

Mean Body Weight, Height, and Body Mass Index, United States 1960–2002

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Abstract

This report presents trends in national estimates of mean weight, height, and body mass index (BMI) from the National Health Examination and the National Health and Nutrition Examination Surveys between 1960 and 2002. The tables included in this report present data for adults by sex, race/ethnicity, and age group and for children by sex and year of age. Mean weight and BMI have increased for both sexes, all race/ethnic groups, and all ages. Among adults, mean weight increased more than 24 pounds. Although not as dramatically, mean height has also increased for most ages and for both males and females.

Keywords: body weight • height • National Health and Nutrition Examination Survey (NHANES)

Introduction

During the last 2 decades the prevalence of obesity and overweight has increased in the United States (1–3). This is in part due to a shift in the distribution of BMI (BMI, weight in kilograms divided by height in meters squared) of the entire population (4). This report presents the changes in mean body weight, height, and BMI for the entire U.S. population from 1960 to 2002.

Methods

The National Health and Nutrition Examination Survey (NHANES) program of the National Center for

Health Statistics, Centers for Disease Control and Prevention, includes a series of cross-sectional nationally representative health examination surveys beginning in 1960. In each survey a nationally representative sample of the U.S. civilian noninstitutionalized population was selected using a complex, stratified, multistage probability cluster sampling design. A home interview was followed by a physical examination in a mobile examination center.

Beginning in 1999, NHANES became a continuous survey. The procedures followed to select the sample and conduct the interview and examination were similar to those for

previous surveys. Public-use data from the continuous NHANES are released in 2-year groupings; however, the most stable and reliable estimates are obtained from more than 2 years of data. Previous national surveys include the first, second, and third National Health Examination Surveys (NHES I, 1960–62; NHES II, 1963–65; NHES III, 1966–70) and the first, second, and third National Health and Nutrition Examination Surveys (NHANES I, 1971–74; NHANES II, 1976–80; NHANES III, 1988–94). A special study of Hispanic populations (the Hispanic Health and Nutrition Examination Survey (HHANES)) in three regions of the United States was conducted from 1982 to 1984. The Mexican-American subpopulation sampled in HHANES was located entirely in the southwestern United States (5).

Population means and standard errors of the mean are weighted to produce national estimates. The sample weights adjust for oversampling of certain populations, noncoverage, and nonresponse. Standard errors were estimated using SUDAAN by Taylor Series Linearization (6). A relative standard error (RSE) greater than 30 percent has been recommended to



define estimates that are not reliable. In these tables, all of the RSEs met this reliability criterion. Pregnant females were excluded from all the analyses.

Statistical tests on trends were modeled using PROC REGRESS. All models included interaction terms for age and survey because mean age within an age group (e.g., 20–29 years) may have varied by survey. Significance was determined using the WALD F test (7). Tests for trends on the total groups of adults (20–74 years of age) were done on age-adjusted values; consequently, no interaction terms were included. When only two surveys were available (i.e., 20 years and over, etc.), differences were evaluated using t-tests. Significance was determined at the 0.05 level.

Results

Tables 1 and 2 show the mean weights for children over time in English and Metric units. Among 6–11-year-old children, mean weight increased from approximately 65 pounds in 1963–5 to almost 74 pounds in 1999–2002. This represents almost a 9-pound increase for both boys and girls 6–11 years of age. Among 12–17-year-old teens, the mean weight of boys increased more than 15 pounds from 125 to 141 pounds and the mean weight of girls increased approximately 12 pounds from 118 to 130 pounds between the 1960s and 2002. Mean heights for children are found in tables 3 and 4. Mean heights also increased between the 1960s and 2002 with the mean height of boys 6–11 years of age increasing 0.8 inches and the mean height of girls 6–11 years of age increasing 0.6 inches. Among 12–17-year-old teens, the mean height of boys increased 0.7 inches while that of girls increased 0.3 inches, although these findings were not statistically significant. Mean BMIs for children are found in table 5. Among both boys and girls 12–17 years of age mean BMI increased by more than 4 units between 1963–5 and 1999–2002.

Changes in adult weight and height are shown in tables 6–9 in both English and Metric units. On average, both men and women gained more than 24 pounds between the early 1960s and 2002. During the same time period, mean

height increased approximately 1 inch. In 1999–2002 mean weight of men 20 years and over was almost 190 pounds while among women the mean weight was approximately 163 pounds. Mean height for men in 1999–2002 was approximately 69 inches and for women was approximately 64 inches. Changes in mean BMI (table 10) have also occurred. Between the early 1960s and 1999–2002 mean BMI for men 20–74 years of age increased from just over 25 to almost 28. Similarly, for women mean BMI increased from almost 25 to just over 28.

Changes in average weight by race/ethnicity are shown in tables 11 and 12. Between NHANES III and NHANES 1999–2002 mean weight of non-Hispanic white adults increased approximately 10 pounds. Among non-Hispanic black or African American men the increase was approximately 8 pounds, but among black or African American men 60 years and over the increase was over 13 pounds. The average weight of non-Hispanic black or African American women increased approximately 13 pounds with the largest increase in the 20–39 year age group (more than 16 pounds). Among Mexican Americans the increase was 4–5 pounds. However, the increase in average weight among Mexican American men 60–74 years of age between HHANES in the early 1980s and NHANES 1999–2002 was over 19 pounds. Between NHANES III and NHANES 1999–2002 average height increased less than one-half an inch for non-Hispanic white persons, non-Hispanic black or African American persons, and Mexican American persons (tables 13 and 14). Table 15 shows mean BMIs by race/ethnicity. Among non-Hispanic white persons, non-Hispanic black or African American, and Mexican Americans mean BMI has increased. Among Mexican Americans 20–74 years of age mean BMI increased approximately 2 units for both men and women between 1982–4 and 1999–2002. Non-Hispanic black or African American women 20 years and over

have seen a similar increase between 1988–94 and 1999–2002.

Conclusions

Average weight has increased dramatically in the last 40 years with the greatest increases seen in adults. Mean BMI has also increased. Although height has also increased this increase has been much more modest.

References

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Table 1. Mean weight (pounds) by survey, sex, and age; children: United States

Sex and age	NHES II, 1963–65			NHES III, 1966–70			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male																		
2 years	---	---	---	---	---	---	298	29.8	0.4	370	29.5	0.2	644	29.9	0.2	262	30.2	0.2
3 years	---	---	---	---	---	---	308	34.3	0.3	421	34.2	0.3	516	34.7	0.4	216	35.0	0.4
4 years ¹	---	---	---	---	---	---	304	39.0	0.3	405	38.8	0.3	549	38.8	0.4	179	40.8	0.5
5 years ¹	---	---	---	---	---	---	273	44.4	0.4	393	43.4	0.3	497	44.1	0.4	147	46.9	1.1
6 years ¹	575	48.4	0.3	---	---	---	179	48.5	0.7	146	50.2	0.8	283	51.1	1.2	182	51.7	0.9
7 years ¹	632	54.3	0.4	---	---	---	164	54.8	0.9	150	54.8	0.8	269	57.8	1.0	185	59.8	1.0
8 years ¹	618	61.1	0.5	---	---	---	152	58.1	0.7	145	61.6	1.4	266	66.5	1.9	214	72.0	2.1
9 years ¹	603	68.5	0.9	---	---	---	169	69.5	1.7	141	67.6	1.4	281	75.7	2.1	174	79.2	1.5
10 years ¹	576	74.2	0.6	---	---	---	184	75.3	1.2	165	79.7	1.6	297	82.1	1.9	187	84.9	1.8
11 years ¹	595	84.1	0.7	---	---	---	178	85.4	1.8	153	87.4	2.0	281	93.5	2.0	182	96.2	2.4
12 years ¹	---	---	---	643	94.4	0.8	200	96.8	1.8	147	96.9	2.2	203	108.0	2.4	299	110.9	2.8
13 years ¹	---	---	---	626	110.0	1.0	174	109.9	2.1	165	108.9	2.6	187	118.8	2.2	298	118.6	4.1
14 years ¹	---	---	---	618	124.6	1.4	174	123.8	2.1	188	124.0	1.9	188	141.0	7.9	266	140.5	3.6
15 years ¹	---	---	---	613	135.5	0.8	171	132.6	2.7	180	134.7	2.2	187	147.2	4.2	283	150.3	2.5
16 years ¹	---	---	---	556	142.6	1.2	169	147.2	2.8	180	146.3	2.6	194	151.2	3.6	306	163.7	3.0
17 years ¹	---	---	---	458	149.8	1.0	176	151.0	2.4	183	146.6	1.7	196	160.3	2.9	313	166.3	3.0
18 years ¹	---	---	---	---	---	---	124	163.4	2.8	156	156.4	2.6	176	156.8	3.7	284	166.4	2.5
19 years ¹	---	---	---	---	---	---	136	159.7	2.8	150	158.0	1.9	168	160.6	4.7	270	172.1	2.8
Female																		
2 years ¹	---	---	---	---	---	---	272	28.5	0.3	330	28.2	0.1	624	29.0	0.2	248	29.2	0.3
3 years ¹	---	---	---	---	---	---	292	33.1	0.4	367	32.5	0.2	587	33.9	0.3	178	33.4	0.5
4 years ¹	---	---	---	---	---	---	281	37.0	0.4	388	37.0	0.3	537	39.3	0.8	191	39.5	0.7
5 years	---	---	---	---	---	---	314	43.3	0.6	369	42.7	0.6	554	44.3	0.5	186	45.3	1.3
6 years	536	47.4	0.5	---	---	---	176	47.5	0.7	150	48.1	0.8	272	49.7	1.3	171	49.2	1.1
7 years ¹	609	53.2	0.4	---	---	---	169	53.4	0.9	154	54.2	1.0	274	58.1	1.7	196	56.9	1.0
8 years ¹	613	60.6	0.5	---	---	---	152	60.5	1.1	125	60.6	0.9	248	65.7	1.4	184	70.1	2.6
9 years ¹	581	69.1	0.8	---	---	---	171	70.3	1.2	154	69.7	1.6	280	75.6	2.7	183	78.0	1.6
10 years ¹	584	77.4	0.9	---	---	---	197	74.4	1.3	128	78.6	1.4	258	83.4	2.7	164	87.9	2.3
11 years ¹	525	87.6	1.0	---	---	---	166	90.7	1.8	143	91.1	1.9	275	97.1	2.4	194	105.4	2.9
12 years ¹	---	---	---	547	102.5	0.8	177	102.8	2.3	146	101.3	2.0	236	107.8	2.6	316	114.3	2.3
13 years ¹	---	---	---	582	111.0	1.0	198	113.9	2.3	155	112.0	2.6	220	122.8	3.5	321	127.0	3.0
14 years ¹	---	---	---	586	119.2	0.9	184	120.2	2.2	181	119.5	2.3	218	128.6	3.0	324	131.7	2.2
15 years ¹	---	---	---	503	124.2	1.1	167	124.6	2.0	144	121.1	1.9	191	127.8	2.3	266	134.4	3.7
16 years ¹	---	---	---	536	127.7	1.5	171	124.9	2.3	167	126.9	1.9	208	134.9	3.0	273	138.5	2.6
17 years ¹	---	---	---	442	126.7	1.4	150	130.8	3.6	134	131.1	2.1	201	137.3	2.6	256	135.8	2.7
18 years ¹	---	---	---	---	---	---	141	128.1	2.4	156	129.9	2.2	175	134.6	4.1	243	143.5	3.3
19 years ¹	---	---	---	---	---	---	130	131.0	3.2	158	131.5	2.1	177	138.9	4.2	225	149.3	2.7

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES II: National Health Examination Survey, Cycle II, ages 6–11 years; NHES III: National Health Examination Survey, Cycle III, ages 12–17 years; and NHANES: National Health and Nutrition Examination Survey.

Table 2. Mean weight (kilograms) by survey, sex, and age; children: United States

Sex and age	NHES II, 1963–65			NHES III, 1966–70			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male																		
2 years	---	---	---	---	---	---	298	13.6	0.2	370	13.4	0.1	644	13.6	0.1	262	13.7	0.1
3 years	---	---	---	---	---	---	308	15.6	0.1	421	15.5	0.1	516	15.8	0.2	216	15.9	0.2
4 years ¹	---	---	---	---	---	---	304	17.7	0.1	405	17.6	0.1	549	17.6	0.2	179	18.5	0.2
5 years ¹	---	---	---	---	---	---	273	20.2	0.2	393	19.7	0.1	497	20.1	0.2	147	21.3	0.5
6 years ¹	575	22.0	0.1	---	---	---	179	22.0	0.3	146	22.8	0.4	283	23.2	0.6	182	23.5	0.4
7 years ¹	632	24.7	0.2	---	---	---	164	24.9	0.4	150	24.9	0.4	269	26.3	0.4	185	27.2	0.4
8 years ¹	618	27.8	0.2	---	---	---	152	26.4	0.3	145	28.0	0.6	266	30.2	0.8	214	32.7	1.0
9 years ¹	603	31.2	0.4	---	---	---	169	31.6	0.8	141	30.7	0.6	281	34.4	1.0	174	36.0	0.7
10 years ¹	576	33.7	0.3	---	---	---	184	34.2	0.6	165	36.2	0.7	297	37.3	0.9	187	38.6	0.8
11 years ¹	595	38.2	0.3	---	---	---	178	38.8	0.8	153	39.7	0.9	281	42.5	0.9	182	43.7	1.1
12 years ¹	---	---	---	643	42.9	0.4	200	44.0	0.8	147	44.1	1.0	203	49.1	1.1	299	50.4	1.3
13 years ¹	---	---	---	626	50.0	0.5	174	49.9	1.0	165	49.5	1.2	187	54.0	1.0	298	53.9	1.9
14 years ¹	---	---	---	618	56.7	0.6	174	56.3	0.9	188	56.4	0.9	188	64.1	3.6	266	63.9	1.6
15 years ¹	---	---	---	613	61.6	0.4	171	60.3	1.2	180	61.2	1.0	187	66.9	1.9	283	68.3	1.1
16 years ¹	---	---	---	556	64.8	0.6	169	66.9	1.3	180	66.5	1.2	194	68.7	1.6	306	74.4	1.4
17 years ¹	---	---	---	458	68.1	0.4	176	68.6	1.1	183	66.7	0.8	196	72.9	1.3	313	75.6	1.4
18 years ¹	---	---	---	---	---	---	124	74.3	1.3	156	71.1	1.2	176	71.3	1.7	284	75.6	1.1
19 years ¹	---	---	---	---	---	---	136	72.6	1.3	150	71.8	0.8	168	73.0	2.2	270	78.2	1.3
Female																		
2 years ¹	---	---	---	---	---	---	272	13.0	0.1	330	12.8	0.1	624	13.2	0.1	248	13.3	0.1
3 years ¹	---	---	---	---	---	---	292	15.0	0.2	367	14.8	0.1	587	15.4	0.1	178	15.2	0.2
4 years ¹	---	---	---	---	---	---	281	16.8	0.2	388	16.8	0.2	537	17.9	0.3	191	17.9	0.3
5 years	---	---	---	---	---	---	314	19.7	0.3	369	19.4	0.3	554	20.2	0.2	186	20.6	0.6
6 years	536	21.5	0.2	---	---	---	176	21.6	0.3	150	21.9	0.4	272	22.6	0.6	171	22.4	0.5
7 years ¹	609	24.2	0.2	---	---	---	169	24.3	0.4	154	24.6	0.5	274	26.4	0.8	196	25.9	0.5
8 years ¹	613	27.5	0.2	---	---	---	152	27.5	0.5	125	27.5	0.4	248	29.9	0.6	184	31.9	1.2
9 years ¹	581	31.4	0.4	---	---	---	171	32.0	0.6	154	31.7	0.7	280	34.4	1.2	183	35.4	0.7
10 years ¹	584	35.2	0.4	---	---	---	197	33.8	0.6	128	35.7	0.6	258	37.9	1.2	164	40.0	1.0
11 years ¹	525	39.8	0.4	---	---	---	166	41.2	0.8	143	41.4	0.9	275	44.1	1.1	194	47.9	1.3
12 years ¹	---	---	---	547	46.6	0.4	177	46.7	1.0	146	46.1	0.9	236	49.0	1.2	316	52.0	1.1
13 years ¹	---	---	---	582	50.5	0.5	198	51.8	1.0	155	50.9	1.2	220	55.8	1.6	321	57.7	1.4
14 years ¹	---	---	---	586	54.2	0.4	184	54.6	1.0	181	54.3	1.0	218	58.5	1.4	324	59.9	1.0
15 years ¹	---	---	---	503	56.5	0.5	167	56.6	0.9	144	55.0	0.8	191	58.1	1.1	266	61.1	1.7
16 years ¹	---	---	---	536	58.1	0.7	171	56.8	1.1	167	57.7	0.9	208	61.3	1.4	273	63.0	1.2
17 years ¹	---	---	---	442	57.6	0.6	150	59.5	1.6	134	59.6	1.0	201	62.4	1.2	256	61.7	1.2
18 years ¹	---	---	---	---	---	---	141	58.2	1.1	156	59.0	1.0	175	61.2	1.9	243	65.2	1.5
19 years ¹	---	---	---	---	---	---	130	59.5	1.4	158	59.8	1.0	177	63.2	1.9	225	67.9	1.2

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES II: National Health Examination Survey, Cycle II, ages 6–11 years; NHES III: National Health Examination Survey, Cycle III, ages 12–17 years; and NHANES: National Health and Nutrition Examination Survey.

Table 3. Mean height (inches) by survey, sex, and age; children: United States

Sex and age	NHES II, 1963–65			NHES III, 1966–70			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male																		
2 years	---	---	---	---	---	---	298	35.9	0.2	350	35.8	0.1	589	35.8	0.1	254	35.9	0.1
3 years ¹	---	---	---	---	---	---	308	38.8	0.1	421	38.9	0.1	513	38.9	0.1	222	38.8	0.1
4 years ¹	---	---	---	---	---	---	304	41.8	0.1	405	41.5	0.1	551	41.4	0.1	183	41.9	0.2
5 years	---	---	---	---	---	---	273	44.4	0.1	393	44.2	0.1	497	44.2	0.1	156	44.5	0.2
6 years	575	46.7	0.1	---	---	---	179	46.5	0.2	146	46.9	0.2	283	46.8	0.3	188	46.9	0.2
7 years	632	49.0	0.1	---	---	---	164	49.2	0.2	150	49.0	0.2	270	49.6	0.2	187	49.7	0.2
8 years ¹	618	51.2	0.1	---	---	---	152	50.8	0.2	145	51.0	0.3	269	51.7	0.2	217	52.2	0.3
9 years ¹	603	53.3	0.2	---	---	---	169	53.2	0.3	141	53.1	0.2	280	54.2	0.3	177	54.4	0.2
10 years ¹	576	55.2	0.1	---	---	---	184	55.1	0.2	165	55.6	0.2	297	55.9	0.4	188	55.7	0.2
11 years ¹	595	57.3	0.1	---	---	---	178	57.6	0.3	153	57.3	0.2	285	58.0	0.3	187	58.5	0.4
12 years	---	---	---	643	60.0	0.2	200	60.2	0.3	147	60.0	0.3	207	61.2	0.4	301	60.9	0.3
13 years	---	---	---	626	62.9	0.2	174	62.7	0.3	165	62.3	0.3	190	63.6	0.3	298	63.1	0.3
14 years	---	---	---	618	65.6	0.2	174	65.6	0.2	188	65.7	0.3	191	66.5	0.3	267	66.3	0.4
15 years	---	---	---	613	67.5	0.1	171	67.2	0.3	180	67.4	0.3	188	68.0	0.4	287	68.4	0.2
16 years	---	---	---	556	68.6	0.2	169	68.9	0.3	180	68.3	0.2	197	68.9	0.4	310	69.0	0.2
17 years	---	---	---	458	69.1	0.2	176	69.6	0.2	183	68.8	0.2	196	69.5	0.4	317	69.0	0.2
18 years ¹	---	---	---	---	---	---	124	69.5	0.3	156	69.8	0.2	176	69.8	0.4	289	69.5	0.3
19 years	---	---	---	---	---	---	136	69.5	0.3	150	69.3	0.2	169	69.1	0.2	275	69.6	0.3
Female																		
2 years	---	---	---	---	---	---	272	35.5	0.1	314	35.2	0.1	564	35.3	0.1	233	35.5	0.1
3 years ¹	---	---	---	---	---	---	292	38.4	0.1	367	38.2	0.1	590	38.7	0.1	187	38.4	0.2
4 years ¹	---	---	---	---	---	---	281	41.0	0.1	388	41.0	0.1	535	41.4	0.1	195	41.7	0.2
5 years	---	---	---	---	---	---	314	44.2	0.1	369	43.8	0.2	557	44.2	0.2	190	44.3	0.3
6 years	536	46.39	0.11	---	---	---	176	46.5	0.2	150	46.4	0.2	274	46.4	0.3	172	46.1	0.3
7 years	609	48.63	0.07	---	---	---	169	49.0	0.3	154	48.6	0.3	275	49.0	0.3	200	49.0	0.2
8 years ¹	613	50.93	0.12	---	---	---	152	50.9	0.2	125	51.0	0.2	247	51.6	0.2	184	51.5	0.2
9 years ¹	581	53.34	0.13	---	---	---	171	53.5	0.2	154	52.8	0.2	282	53.8	0.3	189	53.9	0.3
10 years ¹	584	55.48	0.12	---	---	---	197	55.2	0.3	128	55.8	0.2	262	56.2	0.2	164	56.4	0.3
11 years ¹	525	57.99	0.11	---	---	---	166	58.3	0.3	143	58.0	0.3	275	59.1	0.3	194	59.6	0.3
12 years	---	---	---	547	61.1	0.1	177	60.8	0.2	146	60.6	0.3	239	61.2	0.3	318	61.4	0.3
13 years	---	---	---	582	62.5	0.1	198	62.6	0.2	155	62.5	0.2	225	63.0	0.3	324	62.6	0.3
14 years	---	---	---	586	63.5	0.1	184	63.3	0.2	181	63.3	0.3	224	63.5	0.3	326	63.7	0.2
15 years	---	---	---	503	63.9	0.2	167	64.4	0.2	144	64.3	0.2	195	64.1	0.3	271	63.8	0.3
16 years	---	---	---	536	64.0	0.1	171	63.7	0.2	167	64.1	0.2	214	64.2	0.3	275	63.8	0.2
17 years	---	---	---	442	64.1	0.1	150	63.8	0.3	134	64.4	0.2	201	64.4	0.2	258	64.2	0.2
18 years ¹	---	---	---	---	---	---	141	64.8	0.2	156	64.1	0.2	175	64.2	0.3	249	64.2	0.2
19 years	---	---	---	---	---	---	130	64.2	0.2	158	64.3	0.2	178	64.3	0.3	231	64.2	0.3

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES II: National Health Examination Survey, Cycle II, ages 6–11 years; NHES III: National Health Examination Survey, Cycle III, ages 12–17 years; and NHANES: National Health and Nutrition Examination Survey.

Table 4. Mean height (centimeters) by survey, sex, and age; children: United States

Sex and age	NHES II, 1963–65			NHES III, 1966–70			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male																		
2 years	---	---	---	---	---	---	298	91.1	0.4	350	91.1	0.2	589	90.9	0.2	254	91.2	0.3
3 years ¹	---	---	---	---	---	---	308	98.5	0.3	421	98.7	0.3	513	98.8	0.3	222	98.6	0.3
4 years ¹	---	---	---	---	---	---	304	106.0	0.3	405	105.5	0.4	551	105.2	0.4	183	106.5	0.4
5 years	---	---	---	---	---	---	273	112.8	0.3	393	112.3	0.3	497	112.3	0.3	156	113.0	0.5
6 years	575	118.6	0.2	---	---	---	179	118.1	0.6	146	119.1	0.5	283	118.9	0.7	188	119.2	0.5
7 years	632	124.5	0.3	---	---	---	164	125.0	0.5	150	124.5	0.5	270	125.9	0.6	187	126.2	0.6
8 years ¹	618	130.0	0.3	---	---	---	152	129.0	0.5	145	129.6	0.7	269	131.3	0.6	217	132.5	0.7
9 years ¹	603	135.5	0.4	---	---	---	169	135.2	0.6	141	135.0	0.6	280	137.7	0.7	177	138.1	0.4
10 years ¹	576	140.2	0.3	---	---	---	184	140.0	0.5	165	141.3	0.6	297	142.0	1.1	188	141.4	0.6
11 years ¹	595	145.5	0.3	---	---	---	178	146.3	0.7	153	145.5	0.6	285	147.4	0.7	187	148.7	0.9
12 years	---	---	---	643	152.3	0.4	200	152.8	0.7	147	152.5	0.7	207	155.5	1.1	301	154.8	0.7
13 years	---	---	---	626	159.8	0.4	174	159.3	0.8	165	158.3	0.8	190	161.6	0.8	298	160.1	0.8
14 years	---	---	---	618	166.7	0.5	174	166.7	0.6	188	166.8	0.6	191	169.0	0.9	267	168.5	0.9
15 years	---	---	---	613	171.4	0.3	171	170.8	0.9	180	171.2	0.7	188	172.8	1.0	287	173.8	0.6
16 years	---	---	---	556	174.3	0.4	169	175.0	0.8	180	173.4	0.5	197	175.0	0.9	310	175.3	0.6
17 years	---	---	---	458	175.6	0.4	176	176.9	0.5	183	174.8	0.5	196	176.5	0.9	317	175.3	0.6
18 years ¹	---	---	---	---	---	---	124	176.6	0.7	156	177.3	0.6	176	177.3	1.0	289	176.4	0.7
19 years	---	---	---	---	---	---	136	176.5	0.9	150	176.1	0.5	169	175.5	0.6	275	176.7	0.6
Female																		
2 years	---	---	---	---	---	---	272	90.1	0.3	314	89.4	0.3	564	89.7	0.2	233	90.1	0.4
3 years ¹	---	---	---	---	---	---	292	97.7	0.3	367	97.1	0.2	590	98.2	0.2	187	97.6	0.5
4 years ¹	---	---	---	---	---	---	281	104.2	0.4	388	104.2	0.4	535	105.1	0.3	195	105.9	0.5
5 years	---	---	---	---	---	---	314	112.2	0.4	369	111.2	0.4	557	112.2	0.5	190	112.4	0.7
6 years	536	117.8	0.3	---	---	---	176	118.2	0.5	150	117.9	0.6	274	117.9	0.6	172	117.1	0.7
7 years	609	123.5	0.2	---	---	---	169	124.6	0.7	154	123.4	0.7	275	124.3	0.7	200	124.4	0.5
8 years ¹	613	129.4	0.3	---	---	---	152	129.2	0.6	125	129.5	0.5	247	131.1	0.6	184	130.9	0.6
9 years ¹	581	135.5	0.3	---	---	---	171	135.9	0.5	154	134.1	0.5	282	136.6	0.7	189	136.9	0.7
10 years ¹	584	140.9	0.3	---	---	---	197	140.1	0.8	128	141.7	0.6	262	142.7	0.6	164	143.3	0.9
11 years ¹	525	147.3	0.3	---	---	---	166	148.2	0.8	143	147.4	0.7	275	150.2	0.7	194	151.4	0.7
12 years	---	---	---	547	155.2	0.3	177	154.6	0.6	146	153.8	0.6	239	155.5	0.7	318	156.0	0.7
13 years	---	---	---	582	158.8	0.3	198	158.9	0.5	155	158.7	0.5	225	159.9	0.9	324	159.1	0.6
14 years	---	---	---	586	161.4	0.3	184	160.8	0.6	181	160.7	0.7	224	161.2	0.7	326	161.8	0.6
15 years	---	---	---	503	162.2	0.5	167	163.6	0.6	144	163.3	0.5	195	162.8	0.6	271	162.0	0.6
16 years	---	---	---	536	162.7	0.3	171	161.7	0.5	167	162.8	0.5	214	163.0	0.7	275	161.9	0.5
17 years	---	---	---	442	162.9	0.3	150	162.1	0.9	134	163.5	0.6	201	163.6	0.6	258	163.2	0.6
18 years ¹	---	---	---	---	---	---	141	164.7	0.5	156	162.8	0.5	175	163.2	0.9	249	163.0	0.5
19 years	---	---	---	---	---	---	130	163.1	0.5	158	163.2	0.4	178	163.4	0.7	231	163.1	0.7

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES II: National Health Examination Survey, Cycle II, ages 6–11 years; NHES III: National Health Examination Survey, Cycle III, ages 12–17 years; and NHANES: National Health and Nutrition Examination Survey.

Table 5. Mean body mass index (BMI) by survey, sex, and age; children: United States

Sex and age	NHES II, 1963–65			NHES III, 1966–70			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male																		
2 years ¹	---	---	---	---	---	---	298	16.3	0.1	350	16.2	0.1	588	16.5	0.1	225	16.6	0.1
3 years	---	---	---	---	---	---	308	16.0	0.1	421	15.9	0.1	512	16.1	0.2	209	16.2	0.1
4 years ¹	---	---	---	---	---	---	304	15.7	0.1	405	15.8	0.1	547	15.9	0.1	178	16.3	0.2
5 years ¹	---	---	---	---	---	---	273	15.8	0.1	393	15.6	0.1	495	15.9	0.1	147	16.5	0.3
6 years ¹	575	15.6	0.1	---	---	---	179	15.7	0.2	146	16.0	0.2	282	16.3	0.3	182	16.4	0.2
7 years ¹	632	15.9	0.1	---	---	---	164	15.8	0.2	150	16.0	0.2	269	16.5	0.2	185	17.0	0.2
8 years ¹	618	16.3	0.1	---	---	---	152	15.8	0.2	145	16.5	0.2	266	17.3	0.4	214	18.4	0.4
9 years ¹	603	16.9	0.2	---	---	---	169	17.1	0.3	141	16.8	0.2	279	18.0	0.4	174	18.7	0.3
10 years ¹	576	17.1	0.1	---	---	---	184	17.3	0.2	165	18.0	0.3	297	18.4	0.3	187	19.1	0.3
11 years ¹	595	17.9	0.1	---	---	---	178	18.0	0.3	153	18.6	0.3	280	19.4	0.3	182	19.6	0.4
12 years ¹	---	---	---	643	18.4	0.1	200	18.7	0.2	147	18.8	0.3	203	20.1	0.3	299	20.7	0.4
13 years ¹	---	---	---	626	19.4	0.1	174	19.6	0.3	165	19.5	0.4	187	20.5	0.3	298	20.7	0.5
14 years ¹	---	---	---	618	20.2	0.2	174	20.2	0.3	188	20.2	0.2	188	22.3	1.1	266	22.3	0.4
15 years ¹	---	---	---	613	20.9	0.1	171	20.5	0.3	180	20.8	0.3	187	22.3	0.5	283	22.5	0.3
16 years ¹	---	---	---	556	21.3	0.1	169	21.8	0.3	180	22.0	0.3	194	22.3	0.5	306	24.1	0.4
17 years ¹	---	---	---	458	22.1	0.1	176	21.9	0.3	183	21.8	0.2	196	23.4	0.4	313	24.5	0.4
18 years ¹	---	---	---	---	---	---	124	23.7	0.3	156	22.6	0.4	176	22.6	0.5	284	24.2	0.3
19 years ¹	---	---	---	---	---	---	136	23.3	0.5	150	23.1	0.3	168	23.7	0.6	269	24.9	0.4
Female																		
2 years ¹	---	---	---	---	---	---	272	15.9	0.1	314	16.1	0.1	562	16.5	0.1	214	16.4	0.1
3 years	---	---	---	---	---	---	292	15.7	0.1	367	15.6	0.1	582	15.9	0.1	173	16.0	0.1
4 years ¹	---	---	---	---	---	---	281	15.5	0.1	388	15.5	0.1	533	16.0	0.2	190	15.9	0.2
5 years	---	---	---	---	---	---	314	15.5	0.1	369	15.6	0.1	554	15.9	0.1	186	16.1	0.3
6 years ¹	536	15.4	0.1	---	---	---	176	15.4	0.1	150	15.6	0.2	272	16.1	0.3	170	16.2	0.2
7 years ¹	609	15.8	0.1	---	---	---	169	15.6	0.2	154	16.1	0.2	274	16.9	0.3	196	16.6	0.2
8 years ¹	613	16.4	0.1	---	---	---	152	16.4	0.2	125	16.3	0.2	247	17.3	0.3	184	18.3	0.5
9 years ¹	581	17.0	0.1	---	---	---	171	17.2	0.2	154	17.5	0.3	280	18.2	0.5	183	18.7	0.3
10 years ¹	584	17.6	0.2	---	---	---	197	17.1	0.2	128	17.7	0.3	258	18.4	0.4	163	19.3	0.3
11 years ¹	525	18.2	0.2	---	---	---	166	18.6	0.3	143	18.9	0.3	275	19.4	0.4	194	20.7	0.4
12 years ¹	---	---	---	547	19.2	0.1	177	19.5	0.4	146	19.3	0.3	236	20.2	0.5	315	21.2	0.4
13 years ¹	---	---	---	582	19.9	0.1	198	20.4	0.3	155	20.1	0.4	220	21.8	0.6	321	22.6	0.4
14 years ¹	---	---	---	586	20.8	0.1	184	21.1	0.3	181	21.0	0.3	218	22.4	0.5	324	22.9	0.4
15 years ¹	---	---	---	503	21.4	0.2	167	21.1	0.3	144	20.6	0.3	191	21.9	0.4	266	23.2	0.5
16 years ¹	---	---	---	536	21.9	0.2	171	21.7	0.3	167	21.8	0.3	208	23.0	0.5	273	24.0	0.4
17 years ¹	---	---	---	442	21.7	0.2	150	22.6	0.5	134	22.3	0.4	201	23.3	0.5	255	23.1	0.4
18 years ¹	---	---	---	---	---	---	141	21.5	0.3	156	22.3	0.4	175	22.9	0.6	243	24.4	0.5
19 years ¹	---	---	---	---	---	---	130	22.5	0.6	158	22.4	0.3	177	23.7	0.8	225	25.5	0.4

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTES: BMI is calculated as weight in kilograms divided by square of height in meters. NHES II: National Health Examination Survey, Cycle II, ages 6–11 years; NHES III: National Health Examination Survey, Cycle III, ages 12–17 years; NHANES: National Health and Nutrition Examination Survey.

Table 6. Mean weight (pounds) by survey, sex, and age group; adults: United States

Sex and age	NHES I, 1960–62			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male¹															
20 years and over	---	---	---	---	---	---	---	---	---	7,755	181.3	0.8	4,314	189.8	0.9
20–74 years	2,895	166.3	0.7	4,992	173.4	0.6	5,604	173.8	0.4	6,860	182.4	0.8	3,791	191.0	1.0
20–29 years	585	163.9	1.6	986	169.6	1.3	1,261	167.9	1.0	1,638	172.5	1.4	712	183.4	1.5
30–39 years	714	169.9	1.4	654	178.1	1.7	871	175.5	0.9	1,468	182.3	2.0	704	189.1	2.0
40–49 years	649	169.1	1.4	715	177.6	1.2	695	179.7	1.0	1,220	187.3	1.7	776	196.0	1.6
50–59 years	487	167.7	1.3	717	173.2	1.1	691	176.0	1.3	851	189.2	1.2	598	195.4	2.1
60–74 years	460	158.9	1.5	1,920	165.4	1.0	2,086	167.5	1.0	1,683	180.8	1.1	1,001	191.5	1.4
75 years and over	---	---	---	---	---	---	---	---	---	895	166.0	1.5	523	172.7	1.4
Female¹															
20 years and over	---	---	---	---	---	---	---	---	---	8,483	153.0	0.9	4,299	162.9	1.0
20–74 years	3,231	140.2	0.5	7,919	144.2	0.6	6,161	145.4	0.6	7,461	154.1	0.9	3,745	164.3	1.1
20–29 years	672	127.7	0.9	2,122	133.9	0.8	1,290	135.7	1.0	1,663	141.7	1.4	656	156.5	2.0
30–39 years	749	138.8	1.2	1,654	144.4	1.1	964	145.5	1.4	1,773	154.4	1.8	699	163.0	2.0
40–49 years	759	142.8	1.1	1,232	148.7	1.3	765	148.8	1.4	1,355	157.5	1.8	787	168.2	2.4
50–59 years	554	146.5	1.3	780	148.2	1.4	793	150.4	1.3	996	163.4	1.8	593	169.2	2.5
60–74 years	497	147.3	1.2	2,131	146.3	1.0	2,349	146.9	0.8	1,674	154.2	1.0	1,010	164.7	1.2
75 years and over	---	---	---	---	---	---	---	---	---	1,022	139.4	1.3	554	146.6	2.1

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES I: National Health Examination Survey, Cycle I, ages 20–74 years; and NHANES: National Health and Nutrition Examination Survey.

Table 7. Mean weight (kilograms) by survey, sex, and age group; adults: United States

Sex and age	NHES I, 1960–62			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male¹															
20 years and over	---	---	---	---	---	---	---	---	---	7,755	82.3	0.3	4,314	86.1	0.4
20–74 years	2,895	75.6	0.3	4,992	78.8	0.3	5,604	79.0	0.2	6,860	82.9	0.4	3,791	86.8	0.5
20–29 years	585	74.5	0.7	986	77.1	0.6	1,261	76.3	0.5	1,638	78.4	0.6	712	83.4	0.7
30–39 years	714	77.2	0.6	654	81.0	0.8	871	79.8	0.4	1,468	82.9	0.9	704	86.0	0.9
40–49 years	649	76.9	0.6	715	80.7	0.5	695	81.7	0.5	1,220	85.1	0.8	776	89.1	0.7
50–59 years	487	76.2	0.6	717	78.7	0.5	691	80.0	0.6	851	86.0	0.5	598	88.8	0.9
60–74 years	460	72.2	0.7	1,920	75.2	0.4	2,086	76.1	0.5	1,683	82.2	0.5	1,001	87.1	0.6
75 years and over	---	---	---	---	---	---	---	---	---	895	75.4	0.7	523	78.5	0.6
Female¹															
20 years and over	---	---	---	---	---	---	---	---	---	8,483	69.5	0.4	4,299	74.0	0.5
20–74 years	3,231	63.7	0.2	7,919	65.6	0.3	6,161	66.1	0.3	7,461	70.0	0.4	3,745	74.7	0.5
20–29 years	672	58.0	0.4	2,122	60.9	0.4	1,290	61.7	0.5	1,663	64.4	0.6	656	71.1	0.9
30–39 years	749	63.1	0.5	1,654	65.6	0.5	964	66.1	0.6	1,773	70.2	0.8	699	74.1	0.9
40–49 years	759	64.9	0.5	1,232	67.6	0.6	765	67.6	0.6	1,355	71.6	0.8	787	76.5	1.1
50–59 years	554	66.6	0.6	780	67.4	0.6	793	68.4	0.6	996	74.3	0.8	593	76.9	1.1
60–74 years	497	67.0	0.6	2,131	66.5	0.4	2,349	66.8	0.4	1,674	70.1	0.5	1,010	74.9	0.6
75 years and over	---	---	---	---	---	---	---	---	---	1,022	63.4	0.6	554	66.6	0.9

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES I: National Health Examination Survey, Cycle I, ages 20–74 years; and NHANES: National Health and Nutrition Examination Survey.

Table 8. Mean height (inches) by survey, sex, and age group adults: United States

Sex and age	NHES I, 1960–62			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male															
20 years and over ¹	---	---	---	---	---	---	---	---	---	7,757	69.0	0.1	4,341	69.2	0.1
20–74 years ¹	2,895	68.3	0.1	4,992	68.9	0.1	5,604	69.1	0.1	6,862	69.2	0.1	3,836	69.4	0.1
20–29 years ¹	585	68.9	0.1	986	69.7	0.2	1,261	69.7	0.1	1,639	69.3	0.1	724	69.6	0.1
30–39 years ¹	714	68.9	0.1	654	69.3	0.1	871	69.4	0.1	1,468	69.5	0.1	717	69.5	0.1
40–49 years ¹	649	68.3	0.1	715	69.1	0.1	695	69.3	0.1	1,220	69.4	0.1	784	69.7	0.1
50–59 years ¹	487	67.8	0.1	717	68.5	0.2	691	68.8	0.1	851	69.2	0.1	601	69.2	0.1
60–74 years ¹	460	67.0	0.2	1,920	67.6	0.1	2,086	67.8	0.1	1,684	68.3	0.1	1,010	68.6	0.1
75 years and over	---	---	---	---	---	---	---	---	---	895	67.2	0.1	505	67.4	0.2
Female															
20 years and over	---	---	---	---	---	---	---	---	---	8,498	63.7	0.1	4,308	63.8	0.1
20–74 years ¹	3,231	63.1	0.1	7,919	63.6	0.0	6,161	63.7	0.0	7,473	63.9	0.1	3,770	64.0	0.1
20–29 years ¹	672	63.7	0.1	2,122	64.1	0.1	1,290	64.3	0.1	1,665	64.1	0.1	663	64.1	0.1
30–39 years ¹	749	63.7	0.1	1,654	64.1	0.1	964	64.2	0.1	1,776	64.3	0.1	708	64.2	0.1
40–49 years ¹	759	63.2	0.1	1,232	63.9	0.1	765	63.9	0.1	1,354	64.1	0.1	794	64.3	0.1
50–59 years ¹	554	62.6	0.1	780	63.2	0.1	793	63.2	0.1	998	63.7	0.1	601	63.9	0.1
60–74 years ¹	497	61.8	0.1	2,131	62.4	0.1	2,349	62.5	0.1	1,680	62.9	0.1	1,004	63.0	0.1
75 years and over ¹	---	---	---	---	---	---	---	---	---	1,025	61.5	0.1	538	62.0	0.1

--- Data not available.

¹Statistically significant trend or difference $p < 0.05$ for all years available.

NOTE: NHES I: National Health Examination Survey, Cycle I, ages 20–74 years; and NHANES: National Health and Nutrition Examination Survey.

Table 9. Mean height (centimeters) by survey, sex, and age group; adults: United States

Sex and age	NHES I, 1960–62			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male															
20 years and over ¹	---	---	---	---	---	---	---	---	---	7,757	175.4	0.1	4,341	175.8	0.1
20–74 years ¹	2,895	173.4	0.2	4,992	175.1	0.2	5,604	175.4	0.2	6,862	175.8	0.1	3,836	176.2	0.2
20–29 years ¹	585	175.0	0.3	986	177.1	0.4	1,261	177.1	0.3	1,639	176.1	0.3	724	176.7	0.3
30–39 years ¹	714	174.9	0.3	654	176.1	0.3	871	176.3	0.3	1,468	176.6	0.3	717	176.4	0.3
40–49 years ¹	649	173.4	0.4	715	175.5	0.3	695	175.9	0.3	1,220	176.3	0.3	784	177.2	0.3
50–59 years ¹	487	172.3	0.4	717	174.0	0.4	691	174.7	0.3	851	175.8	0.3	601	175.8	0.3
60–74 years ¹	460	170.2	0.4	1,920	171.8	0.3	2,086	172.1	0.2	1,684	173.6	0.2	1,010	174.4	0.3
75 years and over	---	---	---	---	---	---	---	---	---	895	170.7	0.3	505	171.3	0.4
Female															
20 years and over	---	---	---	---	---	---	---	---	---	8,498	161.8	0.1	4,308	162.0	0.1
20–74 years ¹	3,231	160.2	0.2	7,919	161.6	0.1	6,161	161.8	0.1	7,473	162.3	0.1	3,770	162.5	0.1
20–29 years ¹	672	161.8	0.3	2,122	162.8	0.1	1,290	163.3	0.2	1,665	162.8	0.2	663	162.8	0.3
30–39 years ¹	749	161.8	0.3	1,654	162.9	0.2	964	163.1	0.2	1,776	163.4	0.3	708	163.0	0.3
40–49 years ¹	759	160.5	0.2	1,232	162.3	0.3	765	162.3	0.3	1,354	162.8	0.3	794	163.4	0.2
50–59 years ¹	554	158.9	0.3	780	160.4	0.2	793	160.5	0.3	998	161.8	0.3	601	162.3	0.3
60–74 years ¹	497	157.1	0.3	2,131	158.6	0.2	2,349	158.8	0.2	1,680	159.8	0.2	1,004	160.0	0.2
75 years and over ¹	---	---	---	---	---	---	---	---	---	1,025	156.2	0.4	538	157.4	0.3

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: NHES I: National Health Examination Survey, Cycle I, ages 20–74 years; and NHANES: National Health and Nutrition Examination Survey.

Table 10. Mean body mass index (BMI) by survey, sex, and age group; adults: United States

Sex and age	NHES I, 1960–62			NHANES I, 1971–74			NHANES II, 1976–80			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male¹															
20 years and over	---	---	---	---	---	---	---	---	---	7,755	26.7	0.1	4,262	27.8	0.1
20–74 years	2,895	25.1	0.1	4,992	25.7	0.1	5,604	25.6	0.1	6,860	26.8	0.1	3,775	27.9	0.1
20–29 years	585	24.3	0.2	986	24.5	0.1	1,261	24.3	0.1	1,638	25.2	0.2	712	26.6	0.2
30–39 years	714	25.2	0.2	654	26.1	0.2	871	25.6	0.1	1,468	26.5	0.2	704	27.5	0.3
40–49 years	649	25.6	0.2	715	26.2	0.2	695	26.4	0.2	1,220	27.3	0.2	774	28.4	0.3
50–59 years	487	25.6	0.2	717	26.0	0.2	691	26.2	0.2	851	27.8	0.2	594	28.7	0.3
60–74 years	460	24.9	0.2	1,920	25.4	0.1	2,086	25.7	0.1	1,683	27.2	0.2	991	28.6	0.2
75 years and over	---	---	---	---	---	---	---	---	---	895	25.9	0.2	487	26.8	0.2
Female¹															
20 years and over	---	---	---	---	---	---	---	---	---	8,480.0	26.5	0.1	4,243	28.1	0.2
20–74 years	3,231	24.9	0.1	7,919	25.1	0.1	6,161	25.3	0.1	7,459.0	26.6	0.2	3,719	28.2	0.2
20–29 years	672	22.2	0.2	2,122	23.0	0.1	1,290	23.1	0.2	1,663.0	24.3	0.2	654	26.8	0.3
30–39 years	749	24.1	0.2	1,654	24.7	0.2	964	24.9	0.2	1,773.0	26.3	0.3	698	27.9	0.3
40–49 years	759	25.2	0.2	1,232	25.7	0.2	765	25.7	0.2	1,354.0	27.1	0.3	783	28.6	0.4
50–59 years	554	26.4	0.2	780	26.2	0.2	793	26.5	0.2	996.0	28.4	0.3	591	29.2	0.4
60–74 years	497	27.2	0.2	2,131	26.5	0.2	2,349	26.5	0.1	1,673.0	27.4	0.2	993	29.2	0.2
75 years and over	---	---	---	---	---	---	---	---	---	1,021.0	25.9	0.2	524	26.8	0.4

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTES: BMI is calculated as weight in kilograms divided by square of height in meters. NHES I: National Health Examination Survey, Cycle I, ages 20–74 years; and NHANES: National Health and Nutrition Examination Survey.

Table 11. Mean weight (pounds) by survey, sex, race/ethnicity, and age group; adults: United States

Sex, race/ethnicity, and age	HHANES, 1982–84			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male									
Non-Hispanic white: ¹									
20 years and over	---	---	---	3,152	183.7	0.9	2,149	193.1	1.0
20–39 years	---	---	---	846	180.2	1.5	607	189.7	1.8
40–59 years	---	---	---	842	190.3	1.4	676	199.5	1.5
60 years and over	---	---	---	1,464	179.0	0.9	866	188.8	1.0
Non-Hispanic black:									
20 years and over ¹	---	---	---	2,091	181.2	0.9	824	189.2	1.3
20–39 years ¹	---	---	---	985	182.0	1.2	279	189.1	2.7
40–59 years	---	---	---	583	185.4	1.7	289	191.1	2.6
60 years and over ¹	---	---	---	523	173.1	1.8	256	186.5	2.3
Mexican American: ¹									
20 years and over	---	---	---	2,229	172.3	0.9	1,027	177.3	1.1
20–74 years	2,273	166.9	0.8	2,127	173.3	0.9	961	178.3	1.2
20–39 years	1,133	165.4	1.7	1,143	166.9	1.5	399	172.5	2.2
40–59 years	856	170.8	0.7	558	181.6	1.5	310	183.6	2.0
60–74 years	284	161.2	1.3	426	170.0	1.8	252	180.3	2.6
60 years and over	---	---	---	528	166.6	1.9	318	175.7	2.4
Female									
Non-Hispanic white: ¹									
20 years and over	---	---	---	3,554	151.4	1.0	2,063	161.7	1.2
20–39 years	---	---	---	1,030	146.4	1.4	569	158.4	2.0
40–59 years	---	---	---	950	158.5	1.5	632	167.6	2.2
60 years and over	---	---	---	1,574	148.5	1.1	862	158.0	1.2
Non-Hispanic black: ¹									
20 years and over	---	---	---	2,452	169.7	1.2	870	182.4	1.5
20–39 years	---	---	---	1,191	162.8	1.7	298	179.2	3.0
40–59 years	---	---	---	721	179.3	2.3	297	189.3	2.7
60 years and over	---	---	---	540	166.2	2.3	275	176.6	3.3
Mexican American:									
20 years and over ¹	---	---	---	2,108	152.6	1.0	1,019	157.1	1.6
20–74 years ¹	3,039	145.8	0.8	2,014	153.8	1.1	964	158.4	1.5
20–39 years ¹	1,482	140.5	0.8	1,063	148.1	1.5	358	152.9	2.2
40–59 years ¹	1,159	151.1	1.2	558	160.4	1.5	332	165.5	2.6
60–74 years ¹	398	146.8	1.9	393	152.5	2.4	274	155.0	2.2
60 years and over	---	---	---	487	147.9	2.0	329	150.7	2.6

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: HHANES: Hispanic Health and Nutrition Examination Survey; and NHANES: National Health and Nutrition Examination Survey.

Table 12. Mean weight (kilograms) by survey, sex, race/ethnicity, and age group; adults: United States

Sex, race/ethnicity, and age	HHANES, 1982–84			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male									
Non-Hispanic white: ¹									
20 years and over	---	---	---	3,152	83.5	0.4	2,149	87.8	0.5
20–39 years	---	---	---	846	81.9	0.7	607	86.2	0.8
40–59 years	---	---	---	842	86.5	0.6	676	90.7	0.7
60 years and over	---	---	---	1,464	81.4	0.4	866	85.8	0.4
Non-Hispanic black:									
20 years and over ¹	---	---	---	2,091	82.4	0.4	824	86.0	0.6
20–39 years ¹	---	---	---	985	82.7	0.6	279	85.9	1.2
40–59 years	---	---	---	583	84.3	0.8	289	86.8	1.2
60 years and over ¹	---	---	---	523	78.7	0.8	256	84.8	1.1
Mexican American: ¹									
20 years and over	---	---	---	2,229	78.3	0.4	1,027	80.6	0.5
20–74 years	2,273	75.9	0.4	2,127	78.8	0.4	961	81.0	0.5
20–39 years	1,133	75.2	0.8	1,143	75.9	0.7	399	78.4	1.0
40–59 years	856	77.6	0.3	558	82.5	0.7	310	83.4	0.9
60–74 years	284	73.3	0.6	426	77.3	0.8	252	82.0	1.2
60 years and over	---	---	---	528	75.7	0.9	318	79.8	1.1
Female									
Non-Hispanic white: ¹									
20 years and over	---	---	---	3,554	68.8	0.5	2,063	73.5	0.6
20–39 years	---	---	---	1,030	66.6	0.6	569	72.0	0.9
40–59 years	---	---	---	950	72.1	0.7	632	76.2	1.0
60 years and over	---	---	---	1,574	67.5	0.5	862	71.8	0.5
Non-Hispanic black: ¹									
20 years and over	---	---	---	2,452	77.2	0.6	870	82.9	0.7
20–39 years	---	---	---	1,191	74.0	0.8	298	81.5	1.4
40–59 years	---	---	---	721	81.5	1.1	297	86.0	1.2
60 years and over	---	---	---	540	75.5	1.0	275	80.3	1.5
Mexican American:									
20 years and over ¹	---	---	---	2,108	69.4	0.5	1,019	71.4	0.7
20–74 years ¹	3,039	66.3	0.4	2,014	69.9	0.5	964	72.0	0.7
20–39 years ¹	1,482	63.9	0.4	1,063	67.3	0.7	358	69.5	1.0
40–59 years ¹	1,159	68.7	0.6	558	72.9	0.7	332	75.2	1.2
60–74 years ¹	398	66.7	0.9	393	69.3	1.1	274	70.5	1.0
60 years and over	---	---	---	487	67.2	0.9	329	68.5	1.2

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: HHANES: Hispanic Health and Nutrition Examination Survey; and NHANES: National Health and Nutrition Examination Survey.

Table 13. Mean height (inches) by survey, sex, race/ethnicity, and age group; adults: United States

Sex, race/ethnicity, and age	HHANES, 1982–84			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male									
Non-Hispanic white:									
20 years and over ¹	---	---	---	3,152	69.5	0.1	2,149	69.7	0.1
20–39 years	---	---	---	846	69.9	0.1	613	70.2	0.1
40–59 years	---	---	---	842	69.7	0.1	681	70.0	0.1
60 years and over ¹	---	---	---	1,464	68.3	0.1	855	68.6	0.1
Non-Hispanic black:									
20 years and over ¹	---	---	---	2,091	69.2	0.1	837	69.5	0.1
20–39 years	---	---	---	985	69.7	0.1	284	70.0	0.1
40–59 years	---	---	---	583	69.4	0.1	294	69.6	0.1
60 years and over ¹	---	---	---	523	68.0	0.1	259	68.5	0.2
Mexican American:									
20 years and over	---	---	---	2,231	66.6	0.1	1,039	66.7	0.1
20–74 years	2,273	66.9	0.1	2,129	66.8	0.1	980	66.8	0.1
20–39 years	1,133	67.4	0.2	1,144	67.0	0.1	409	66.8	0.2
40–59 years	856	66.8	0.1	558	66.8	0.1	313	66.9	0.2
60–74 years ¹	284	65.7	0.1	427	66.1	0.2	258	66.5	0.2
60 years and over ¹	---	---	---	529	65.8	0.2	317	66.3	0.2
Female									
Non-Hispanic white:									
20 years and over ¹	---	---	---	3,557	64.0	0.1	2,056	64.2	0.1
20–39 years	---	---	---	1,030	64.6	0.1	573	64.6	0.1
40–59 years ¹	---	---	---	950	64.2	0.1	638	64.6	0.1
60 years and over ¹	---	---	---	1,577	62.6	0.1	845	62.8	0.1
Non-Hispanic black:									
20 years and over	---	---	---	2,453	64.1	0.1	881	64.2	0.1
20–39 years	---	---	---	1,191	64.4	0.1	304	64.6	0.1
40–59 years	---	---	---	721	64.4	0.1	299	64.3	0.1
60 years and over	---	---	---	541	63.0	0.1	278	63.2	0.1
Mexican American:									
20 years and over ¹	---	---	---	2,119	61.5	0.1	1,020	61.8	0.1
20–74 years	3,039	61.6	0.1	2,025	61.6	0.1	967	61.9	0.1
20–39 years	1,482	62.1	0.1	1,068	61.9	0.1	361	62.3	0.2
40–59 years ¹	1,159	61.5	0.1	559	61.7	0.1	335	61.9	0.2
60–74 years	398	60.6	0.2	398	60.6	0.1	271	60.9	0.1
60 years and over ¹	---	---	---	492	60.3	0.1	324	60.7	0.1

-- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: HHANES: Hispanic Health and Nutrition Examination Survey; and NHANES: National Health and Nutrition Examination Survey.

Table 14. Mean height (centimeters) by survey, sex, race/ethnicity, and age group; adults: United States

Sex, race/ethnicity, and age	HHANES, 1982–84			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male									
Non-Hispanic white:									
20 years and over ¹	---	---	---	3,152	176.4	0.1	2,149	177.2	0.2
20–39 years	---	---	---	846	177.7	0.2	613	178.2	0.2
40–59 years	---	---	---	842	177.0	0.3	681	177.8	0.3
60 years and over ¹	---	---	---	1,464	173.5	0.2	855	174.3	0.2
Non-Hispanic black:									
20 years and over ¹	---	---	---	2,091	175.8	0.2	837	176.6	0.2
20–39 years	---	---	---	985	177.1	0.2	284	177.8	0.4
40–59 years	---	---	---	583	176.2	0.3	294	176.8	0.4
60 years and over ¹	---	---	---	523	172.7	0.2	259	174.1	0.4
Mexican American:									
20 years and over	---	---	---	2,231	169.2	0.1	1,039	169.4	0.3
20–74 years	2,273	169.9	0.3	2,129	169.6	0.2	980	169.6	0.3
20–39 years	1,133	171.1	0.5	1,144	170.1	0.2	409	169.7	0.4
40–59 years	856	169.8	0.3	558	169.6	0.3	313	169.8	0.5
60–74 years ¹	284	166.8	0.3	427	167.8	0.4	258	169.0	0.4
60 years and over ¹	---	---	---	529	167.0	0.4	317	168.5	0.4
Female									
Non-Hispanic white:									
20 years and over ¹	---	---	---	3,557	162.5	0.2	2,056	163.0	0.1
20–39 years	---	---	---	1,030	164.1	0.2	573	164.1	0.3
40–59 years ¹	---	---	---	950	163.0	0.3	638	164.0	0.2
60 years and over ¹	---	---	---	1,577	159.0	0.3	845	159.6	0.2
Non-Hispanic black:									
20 years and over	---	---	---	2,453	162.8	0.2	881	163.0	0.2
20–39 years	---	---	---	1,191	163.7	0.2	304	164.0	0.4
40–59 years	---	---	---	721	163.6	0.3	299	163.4	0.3
60 years and over	---	---	---	541	160.1	0.2	278	160.6	0.3
Mexican American:									
20 years and over ¹	---	---	---	2,119	156.1	0.2	1,020	156.9	0.3
20–74 years	3,039	156.5	0.3	2,025	156.6	0.2	967	157.3	0.3
20–39 years	1,482	157.8	0.3	1,068	157.3	0.3	361	158.1	0.5
40–59 years ¹	1,159	156.1	0.3	559	156.8	0.3	335	157.3	0.4
60–74 years	398	154.0	0.5	398	153.9	0.3	271	154.8	0.4
60 years and over ¹	---	---	---	492	153.1	0.3	324	154.1	0.3

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTE: HHANES: Hispanic Health and Nutrition Examination Survey; and NHANES: National Health and Nutrition Examination Survey.

Table 15. Mean body mass index (BMI) by survey, sex, race/ethnicity, and age group; adults: United States

Sex, race/ethnicity, and age	HHANES, 1982–84			NHANES III, 1988–94			NHANES 1999–2002		
	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean	Sample size	Mean	Standard error of the mean
Male									
Non-Hispanic white: ¹									
20 years and over	---	---	---	3,152	26.8	0.1	2,116	27.9	0.2
20–39 years	---	---	---	846	25.9	0.2	607	27.1	0.2
40–59 years	---	---	---	842	27.6	0.2	673	28.7	0.3
60 years and over	---	---	---	1,464	27.0	0.1	836	28.3	0.1
Non-Hispanic black:									
20 years and over ¹	---	---	---	2,091	26.6	0.1	820	27.5	0.2
20–39 years ¹	---	---	---	985	26.3	0.2	279	27.1	0.3
40–59 years	---	---	---	583	27.1	0.2	289	27.7	0.4
60 years and over ¹	---	---	---	523	26.4	0.3	252	28.0	0.3
Mexican American: ¹									
20 years and over	---	---	---	2,229	27.3	0.1	1,018	28.0	0.2
20–74 years	2,273	26.2	0.2	2,127	27.3	0.1	959	28.1	0.2
20–39 years	1,133	25.6	0.3	1,143	26.1	0.2	399	27.1	0.3
40–59 years	856	26.9	0.1	558	28.6	0.2	309	28.9	0.3
60–74 years	284	26.3	0.2	426	27.4	0.3	251	28.6	0.3
60 years and over	---	---	---	528	27.1	0.3	310	28.1	0.3
Female									
Non-Hispanic white: ¹									
20 years and over	---	---	---	3,554	26.1	0.2	2,026	27.6	0.2
20–39 years	---	---	---	1,030	24.7	0.2	567	26.7	0.3
40–59 years	---	---	---	950	27.2	0.3	629	28.3	0.4
60 years and over	---	---	---	1,574	26.7	0.2	830	28.2	0.2
Non-Hispanic black: ¹									
20 years and over	---	---	---	2,451	29.1	0.2	863	31.1	0.3
20–39 years	---	---	---	1,191	27.6	0.3	298	30.2	0.5
40–59 years	---	---	---	721	30.4	0.3	294	32.1	0.5
60 years and over	---	---	---	539	29.4	0.4	271	31.1	0.6
Mexican American:									
20 years and over	---	---	---	2,106	28.4	0.2	1,012	29.0	0.3
20–74 years ¹	3,039	27.1	0.1	2,013	28.5	0.2	960	29.1	0.3
20–39 years ¹	1,482	25.6	0.2	1,063	27.2	0.2	358	27.8	0.4
40–59 years ¹	1,159	28.2	0.2	557	29.7	0.3	332	30.4	0.5
60–74 years ¹	398	28.1	0.3	393	29.2	0.4	270	29.5	0.3
60 years and over	---	---	---	486	28.7	0.4	322	28.9	0.4

--- Data not available.

¹Statistically significant trend or difference p<0.05 for all years available.

NOTES: BMI is calculated as weight in kilograms divided by square of height in meters. HHANES: Hispanic Health and Nutrition Examination Survey; and NHANES: National Health and Nutrition Examination Survey.

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