.

Break in time series: No breaks in time series.