

September 2014

Prevalence of Overweight and Obesity Among Children and Adolescents: United States, 1963–1965 Through 2011–2012

by Cheryl D. Fryar, M.S.P.H., Margaret D. Carroll, M.S.P.H., and Cynthia L. Ogden, Ph.D., Division of Health and Nutrition Examination Surveys

Results from the 2011–2012 National Health and Nutrition Examination Survey (NHANES), using measured heights and weights, indicate that an estimated 16.9% of U.S. children and adolescents aged 2–19 years are obese, and another 14.9% are overweight.

Body mass index (BMI), expressed as weight in kilograms divided by height in meters squared (kg/m^2), is commonly used to classify obesity among adults and is also recommended for use with children and adolescents. Cutoff criteria are based on the sex-specific BMI-for-age 2000 CDC Growth Charts for the United States (available from: http://www.cdc.gov/growthcharts/cdc_charts.htm). Based on current recommendations of expert committees, children and adolescents with BMI values at or above the 95th percentile of the growth charts are categorized as obese. This differs from previous years in which children and adolescents above this cutoff were labeled overweight. This change in terminology reflects the labels used by organizations such as the Institute of Medicine and the American Academy of Pediatrics. For more information, see Ogden and Flegal, “Changes in Terminology for Childhood Overweight and Obesity,” available from: <http://www.cdc.gov/nchs/data/nhsr/nhsr025.pdf>.

[Table 1](#) shows the prevalence of overweight and obesity among youth aged 2–19 between 1971–1974 and 2011–2012. The [figure](#) shows trends in obesity in the same age group since 1971–1974, by sex.

Estimates of the prevalence of childhood obesity during the 1960s are available for certain age groups. [Table 2](#) shows the prevalence of obesity among those aged 2–5, 6–11, and 12–19 since 1963–1965, by sex and age.

[Table 3](#) shows the prevalence of obesity by race and Hispanic origin among youth aged 2–19 since 1988–1994.

Although BMI is widely used as a measure of body fat, at a given BMI level body fat may vary by sex, age, and race and Hispanic origin. In particular, research suggests that Asian persons may have more body fat than white persons, especially at lower BMIs, and that health risks may begin at a lower BMI among Asian persons compared with others.

NHANES, conducted by CDC’s National Center for Health Statistics (NCHS), is a stratified, multistage probability sample of the civilian noninstitutionalized population of the United States. A household interview and a physical examination are conducted for each survey participant. During the physical examination, conducted in a mobile examination center, height and weight are measured as part of a more comprehensive set of body measurements. These measurements



NATIONAL CENTER FOR HEALTH STATISTICS



are taken by trained health technicians, using standardized measuring procedures and equipment. Observations for persons missing a valid height or weight measurement and for pregnant females were not included in the data analysis.

For additional information on NHANES methods, visit:
http://www.cdc.gov/nchs/nhanes/survey_methods.htm.

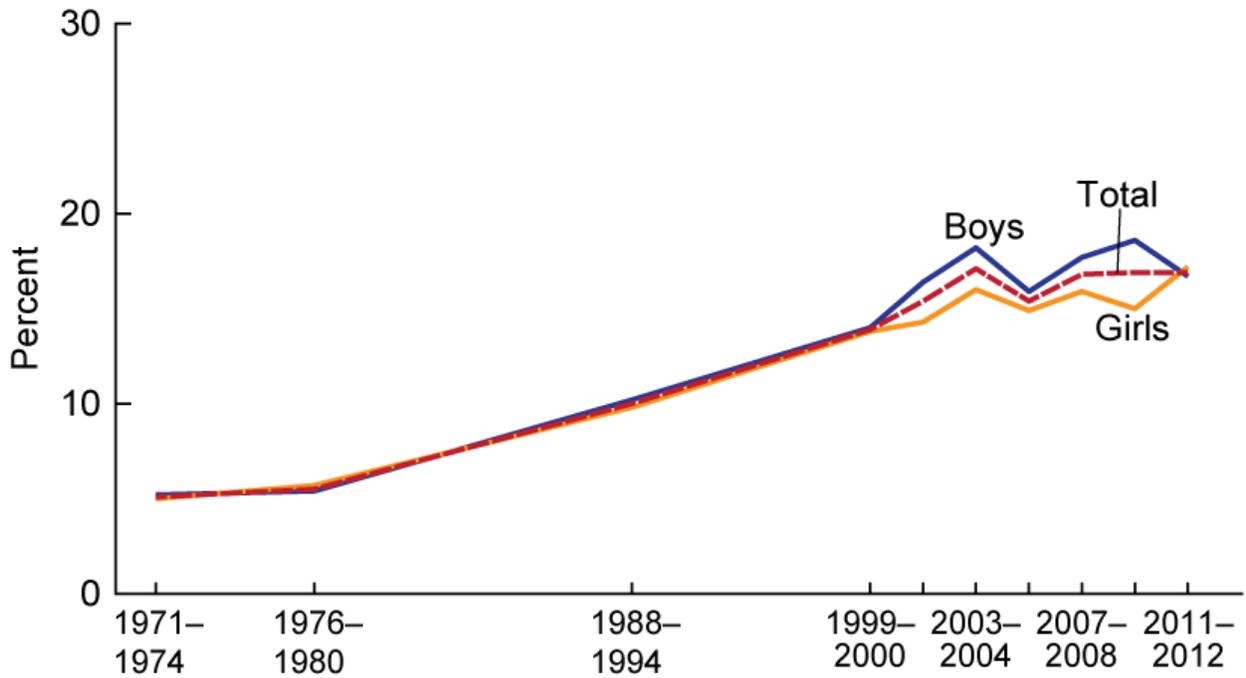
For more detailed estimates see:

- Ogden CL, Flegal KM, Carroll MD, Johnson CL. Prevalence and trends in overweight among U.S. children and adolescents, 1999–2000. *JAMA* 288(14):1728–32. 2002.
- Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999–2004. *JAMA* 295(13):1549–55. 2006.
- Ogden CL, Carroll MD, Flegal KM. High body mass index for age among U.S. children and adolescents, 2003–2006. *JAMA* 299(20):2401–5.
- Ogden CL, Carroll MD, Curtin LR, Lamb MM, Flegal KM. Prevalence of high body mass index in U.S. children and adolescents, 2007–2008. *JAMA* 303(3):242–9. 2010.
- Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of obesity and trends in body mass index among U.S. children and adolescents, 1999–2010. *JAMA* 307(5):483–90. 2012.
- Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of childhood and adult obesity in the United States, 2011–2012. *JAMA* 311(8):806–14. 2014.

This Health E-Stat supersedes the earlier version below:

- Prevalence of obesity among children and adolescents: United States, trends 1963–1965 through 2009–2010. Available from:
http://www.cdc.gov/nchs/data/hestat/obesity_child_09_10/obesity_child_09_10.htm.
- Prevalence of obesity among children and adolescents: United States, trends 1963–1965 through 2007–2008. Available from:
http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.htm.
- Prevalence of overweight among children and adolescents: United States, 2003–2004. Available from: http://www.cdc.gov/nchs/data/hestat/overweight/overweight_child_03.htm.
- Prevalence of overweight among children and adolescents: United States, 1999–2002. Available from: <http://www.cdc.gov/nchs/data/hestat/overweight/overweight99.htm> .

Figure. Trends in obesity among children and adolescents aged 2–19 years, by sex: United States, selected years 1971–1974 through 2011–2012



NOTE: Obesity is body mass index greater than or equal to the sex- and age-specific 95th percentile from the 2000 CDC Growth Charts.
 SOURCE: CDC/NCHS, National Health and Nutrition Examination Surveys 1971–1974; 1976–1980; 1988–1994; 1999–2000, 2001–2002, 2003–2004, 2005–2006, 2007–2008, 2009–2010, and 2011–2012

Table 1. Prevalence of overweight and obesity among children and adolescents aged 2–19 years, by sex: United States, selected years 1971–1974 through 2011–2012

Survey period	Sample (n)	All ¹		Boys		Girls ¹	
		Overweight	Obese	Overweight	Obese	Overweight	Obese
Percent (standard error)							
1971–1974	7,041	10.2 (0.6)	5.2 (0.3)	10.3 (0.8)	5.3 (0.5)	10.1 (0.8)	5.1 (0.4)
1976–1980	7,351	9.2 (0.4)	5.5 (0.4)	9.4 (0.6)	5.4 (0.4)	9.0 (0.5)	5.7 (0.6)
1988–1994	10,777	13.0 (0.7)	10.0 (0.5)	12.6 (0.8)	10.2 (0.7)	13.4 (0.9)	9.8 (0.8)
1999–2000	4,039	14.2 (0.9)	13.9 (0.9)	15.0 (1.9)	14.0 (1.2)	13.4 (0.8)	13.8 (1.1)
2001–2002	4,261	14.6 (0.6)	15.4 (0.9)	14.2 (0.7)	16.4 (1.0)	15.0 (0.9)	14.3 (1.3)
2003–2004	3,961	16.5 (0.8)	17.1 (1.3)	16.6 (1.0)	18.2 (1.5)	16.3 (0.9)	16.0 (1.4)
2005–2006	4,207	14.6 (0.9)	15.4 (1.4)	14.7 (1.2)	15.9 (1.5)	14.6 (1.0)	14.9 (1.6)
2007–2008	3,249	14.8 (0.7)	16.8 (1.3)	14.3 (0.7)	17.7 (1.4)	15.4 (1.5)	15.9 (1.5)
2009–2010	3,408	14.9 (0.8)	16.9 (0.7)	14.4 (1.0)	18.6 (1.1)	15.4 (0.9)	15.0 (0.8)
2011–2012	3,355	14.9 (0.9)	16.9 (1.0)	15.4 (1.4)	16.7 (1.4)	14.5 (1.5)	17.2 (1.2)

¹Excludes pregnant females.

NOTE: Overweight is body mass index (BMI) greater than or equal to the 85th and less than the 95th percentiles from the sex- and age-specific 2000 CDC Growth Charts. Obesity is BMI greater than or equal to the 95th percentile.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

Table 2. Prevalence of obesity among children and adolescents aged 2–19 years, by sex and age: United States, selected years 1963–1965 through 2011–2012

Survey period	All ¹			Boys			Girls ¹					
	2–5 years	6–11 years	12–19 years	2–5 years	6–11 years	12–19 years	2–5 years	6–11 years	12–19 years			
	Percent (standard error)											
1963–1965/ 1966–1970 ²	---	---	4.2 (0.4)	4.6 (0.3)	---	---	4.0 (0.4)	4.5 (0.4)	---	---	4.5 (0.6)	4.7 (0.3)
1971–1974	5.0 (0.6)	4.0 (0.5)	6.1 (0.6)	5.0 (0.9)	4.3 (0.8)	6.0 (0.8)	4.9 (0.8)	3.6 (0.6)	6.2 (0.8)			
1976–1980	5.0 (0.6)	6.5 (0.6)	5.0 (0.5)	4.6 (0.6)	6.7 (0.8)	4.8 (0.5)	5.4 (1.0)	6.4 (1.0)	5.3 (0.8)			
1988–1994	7.2 (0.7)	11.3 (1.0)	10.5 (0.9)	6.2 (0.8)	11.6 (1.3)	11.3 (1.3)	8.2 (1.1)	11.0 (1.4)	9.7 (1.1)			
1999–2000	10.3 (1.7)	15.1 (1.4)	14.8 (0.9)	9.5 (2.3)	15.8 (1.8)	14.8 (1.3)	11.2 (2.5)	14.3 (2.1)	14.8 (1.1)			
2001–2002	10.6 (1.8)	16.2 (1.6)	16.7 (1.1)	10.7 (2.4)	17.5 (1.9)	17.6 (1.3)	10.5 (1.8)	14.8 (2.3)	15.7 (1.9)			
2003–2004	13.9 (1.6)	18.8 (1.3)	17.4 (1.7)	15.1 (1.7)	19.9 (2.0)	18.2 (1.9)	12.7 (2.5)	17.6 (1.3)	16.4 (2.3)			
2005–2006	10.7 (1.1)	15.1 (2.1)	17.8 (1.8)	10.4 (1.7)	16.2 (2.5)	18.2 (2.4)	11.0 (1.2)	14.1 (2.4)	17.3 (2.1)			
2007–2008	10.1 (1.2)	19.6 (1.2)	18.1 (1.7)	9.3 (1.5)	21.2 (1.6)	19.3 (2.2)	10.9 (2.1)	18.0 (2.1)	16.8 (2.0)			
2009–2010	12.1 (1.2)	18.0 (0.8)	18.4 (1.3)	14.4 (1.8)	20.1 (1.0)	19.6 (2.3)	9.6 (1.7)	15.7 (1.0)	17.1 (1.3)			
2011–2012	8.4 (1.3)	17.7 (1.6)	20.5 (1.7)	9.5 (1.9)	16.4 (1.8)	20.3 (2.4)	7.2 (2.1)	19.1 (1.7)	20.7 (2.0)			

--- Data not available. Children aged 2–5 were not included in the surveys undertaken in the 1960s.

¹Excludes pregnant females starting with 1971–1974. Pregnancy status not available for 1963–1965 and 1966–1970.

²Data for 1963–1965 are for children aged 6–11; data for 1966–1970 are for adolescents aged 12–17 (not 12–19).

NOTE: Obesity is body mass index greater than or equal to the 95th percentile from the sex- and age-specific 2000 CDC Growth Charts.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.

Table 3. Prevalence of obesity among children and adolescents aged 2–19 years, by sex and race and ethnicity: United States, selected years 1988–1994 through 2011–2012

Survey period	Boys					Girls ¹							
	Non-Hispanic white	Non-Hispanic black	Non-Hispanic Asian	Hispanic	Mexican American	Non-Hispanic white	Non-Hispanic black	Non-Hispanic Asian	Hispanic	Mexican American			
	Percent (standard error)												
1988–1994	9.7 (1.1)	10.6 (0.8)	---	---	---	14.8 (1.4)	8.6 (1.1)	14.5 (1.1)	---	---	---	---	13.8 (1.9)
1999–2000	10.9 (1.5)	16.4 (1.2)	---	---	---	23.5 (1.5)	11.1 (1.8)	21.4 (1.4)	---	---	---	---	16.8 (1.9)
2001–2002	15.0 (1.5)	15.5 (1.3)	---	---	---	22.0 (1.3)	12.7 (1.9)	19.5 (1.3)	---	---	---	---	17.0 (1.9)
2003–2004	17.8 (2.2)	16.4 (1.5)	---	---	---	22.0 (1.6)	14.9 (1.9)	23.8 (1.4)	---	---	---	---	16.1 (2.3)
2005–2006	13.4 (1.9)	18.3 (1.3)	---	---	---	24.3 (2.7)	12.2 (2.2)	24.4 (2.2)	---	---	---	---	20.6 (1.6)
2007–2008	15.6 (1.9)	17.3 (2.2)	---	---	24.5 (1.7)	24.9 (2.3)	14.9 (2.5)	22.8 (2.4)	---	---	17.3 (1.7)	---	16.6 (2.5)
2009–2010	16.1 (1.8)	24.3 (2.8)	---	---	23.4 (1.4)	24.0 (1.7)	11.7 (1.1)	24.3 (2.6)	---	---	18.9 (1.8)	---	18.2 (2.5)
2011–2012	12.6 (2.4)	19.9 (1.1)	11.5 (2.1)	24.1 (1.4)	24.2 (1.5)	15.6 (2.1)	20.5 (3.1)	*5.6 (2.4)	20.6 (1.5)	---	---	---	21.1 (1.7)

--- Data not available.

* Estimate has a relative standard error greater than 40% and should be used with caution because it does not meet standards of reliability or precision.

¹Excludes pregnant females.

NOTE: Obesity is body mass index greater than or equal to the 95th percentile from the sex- and age-specific 2000 CDC Growth Charts.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey.