

Prevalence of Overweight, Obesity, and Severe Obesity Among Adults Aged 20 and Over: United States, 1960–1962 Through 2015–2016

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Results from the 2015–2016 National Health and Nutrition Examination Survey (NHANES), using measured heights and weights, indicate that an estimated 39.8% of U.S. adults aged 20 and over have obesity, including 7.6% with severe obesity, and another 31.8% 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 overweight (BMI 25.0–29.9), obesity (BMI at or above 30.0), and severe obesity (BMI at or above 40.0).

Age-adjusted trends in overweight, obesity, and severe obesity prevalence from 1960–1962 through 2015–2016 are shown in [Table 1](#). Because surveys before 1988 did not include persons over age 74, [Table 1](#) shows the prevalence for adults aged 20 and over since 1988, and for adults aged 20–74 for all survey periods dating to 1960. The age-adjusted sex-specific trends of overweight, obesity, and severe obesity among adults aged 20–74 from 1960–1962 through 2015–2016 are shown in the [Figure](#). [Table 2](#) contains the prevalence of obesity by age for men and women since 1988–1994, and [Table 3](#) contains the age-adjusted prevalence of obesity by race and Hispanic origin for men and women since 1988–1994.

The prevalence of obesity as measured by BMI among non-Hispanic Asian adults was much lower than that reported for non-Hispanic white, non-Hispanic black, and Hispanic adults. 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 the National Center for Health Statistics, is a stratified, multistage probability sample of the civilian noninstitutionalized population of the United States. The survey began oversampling non-Hispanic Asian persons for 2011–2012 and the total Hispanic population as of 2007–2008. Beginning with 2007–2008, Mexican-American persons are no longer oversampled but are included in the oversampled total Hispanic population.

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 comprehensive set of body measurements. These measurements are taken by trained health technicians, using standardized measuring procedures and equipment. Observations for pregnant women and for persons missing a valid height or weight measurement are not included in the data analysis.

For additional information on NHANES methods, visit:

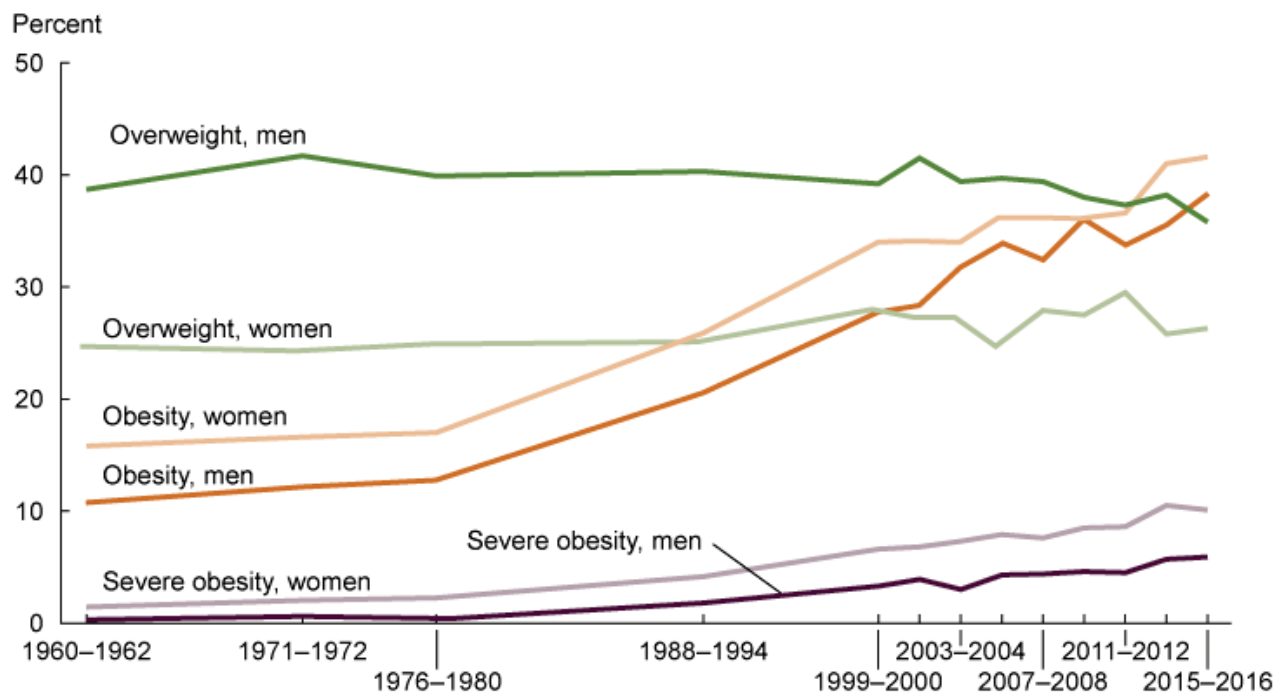
<https://wwwn.cdc.gov/nchs/nhanes/analyticguidelines.aspx>.

For more detailed estimates, see:

- Flegal KM, Carroll MD, Ogden CL, Johnson CL. Prevalence and trends in obesity among US adults, 1999–2000. *JAMA* 288(14):1723–7. 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, McDowell MA, Flegal KM. Obesity among adults in the United States—No statistically significant change since 2003–2004. *NCHS Data Brief*, no 1. Hyattsville, MD: National Center for Health Statistics. 2007. Available from: <https://www.cdc.gov/nchs/data/databriefs/db01.pdf>.
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- Flegal KM, Kruszon-Moran D, Carroll MD, Fryar CD, Ogden CL. Trends in obesity among adults in the United States, 2005 to 2014. *JAMA* 315(21):2284–91. 2016.
- Hales CM, Fryar CD, Carroll MD, Freedman DS, Ogden CL. Trends in obesity and severe obesity prevalence in US youth and adults by sex and age, 2007–2008 to 2015–2016. *JAMA* 319(16):1723–5. 2018.

This *Health E-Stat* supersedes the earlier version, “Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults Aged 20 and Over: United States, 1960–1962 Through 2013–2014,” available from: https://www.cdc.gov/nchs/data/hestat/obesity_adult_13_14/obesity_adult_13_14.htm.

Figure. Trends in overweight, obesity, and severe obesity among men and women aged 20–74: United States, 1960–1962 through 2015–2016



NOTES: Data are age adjusted by the direct method to U.S. Census 2000 estimates using age groups 20–39, 40–59, and 60–74. Overweight is body mass index (BMI) of 25.0–29.9 kg/m²; obesity is BMI at or above 30.0 kg/m²; and severe obesity is BMI at or above 40.0 kg/m². Pregnant women are excluded from the analysis.

SOURCES: NCHS, National Health Examination Survey and National Health and Nutrition Examination Surveys.

Table 1. Age-adjusted prevalence of overweight, obesity, and severe obesity among adults, by sex: United States, 1960–1962 through 2015–2016

Age group (years)	Survey period	Sample (n)	All			Men			Women		
			Overweight	Obesity	Severe obesity	Overweight	Obesity	Severe obesity	Overweight	Obesity	Severe obesity
Percent (standard error)											
20 and over ¹	1988–1994	16,235	33.1 (0.6)	22.9 (0.7)	2.8 (0.2)	40.7 (0.8)	20.2 (0.7)	1.7 (0.3)	25.9 (0.7)	25.4 (0.9)	3.9 (0.3)
	1999–2000	4,117	34.0 (1.0)	30.5 (1.5)	4.7 (0.6)	39.7 (1.4)	27.5 (1.5)	3.1 (0.7)	28.6 (1.6)	33.4 (1.7)	6.2 (0.7)
	2001–2002	4,413	35.1 (1.1)	30.5 (1.1)	5.1 (0.5)	42.2 (1.3)	27.7 (1.0)	3.6 (0.6)	28.2 (1.7)	33.2 (1.5)	6.5 (0.6)
	2003–2004	4,431	34.1 (1.1)	32.2 (1.2)	4.8 (0.6)	39.7 (1.5)	31.1 (1.3)	2.8 (0.4)	28.6 (1.2)	33.2 (1.7)	6.9 (0.9)
	2005–2006	4,356	32.6 (0.8)	34.3 (1.4)	5.9 (0.5)	39.9 (1.3)	33.3 (2.0)	4.2 (0.5)	25.5 (1.2)	35.3 (1.4)	7.4 (0.7)
	2007–2008	5,550	34.3 (0.8)	33.7 (1.1)	5.7 (0.4)	40.1 (1.4)	32.2 (1.4)	4.2 (0.5)	28.6 (1.2)	35.4 (1.1)	7.3 (0.6)
	2009–2010	5,926	33.0 (1.0)	35.7 (0.9)	6.3 (0.2)	38.4 (1.1)	35.5 (1.7)	4.4 (0.3)	27.9 (1.4)	35.8 (0.9)	8.1 (0.5)
	2011–2012	5,181	33.6 (1.3)	34.9 (1.4)	6.4 (0.6)	37.8 (1.5)	33.5 (1.4)	4.4 (0.9)	29.7 (1.8)	36.1 (1.7)	8.3 (0.7)
	2013–2014	5,455	32.5 (0.8)	37.7 (0.9)	7.7 (0.7)	38.7 (1.2)	35.0 (1.1)	5.5 (0.6)	26.5 (0.8)	40.4 (1.3)	9.9 (0.9)
2015–2016	5,337	31.6 (0.6)	39.6 (1.6)	7.7 (0.6)	36.5 (1.6)	37.9 (2.3)	5.6 (0.7)	26.9 (1.0)	41.1 (1.6)	9.7 (0.7)	
20–74 ²	1960–1962	6,126	31.5 (0.5)	13.4 (0.5)	0.9 (0.1)	38.7 (0.7)	10.7 (0.7)	0.3 (0.1)	24.7 (0.8)	15.8 (0.6)	1.4 (0.2)
	1971–1974	12,911	32.7 (0.6)	14.5 (0.4)	1.3 (0.2)	41.7 (1.1)	12.1 (0.6)	0.6 (0.2)	24.3 (0.7)	16.6 (0.6)	2.0 (0.3)
	1976–1980	11,765	32.1 (0.6)	15.0 (0.4)	1.4 (0.1)	39.9 (0.8)	12.7 (0.6)	0.4 (0.1)	24.9 (0.8)	17.0 (0.6)	2.2 (0.3)
	1988–1994	14,319	32.6 (0.6)	23.2 (0.7)	3.0 (0.3)	40.3 (0.8)	20.5 (0.7)	1.8 (0.3)	25.1 (0.8)	25.9 (1.0)	4.1 (0.3)
	1999–2000	3,603	33.6 (1.1)	30.9 (1.6)	5.0 (0.6)	39.2 (1.5)	27.7 (1.6)	3.3 (0.7)	28.0 (1.7)	34.0 (1.8)	6.6 (0.8)
	2001–2002	3,916	34.4 (1.1)	31.2 (1.1)	5.4 (0.5)	41.5 (1.4)	28.3 (1.1)	3.9 (0.7)	27.3 (1.6)	34.1 (1.6)	6.8 (0.6)
	2003–2004	3,756	33.4 (1.2)	32.9 (1.3)	5.1 (0.6)	39.4 (1.5)	31.7 (1.4)	3.0 (0.4)	27.3 (1.3)	34.0 (1.9)	7.3 (1.0)
	2005–2006	3,835	32.2 (0.9)	35.1 (1.5)	6.2 (0.5)	39.7 (1.3)	33.8 (2.2)	4.3 (0.5)	24.7 (1.3)	36.3 (1.5)	7.9 (0.8)
	2007–2008	4,876	33.6 (0.8)	34.3 (1.2)	6.0 (0.4)	39.4 (1.4)	32.5 (1.5)	4.4 (0.5)	27.9 (1.2)	36.2 (1.3)	7.6 (0.6)
	2009–2010	5,279	32.7 (1.0)	36.1 (0.9)	6.6 (0.2)	38.0 (1.2)	35.9 (1.7)	4.6 (0.4)	27.5 (1.5)	36.1 (0.9)	8.5 (0.5)
	2011–2012	4,674	33.3 (1.4)	35.3 (1.4)	6.6 (0.6)	37.3 (1.5)	33.9 (1.5)	4.5 (1.0)	29.5 (2.0)	36.6 (1.6)	8.6 (0.7)
	2013–2014	4,940	31.9 (0.8)	38.2 (1.0)	8.1 (0.8)	38.2 (1.3)	35.5 (1.2)	5.7 (0.7)	25.8 (0.9)	41.0 (1.4)	10.5 (1.0)
	2015–2016	4,778	31.0 (0.8)	40.0 (1.8)	8.0 (0.6)	35.8 (1.8)	38.3 (2.4)	5.9 (0.8)	26.3 (1.1)	41.6 (1.7)	10.1 (0.7)

¹Age adjusted by the direct method to U.S. Census 2000 estimates using age groups 20–39, 40–59, and 60 and over. Crude estimates (not age adjusted) for 2015–2016 are 31.8% for overweight, 39.8% for obesity, and 7.6% for severe obesity categories.

²Age adjusted by the direct method to U.S. Census 2000 estimates using age groups 20–39, 40–59, and 60–74. The 1960–1962 National Health Examination Survey (NHANES) included adults aged 18–79, and the 1971–1974 and 1976–1980 NHANES did not include persons over age 74.

NOTES: Overweight is body mass index (BMI) of 25.0–29.9 kg/m²; obesity is BMI at or above 30.0 kg/m²; and severe obesity is BMI at or above 40.0 kg/m². Pregnant women are excluded from the analysis.

SOURCES: NCHS, National Health Examination Survey and National Health and Nutrition Examination Survey.

Table 2. Prevalence of obesity among adults aged 20 and over, by sex and age: United States, 1988–1994 through 2015–2016

Survey period	All			Men			Women		
	20–39	40–59	60 and over	20–39	40–59	60 and over	20–39	40–59	60 and over
	Percent (standard error)								
1988–1994	17.7 (0.7)	27.9 (1.1)	23.7 (0.9)	14.8 (0.8)	25.4 (1.2)	21.2 (1.4)	20.7 (1.3)	30.3 (1.5)	25.6 (1.1)
1999–2000	26.0 (1.3)	33.5 (3.0)	33.5 (1.7)	23.7 (1.6)	28.8 (2.9)	31.7 (2.2)	28.3 (2.0)	37.7 (3.3)	35.0 (2.2)
2001–2002	26.1 (1.4)	33.9 (1.5)	32.8 (1.6)	22.3 (1.5)	32.2 (1.7)	29.9 (2.0)	29.8 (2.1)	35.7 (2.1)	35.0 (2.0)
2003–2004	28.5 (1.5)	36.8 (1.8)	31.0 (1.3)	28.0 (2.2)	34.8 (2.5)	30.4 (1.9)	28.9 (2.3)	38.8 (2.7)	31.5 (1.7)
2005–2006	29.1 (2.0)	40.4 (2.0)	33.4 (1.1)	27.9 (2.8)	39.6 (2.9)	32.2 (2.1)	30.5 (2.3)	41.1 (2.3)	34.4 (2.3)
2007–2008	30.7 (2.0)	36.2 (1.7)	35.1 (1.0)	27.4 (1.9)	34.2 (2.3)	37.0 (2.0)	34.0 (2.5)	38.1 (2.2)	33.5 (1.7)
2009–2010	32.6 (1.7)	36.6 (1.0)	39.7 (1.5)	33.2 (2.7)	37.2 (1.8)	36.6 (2.4)	31.9 (1.6)	36.0 (1.7)	42.3 (1.9)
2011–2012	30.3 (1.9)	39.5 (1.6)	35.4 (2.0)	29.0 (2.6)	39.4 (1.6)	32.0 (2.2)	31.8 (1.7)	39.5 (2.2)	38.1 (2.9)
2013–2014	34.3 (1.5)	41.0 (2.1)	38.5 (1.6)	31.6 (2.1)	37.2 (2.4)	37.5 (3.0)	37.0 (1.3)	44.6 (2.6)	39.4 (1.9)
2015–2016	35.7 (1.9)	42.8 (2.6)	41.0 (1.9)	34.8 (2.8)	40.8 (2.9)	38.5 (1.8)	36.5 (1.6)	44.7 (3.1)	43.1 (2.8)

NOTES: Obesity is body mass index at or above 30.0 kg/m². Pregnant women are excluded from the analysis.

SOURCE: NCHS, National Health and Nutrition Examination Survey.

Table 3. Age-adjusted prevalence of obesity among adults aged 20 and over, by sex and race and Hispanic origin: United States, 1988–1994 through 2015–2016

Survey period	Men					Women				
	Non-Hispanic			Hispanic	Mexican American	Non-Hispanic			Hispanic	Mexican American
	White	Black	Asian			White	Black	Asian		
Percent (standard error)										
1988–1994	20.3 (0.9)	21.1 (1.0)	---	---	23.9 (1.0)	22.9 (1.1)	38.4 (1.4)	---	---	35.4 (1.4)
1999–2000	27.3 (1.8)	27.9 (1.6)	---	---	28.9 (1.9)	30.1 (2.1)	49.5 (3.0)	---	---	39.5 (3.9)
2001–2002	29.0 (1.3)	27.9 (2.0)	---	---	25.9 (2.0)	31.2 (1.6)	48.2 (2.7)	---	---	37.0 (3.2)
2003–2004	31.1 (1.5)	34.0 (3.5)	---	---	31.6 (2.5)	30.2 (2.1)	53.9 (3.0)	---	---	42.3 (2.7)
2005–2006	33.0 (2.2)	37.0 (2.4)	---	---	27.0 (1.9)	32.9 (1.8)	52.9 (2.1)	---	---	42.1 (2.8)
2007–2008	31.9 (1.9)	37.2 (2.5)	---	34.2 (3.0)	35.8 (3.5)	33.0 (1.8)	49.4 (2.0)	---	43.0 (2.6)	45.1 (3.1)
2009–2010	36.2 (2.1)	38.8 (2.3)	---	37.0 (2.2)	38.6 (2.4)	32.2 (1.4)	58.5 (2.8)	---	41.4 (2.0)	44.9 (1.6)
2011–2012	32.4 (1.3)	37.1 (1.9)	10.0 (1.6)	40.1 (2.1)	44.0 (2.6)	32.8 (2.7)	56.6 (2.1)	11.4 (2.2)	44.4 (2.1)	49.2 (3.4)
2013–2014	34.7 (1.6)	3.80 (2.5)	12.6 (1.8)	37.9 (2.8)	42.2 (2.5)	38.2 (1.6)	57.2 (1.7)	12.4 (2.1)	46.9 (2.7)	50.9 (3.1)
2015–2016	37.9 (2.7)	36.9 (2.5)	10.1 (1.3)	43.1 (2.9)	46.2 (2.6)	38.0 (1.9)	54.8 (2.3)	14.8 (1.3)	50.6 (2.1)	52.3 (2.1)

--- Data not available.

NOTES: Obesity is body mass index at or above 30.0 kg/m². Data are age adjusted by the direct method to U.S. Census 2000 estimates using age groups 20–39, 40–59, and 60 and over. Pregnant women are excluded from the analysis.

SOURCE: NCHS, National Health and Nutrition Examination Survey.