



## Early Release of Selected Estimates Based on Data From the 2016 National Health Interview Survey

Tainya C. Clarke, Ph.D., Tina Norris Ph.D., and Jeannine S. Schiller, M.P.H.  
Division of Health Interview Statistics, National Center for Health Statistics

### About This Early Release

In this release, the National Center for Health Statistics (NCHS) updates estimates for 15 selected health measures based on data from the 2016 National Health Interview Survey (NHIS) and presents estimates from 1997 through 2015 for comparison. The 15 Early Release measures are being published prior to final data editing and final weighting to provide access to the most recent information from NHIS. The estimates will be updated as each new quarter of NHIS data becomes available.

Two additional periodical reports are published through the Early Release Program. *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey* (1) is published quarterly and provides additional estimates of health insurance coverage. *Wireless Substitution: Early Release of Estimates From the National Health Interview Survey* (2) is published twice a year and provides selected estimates of telephone coverage. Other Early Release reports and tabulations on special topics are released as needed. In addition to these reports, preliminary microdata files containing selected NHIS variables are produced as part of the Early Release Program. For each data collection year (January through December), these variables are made available in four files approximately 5 to 6 months following the completion of data collection for the quarter. NHIS data users can analyze these files through the NCHS Research Data Center without having to wait for the final annual NHIS microdata files to be released about June following the end of the data collection year.

The 15 measures included in the present report are lack of health insurance coverage and type of coverage, having a usual place to go for medical care, obtaining needed medical care, receipt of influenza vaccination, receipt of pneumococcal vaccination, obesity, leisure-time physical activity, current cigarette smoking, alcohol consumption, human immunodeficiency virus (HIV) testing, general health status, personal care needs, serious psychological distress, diagnosed diabetes, and asthma episodes and current asthma. Three of these measures (lack of health insurance coverage, leisure-time physical activity, and current cigarette smoking) are directly related to Healthy People 2020 (3) Leading Health Indicators.

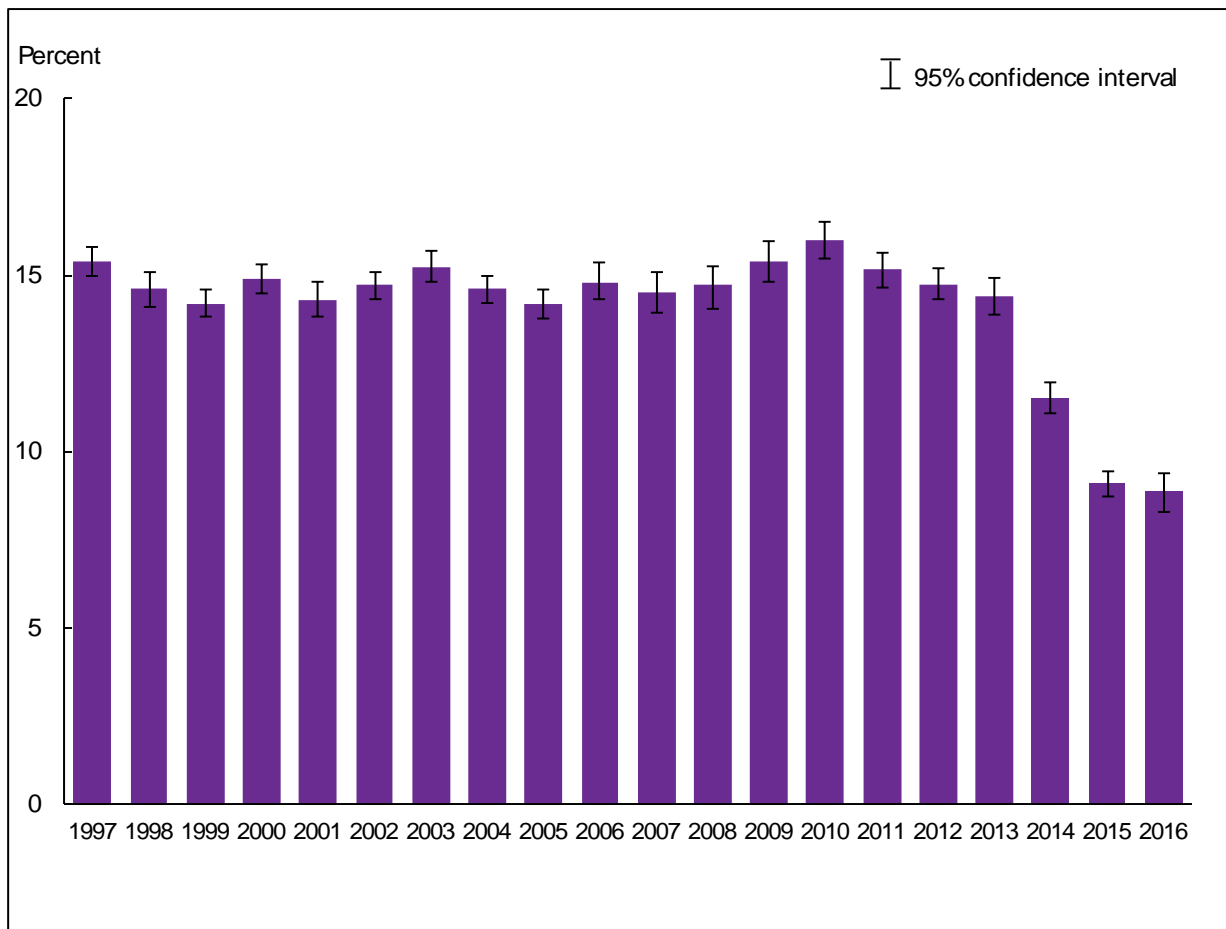
For each selected health measure, a figure is presented showing the trend over time from 1997 through 2016 for the total population, followed by figures and tables showing estimates by age group and sex, based on data from the 2016 NHIS. Estimates (which may be adjusted by age, sex, or both, where appropriate) also are provided for three race and ethnicity groups—Hispanic; non-Hispanic white, single race; and non-Hispanic black, single race—using data from the 2016 NHIS. Some measures may include additional tables or figures. Key findings are highlighted by bullets and data tables containing the values displayed in the figures, and additional age-adjusted estimates are included at the end of each section.

The NHIS questions used to define the selected health measures are provided in the [Appendix](#). The [Technical Notes](#) at the end of the report provide details on data source, transition to weights based on the 2000 and 2010 U.S. censuses, implementation of a new sample design in 2016, estimation procedures, significance testing, adjustment for age and sex, race and ethnicity categories, health insurance, influenza vaccination, alcohol consumption, HIV testing, and serious psychological distress.

Estimates based on 2016 data were calibrated to 2010 census-based population estimates for sex, age, and race and ethnicity of the U.S. civilian noninstitutionalized population. More information on weighting can be found in the [Technical Notes](#).

## Lack of health insurance coverage and type of coverage

**Figure 1.1. Percentage of persons of all ages without health insurance coverage at the time of interview: United States, 1997–2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children’s Health Insurance Program, state–sponsored or other government–sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. For comparability, the estimates for all years were created using these same procedures. The resulting estimates of persons without health insurance coverage are generally 0.1–0.3 percentage point lower than those based on the editing procedures used for the final data files. The analyses exclude persons with unknown health insurance status (about 1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

- For 2016, the percentage of persons uninsured at the time of interview was 9.0% (95% confidence interval = 8.43%–9.50%), which was not significantly different from the 2015 estimate of 9.1%.
- The percentage of persons uninsured at the time of interview decreased, from 16.0% in 2010 to 9.0% in 2016.

**Table 1.1a. Number of persons without health insurance coverage at the time of interview, by age group: United States, 1997–2016**

Year	All ages	Under 65	18–64	Under 18 years
	Number (millions)			
1997	41.0	40.7	30.8	9.9
1998	39.3	39.0	30.0	9.1
1999	38.7	38.3	29.8	8.5
2000	41.3	40.8	32.0	8.9
2001	40.2	39.8	31.9	7.9
2002	41.5	41.1	33.5	7.6
2003	43.6	43.2	35.9	7.3
2004 (Method 1 <sup>1</sup> )	42.5	42.0	35.0	7.0
2004 (Method 2 <sup>1</sup> )	42.1	41.7	34.9	6.8
2005	41.2	41.0	34.4	6.5
2006	43.6	43.3	36.5	6.8
2007	43.1	42.8	36.3	6.5
2008	43.8	43.6	37.1	6.6
2009	46.3	46.0	40.0	6.1
2010	48.6	48.2	42.5	5.8
2011	46.3	45.9	40.7	5.2
2012	45.5	45.2	40.3	4.9
2013	44.8	44.3	39.6	4.8
2014	36.0	35.7	31.7	4.0
2015	28.6	28.4	25.1	3.3
2016	28.6	28.2	24.5	3.8

See footnotes at end of table.

**Table 1.1b. Percentage of persons without health insurance coverage at the time of the interview, by age group: United States, 1997–2016**

Year	All ages	Under 65	Under 65	18–64	Under 18 years
	Percent (95% confidence interval)	Crude percent (95% confidence interval)	Age-adjusted percent (95% confidence interval)	Percent (95% confidence interval)	Percent (95% confidence interval)
1997	15.4 (15.0–15.8)	17.4 (16.9–17.9)	17.2 (16.8–17.7)	18.9 (18.4–19.4)	13.9 (13.2–14.6)
1998	14.6 (14.1–15.1)	16.5 (16.0–17.0)	16.4 (15.9–16.9)	18.2 (17.7–18.7)	12.7 (12.0–13.4)
1999	14.2 (13.8–14.6)	16.0 (15.5–16.5)	16.0 (15.5–16.5)	17.8 (17.3–18.3)	11.8 (11.2–12.4)
2000	14.9 (14.5–15.3)	16.8 (16.3–17.2)	16.8 (16.3–17.3)	18.7 (18.1–19.2)	12.3 (11.7–12.9)
2001	14.3 (13.8–14.8)	16.2 (15.7–16.7)	16.2 (15.7–16.7)	18.3 (17.8–18.8)	11.0 (10.3–11.7)
2002	14.7 (14.3–15.1)	16.5 (16.0–16.9)	16.6 (16.1–17.1)	19.1 (18.6–19.6)	10.5 (9.9–11.1)
2003	15.2 (14.8–15.7)	17.2 (16.6–17.7)	17.3 (16.8–17.8)	20.1 (19.5–20.6)	10.1 (9.4–10.7)
2004 (Method 1 <sup>1</sup> )	14.7 (14.3–15.2)	16.6 (16.1–17.0)	16.7 (16.3–17.2)	19.4 (18.9–19.9)	9.6 (9.0–10.2)
2004 (Method 2 <sup>1</sup> )	14.6 (14.2–15.0)	16.4 (16.0–16.9)	16.6 (16.2–17.1)	19.3 (18.8–19.8)	9.4 (8.8–10.0)
2005	14.2 (13.75–14.58)	16.0 (15.53–16.46)	16.2 (15.72–16.65)	18.9 (18.34–19.38)	8.9 (8.34–9.49)
2006	14.8 (14.34–15.34)	16.8 (16.21–17.33)	17.0 (16.44–17.57)	19.8 (19.12–20.42)	9.3 (8.60–9.92)
2007	14.5 (13.93–15.08)	16.4 (15.76–17.05)	16.6 (15.95–17.28)	19.4 (18.68–20.09)	8.9 (8.10–9.66)
2008	14.7 (14.04–15.27)	16.7 (15.96–17.36)	16.9 (16.24–17.63)	19.7 (18.95–20.51)	8.9 (8.04–9.73)
2009	15.4 (14.79–15.96)	17.5 (16.80–18.12)	17.7 (17.08–18.42)	21.1 (20.38–21.83)	8.2 (7.39–8.97)
2010	16.0 (15.46–16.52)	18.2 (17.58–18.77)	18.5 (17.87–19.07)	22.3 (21.57–22.95)	7.8 (7.12–8.39)
2011	15.1 (14.66–15.64)	17.3 (16.69–17.82)	17.5 (16.93–18.06)	21.3 (20.58–21.92)	7.0 (6.49–7.56)
2012	14.7 (14.29–15.21)	16.9 (16.41–17.46)	17.1 (16.59–17.62)	20.9 (20.28–21.51)	6.6 (6.07–7.13)
2013	14.4 (13.89–14.90)	16.6 (15.97–17.15)	16.7 (16.10–17.29)	20.4 (19.66–21.12)	6.5 (6.01–7.02)
2014	11.5 (11.06–11.94)	13.3 (12.80–13.81)	13.4 (12.92–13.97)	16.3 (15.67–16.88)	5.5 (4.93–6.00)
2015	9.1 (8.70–9.44)	10.5 (10.11–10.96)	10.7 (10.23–11.10)	12.8 (12.29–13.36)	4.5 (4.02–4.97)
2016	9.0 (8.43–9.50)	10.4 (9.81–11.04)	10.6 (9.93–11.17)	12.4 (11.71–13.12)	5.1 (4.53–5.73)

<sup>1</sup> In the third quarter of 2004, two questions were added to the National Health Interview Survey insurance section to reduce potential errors in reporting Medicare and Medicaid status. Persons aged 65 and over not reporting Medicare coverage were asked explicitly about Medicare coverage, and persons under age 65 with no reported coverage were asked explicitly about Medicaid coverage. Depending on responses to these two questions, respondents may have been reclassified. Estimates of uninsurance for 2004 are calculated both without the additional information from these new questions (Method 1) and with the responses to these new questions (Method 2). Beginning in 2005, all estimates are reported using Method 2. See [Technical Notes](#) for additional information.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program, state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. For comparability, the estimates for all years were created using these same procedures. The resulting estimates of persons without health insurance coverage are generally 0.1–0.3 percentage point lower than those based on the editing procedures used for the final data files. In Table 1.1a, the number of uninsured persons is calculated as the percentage of uninsured persons multiplied by the total weighted population, including persons with unknown coverage. The age-specific numbers of uninsured may not add to their respective totals due to rounding. In Table 1.1b, age-adjusted estimates for persons under age 65 for this Healthy People 2020 Leading Health Indicator are adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–44, and 45–64. The analyses exclude persons with unknown health insurance status (about 1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

- For 2016, the percentage of uninsured persons at the time of interview by age group was 10.4% (28.2 million) for those under age 65, 12.4% (24.5 million) for those aged 18–64, and 5.1% (3.8 million) for those under age 18 years (Tables 1.1a and 1.1b).
- For children under age 18 years, the percentage of those uninsured at the time of interview generally decreased, from 13.9% in 1997 to 8.9% in 2005, then decreased again from 8.9% in 2008 to 4.5% in 2015. The 2016 estimate of uninsured children under age 18 years (5.1%) was higher than, but not significantly different from the 2015 estimate of 4.5% (Table 1.1b).
- For adults aged 18–64, the percentage of those uninsured at the time of interview declined, from 22.3% in 2010 to 12.4% in 2016 (Table 1.1b).

**Table 1.2a. Percentage of persons under age 65 with public health plan coverage, by age group: United States, 1997–2016**

Year	Under 65	18–64	Under 18 years
	Percent (95% confidence interval)		
1997	13.6 (13.1–14.1)	10.2 (9.8–10.6)	21.4 (20.5–22.4)
1998	12.7 (12.2–13.2)	9.5 (9.1–9.9)	20.0 (19.0–20.9)
1999	12.4 (12.0–12.9)	9.0 (8.6–9.3)	20.4 (19.5–21.4)
2000	12.9 (12.4–13.4)	9.1 (8.7–9.4)	22.0 (21.0–23.0)
2001	13.6 (13.1–14.1)	9.4 (9.0–9.8)	23.6 (22.6–24.5)
2002	15.2 (14.6–15.8)	10.3 (9.9–10.7)	27.1 (26.0–28.2)
2003	16.0 (15.4–16.6)	10.9 (10.4–11.4)	28.6 (27.4–29.7)
2004 (Method 1 <sup>1</sup> )	16.1 (15.6–16.7)	11.1 (10.6–11.5)	28.5 (27.5–29.6)
2004 (Method 2 <sup>1</sup> )	16.2 (15.7–16.8)	11.1 (10.7–11.6)	28.7 (27.7–29.8)
2005	16.8 (16.26–17.38)	11.5 (11.12–11.98)	29.9 (28.80–30.99)
2006	18.1 (17.40–18.77)	12.4 (11.89–12.92)	32.3 (30.94–33.64)
2007	18.1 (17.35–18.90)	12.3 (11.72–12.95)	32.7 (31.22–34.25)
2008	19.3 (18.45–20.09)	13.4 (12.71–14.02)	34.2 (32.70–35.78)
2009	21.0 (20.22–21.76)	14.4 (13.84–15.05)	37.7 (36.23–39.19)
2010	22.0 (21.21–22.71)	15.0 (14.37–15.56)	39.8 (38.34–41.22)
2011	23.0 (22.23–23.68)	15.9 (15.34–16.47)	41.0 (39.56–42.48)
2012	23.5 (22.81–24.25)	16.4 (15.85–17.01)	42.1 (40.64–43.47)
2013	23.8 (23.06–24.45)	16.7 (16.14–17.32)	42.2 (40.81–43.56)
2014	24.5 (23.75–25.16)	17.7 (17.10–18.34)	42.2 (40.95–43.50)
2015	25.3 (24.47–26.15)	18.9 (18.23–19.65)	42.2 (40.65–43.73)
2016	26.3 (25.45–27.06)	20.0 (19.24–20.71)	43.0 (41.69–44.23)

See footnotes at end of table.

**Table 1.2b. Percentage of persons under age 65 with private health insurance coverage, by age group: United States, 1997–2016**

Year	Under 65	18–64	Under 18 years
	Percent (95% confidence interval)		
1997	70.8 (70.1–71.5)	72.8 (72.2–73.4)	66.2 (65.1–67.3)
1998	72.0 (71.3–72.7)	73.5 (72.9–74.1)	68.5 (67.4–69.5)
1999	73.1 (72.3–73.8)	74.7 (74.1–75.4)	69.1 (68.0–70.2)
2000	71.8 (71.1–72.5)	73.8 (73.2–74.4)	67.1 (66.1–68.2)
2001	71.6 (70.9–72.3)	73.7 (73.1–74.4)	66.7 (65.6–67.8)
2002	69.8 (69.0–70.6)	72.3 (71.6–72.9)	63.9 (62.7–65.1)
2003	68.2 (67.5–69.0)	70.6 (69.9–71.3)	62.6 (61.4–63.8)
2004 (Method 1 <sup>1</sup> )	68.6 (67.9–69.4)	70.9 (70.2–71.6)	63.1 (61.9–64.3)
2004 (Method 2 <sup>1</sup> )	...	...	...
2005	68.4 (67.66–69.20)	70.9 (70.18–71.58)	62.4 (61.18–63.54)
2006	66.5 (65.54–67.41)	69.2 (68.33–70.02)	59.7 (58.32–61.14)
2007	66.8 (65.76–67.85)	69.6 (68.64–70.47)	59.9 (58.25–61.48)
2008	65.4 (64.21–66.49)	68.1 (67.10–69.20)	58.3 (56.61–59.91)
2009	62.9 (61.86–63.99)	65.8 (64.83–66.69)	55.7 (54.02–57.38)
2010	61.2 (60.20–62.17)	64.1 (63.19–64.98)	53.8 (52.31–55.26)
2011	61.2 (60.16–62.15)	64.2 (63.34–65.09)	53.3 (51.84–54.81)
2012	61.0 (60.04–61.87)	64.1 (63.26–64.89)	52.8 (51.40–54.25)
2013	61.0 (60.02–62.04)	64.2 (63.33–65.17)	52.6 (51.10–54.09)
2014	63.6 (62.66–64.47)	67.3 (66.47–68.15)	53.7 (52.34–55.00)
2015	65.6 (64.65–66.59)	69.7 (68.88–70.58)	54.7 (53.20–56.28)
2016	65.0 (64.06–65.92)	69.2 (68.37–69.99)	53.8 (52.44–55.25)

... Category not applicable; see footnote 1 for more information.

<sup>1</sup>In the third quarter of 2004, two questions were added to the National Health Interview Survey insurance section to reduce potential errors in reporting Medicare and Medicaid status. Persons aged 65 and over not reporting Medicare coverage were asked explicitly about Medicare coverage, and persons under age 65 with no reported coverage were asked explicitly about Medicaid coverage. Depending on responses to these two questions, respondents may have been reclassified. Estimates of uninsurance for 2004 are calculated both without the additional information from these new questions (Method 1) and with the responses to these new questions (Method 2). In Table 1.1b, estimates of private insurance are not affected by the two additional questions. Beginning in 2005, all estimates are reported using Method 2. See [Technical Notes](#) for additional information.

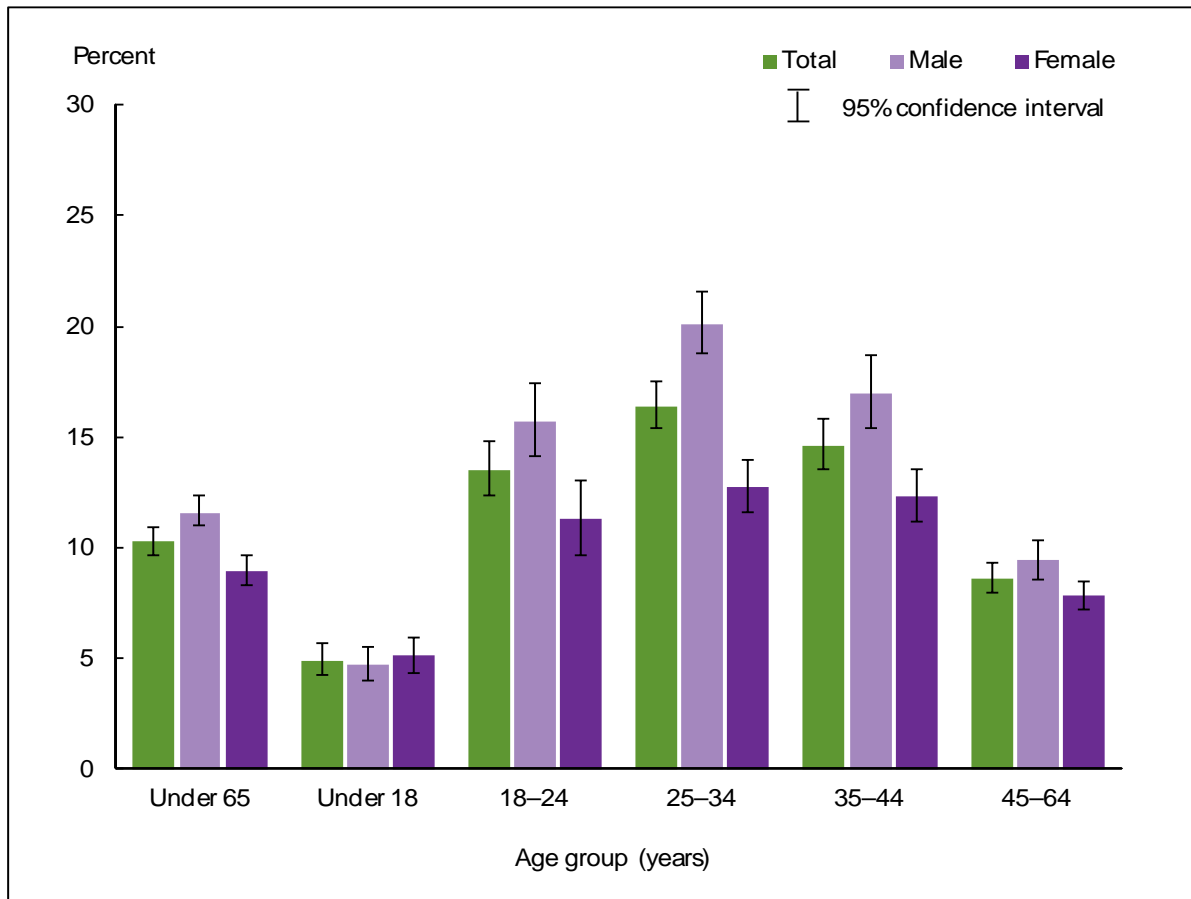
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. In Table 1.2a, “public health plan coverage” includes Medicare (disability), Medicaid, Children’s Health Insurance Program (CHIP), state–sponsored or other government–sponsored health plan, and military plans. In Table 1.2b, “private health insurance” includes persons who had any comprehensive private insurance plan (including health maintenance and preferred provider organizations). These plans include those obtained through an employer, purchased directly, or purchased through local or community programs. Private coverage excludes plans that pay for only one type of service such as accidents or dental care. The data on type of coverage were edited using an automated system based on logic checks and keyword searches. For comparability, the estimates for all years were created using these same procedures. The resulting estimates of persons having public or private coverage are within 0.1–0.3 percentage point of those based on the editing procedures used for the final data files. The analyses exclude persons with unknown health insurance status (about 1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

- For 2016, 26.3% of persons under age 65 were covered by public health plans (Table 1.2a) and 65.0% were covered by private health plans (Table 1.2b).
- For children under age 18 years, the percentage with public health insurance coverage increased from 20.4% in 1999 to 42.2% in 2013. There was no change in the percentage of children under age 18 years with public health insurance coverage from 2013 to 2016. The percentage of children under age 18 years with private insurance coverage in 2016 was 43.0% which was higher than but not significantly different from 2015 (Table 1.2a).
- For children under age 18 years, the percentage with private health insurance coverage decreased, from 69.1% in 1999 to 52.6% in 2013. There was no clear trend observed in the percentage of children under age 18 years with private health insurance from 2013 to 2016. In 2016, 53.8% of children under age 18 years had private health insurance coverage (Table 1.2b).
- The percentage of adults aged 18–64 with public health insurance coverage increased, from 15.0% in 2010 to 20.0% in 2016 (Table 1.2a).
- The percentage of adults aged 18–64 with private health insurance coverage increased, from 64.1% in 2010 to 69.7% in 2015. The percentage of adults with private insurance coverage in 2016 was 69.2% which was lower than but not significantly different from 2015 (Table 1.2b).



**Figure 1.2. Percentage of persons under age 65 without health insurance coverage at the time of interview, by age group and sex: United States, 2016**

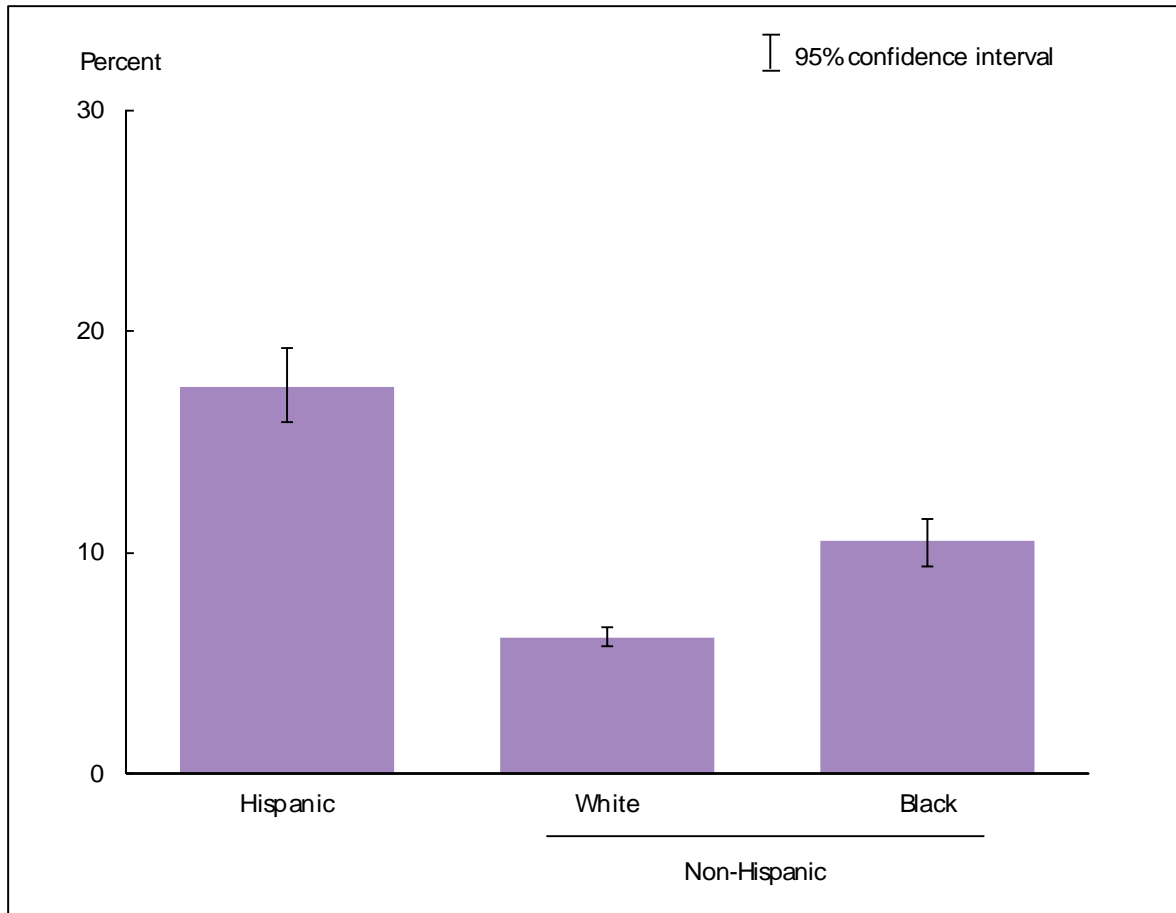


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children’s Health Insurance Program, state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. The resulting estimates of persons not having health insurance coverage are generally 0.1–0.3 percentage point lower than those based on the editing procedures used for the final data files. The analyses excluded the 1.1% of persons with unknown health insurance status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- For both sexes combined under age 65, the percentage of those uninsured at the time of interview by age group was highest among persons aged 25–34 (16.5%) and lowest among those under age 18 years (5.1%). This pattern held for males and females.
- Adults aged 45–64 were less likely than adults aged 18–24, 25–34, and 35–44 to lack health insurance coverage.
- For all persons under age 65 and for adults in age groups 18–24, 25–34, 35–44, and 45–64, males were more likely than females to lack health insurance coverage at the time of interview.

**Figure 1.3. Age-sex-adjusted percentage of persons of all ages without health insurance coverage at the time of interview, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program, state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service, such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. The resulting estimates of persons not having health insurance coverage are generally 0.1–0.3 percentage point lower than those based on the editing procedures used for the final data files. The analyses exclude the 1.0% of persons with unknown health insurance status. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- After adjustment for age and sex, the percentage of those uninsured at the time of interview by race and ethnicity was 18.0% for Hispanic persons, 6.3% for non-Hispanic white persons, and 10.4% for non-Hispanic black persons.
- Hispanic persons were the most likely to be uninsured at the time of interview, compared with non-Hispanic black persons and non-Hispanic white persons. Non-Hispanic black persons were more likely to be uninsured at the time of interview than non-Hispanic white persons.

## Data tables for Figures 1.1–1.3:

**Data table for Figure 1.1. Percentage of persons of all ages without health insurance coverage at the time of interview: United States, 1997–2016**

Year	Percent	95% confidence interval
1997	15.4	15.0–15.8
1998	14.6	14.1–15.1
1999	14.2	13.8–14.6
2000	14.9	14.5–15.3
2001	14.3	13.8–14.8
2002	14.7	14.3–15.1
2003	15.2	14.8–15.7
2004 (Method 1 <sup>1</sup> )	14.7	14.3–15.2
2004 (Method 2 <sup>1</sup> )	14.6	14.2–15.0
2005	14.2	13.75–14.58
2006	14.8	14.34–15.34
2007	14.5	13.93–15.08
2008	14.7	14.04–15.27
2009	15.4	14.79–15.96
2010	16.0	15.46–16.52
2011	15.1	14.66–15.64
2012	14.7	14.29–15.21
2013	14.4	13.89–14.90
2014	11.5	11.06–11.94
2015	9.1	8.70–9.43
2016	9.0	8.43–9.50

<sup>1</sup>In the third quarter of 2004, two questions were added to the National Health Interview Survey (NHIS) insurance section to reduce potential errors in reporting Medicare and Medicaid status. Persons aged 65 and over not reporting Medicare coverage were asked explicitly about Medicare coverage, and persons under age 65 with no reported coverage were asked explicitly about Medicaid coverage. Depending on responses to these two questions, respondents may have been reclassified. Estimates of uninsurance for 2004 are calculated both without the additional information from these new questions (Method 1) and with the responses to these new questions (Method 2). Beginning in 2005, all estimates are reported using Method 2. See [Technical Notes](#) for additional information.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, NHIS transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census.

For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

**Data table for Figure 1.2. Percentage of persons under age 65 without health insurance coverage at the time of interview, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
Under 18, total	5.1	4.53–5.73
Under 18, male	5.0	4.38–5.59
Under 18, female	5.3	4.50–6.06
18–24, total	13.7	12.55–14.84
18–24, male	16.1	14.76–17.51
18–24, female	11.3	9.69–12.82
25–34, total	16.5	15.56–17.53
25–34, male	20.0	18.81–21.12
25–34, female	13.2	12.08–14.30
35–44, total	14.4	13.36–15.54
35–44, male	16.9	15.40–18.34
35–44, female	12.1	11.06–13.19
45–64, total	8.9	8.24–9.48
45–64, male	9.7	8.86–10.53
45–64, female	8.1	7.50–8.66
Under 65 (crude <sup>1</sup> ), total	10.4	9.81–11.04
Under 65 (crude <sup>1</sup> ), male	11.8	11.11–12.43
Under 65 (crude <sup>1</sup> ), female	9.1	8.46–9.74
Under 65 (age-adjusted <sup>2</sup> ), total	10.6	9.93–11.17
Under 65 (age-adjusted <sup>2</sup> ), male	12.0	11.33–12.65
Under 65 (age-adjusted <sup>2</sup> ), female	9.2	8.50–9.81

<sup>1</sup>Crude estimates are presented in the figure and are similar to those used to monitor the related Healthy People 2020 Leading Health Indicator, Proportion of persons with health insurance.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–44, and 45–64.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

**Data table for Figure 1.3. Age-sex-adjusted percentage of persons of all ages without health insurance coverage at the time of interview, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	18.0 (16.26–19.82)	18.0 (16.19–19.74)
Not Hispanic or Latino, single race, white	6.3 (5.91–6.74)	6.6 (6.20–7.05)
Not Hispanic or Latino, single race, black	10.4 (9.50–11.33)	10.5 (9.54–11.43)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over.

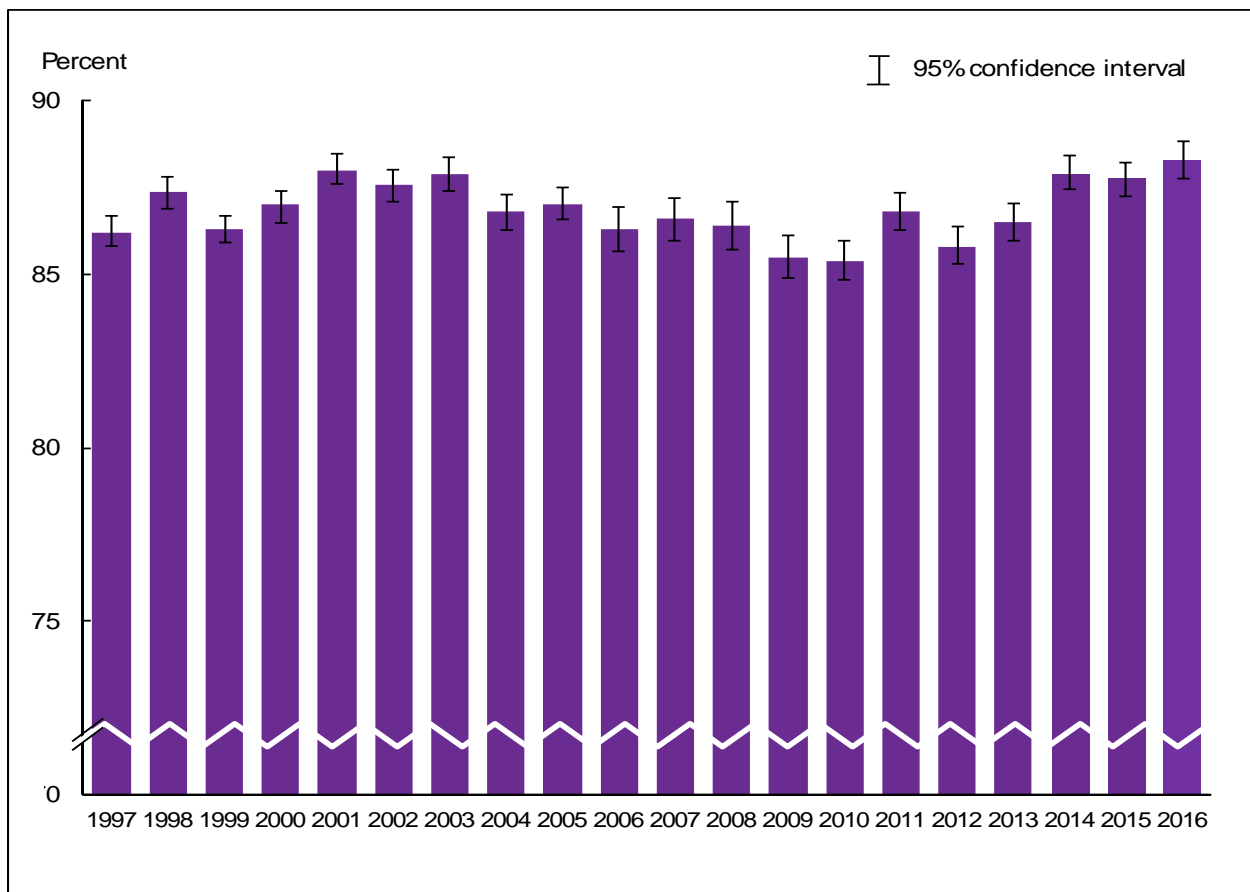
<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and four age groups: under 18 years, 18–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

## Usual place to go for medical care

**Figure 2.1. Percentage of persons of all ages with a usual place to go for medical care: United States, 1997–2016**

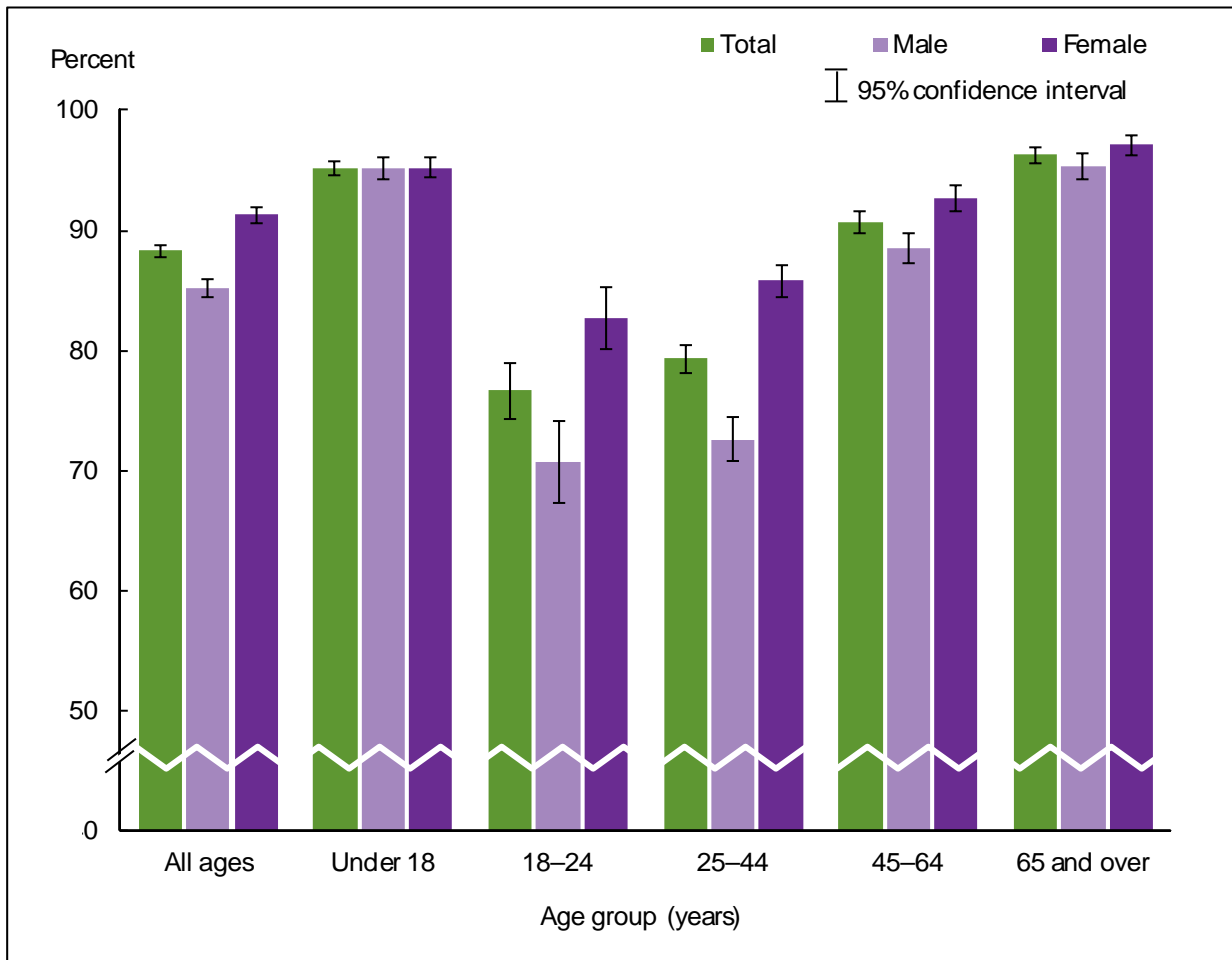


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The usual place to go for medical care does not include a hospital emergency room. The analyses exclude persons with an unknown usual place to go for medical care (about 1.5% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, combined Sample Adult and Sample Child Core components.

- For 2016, the percentage of persons who had a usual place to go for medical care was 88.1% (95% confidence interval = 87.53%–88.68%), which was not significantly different from the 2015 estimate of 87.8%.
- The percentage of persons of all ages who had a usual place to go for medical care decreased, from 87.9% in 2003 to 85.4% in 2010, and then increased to 88.1% in 2016.

**Figure 2.2. Percentage of persons of all ages with a usual place to go for medical care, by age group and sex: United States, 2016**

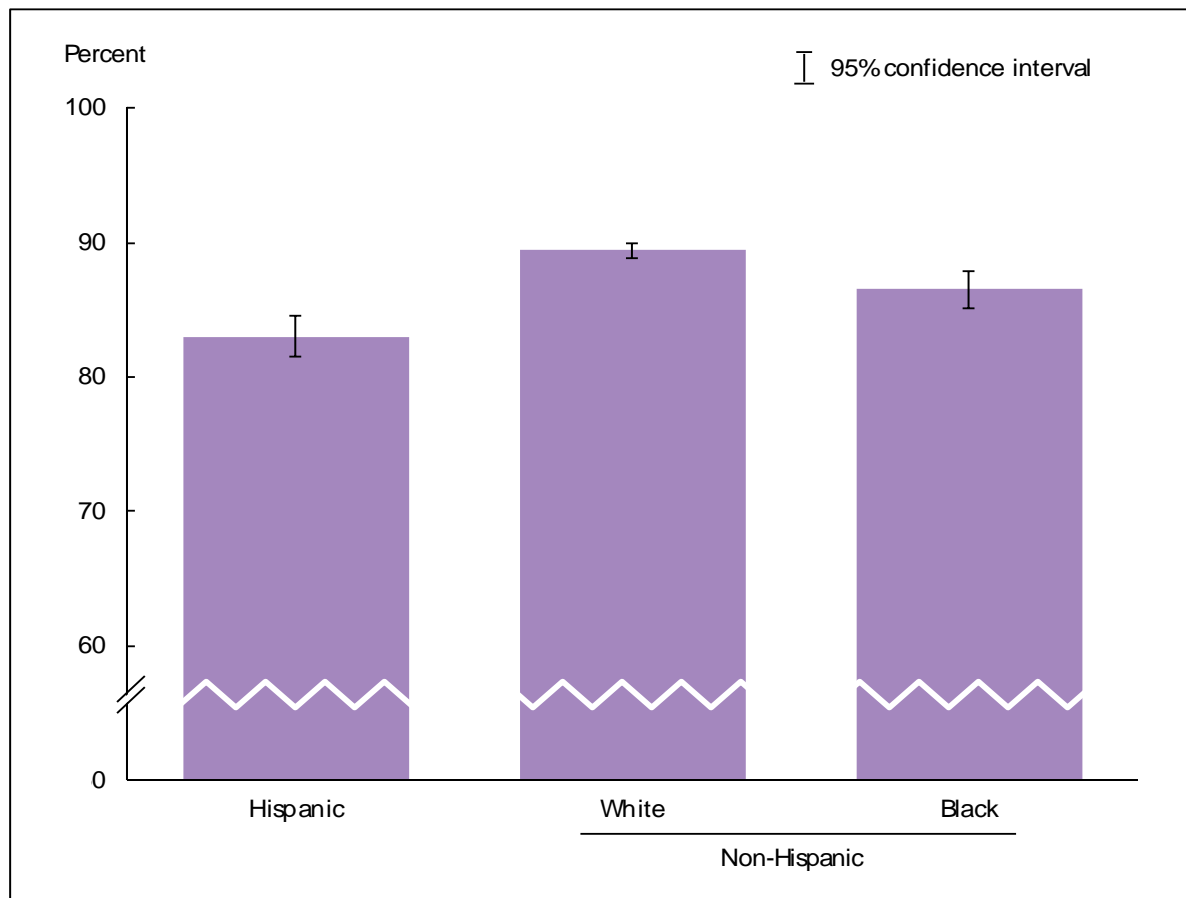


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The usual place to go for medical care does not include a hospital emergency room. The analyses excluded the 0.7% of persons with an unknown usual place to go for medical care. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- Persons aged 18–24 and 25–44 were least likely to have a usual place to go for medical care. Children under age 18 years (95.1%) were more likely than adults in age groups 18–24 (76.0%), 25–44 (79.3%), and 45–64 (90.5%) to have a usual place to go for medical care. This pattern held for males and females.
- For both sexes combined among those aged 25 and over, the percentage of persons having a usual place to go for medical care increased with age. This pattern held for males and females.
- For persons of all ages combined, as well as those aged 18–24, 25–44, 45–64, and 65 and over, females were more likely than males to have a usual place to go for medical care.

**Figure 2.3. Age-sex-adjusted percentage of persons of all ages with a usual place to go for medical care, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The usual place to go for medical care does not include a hospital emergency room. The analyses exclude the 0.7% of persons with an unknown usual place to go for medical care. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: under 18 years, 18–24, 25–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- After adjustment for age and sex, the percentage of persons with a usual place to go for medical care by race and ethnicity was 83.0% for Hispanic persons, 89.4% for non-Hispanic white persons, and 86.5% for non-Hispanic black persons.
- Of the three race and ethnicity groups, Hispanic persons were less likely to have a usual place to go for medical care compared with non-Hispanic black persons and non-Hispanic white persons. Non-Hispanic black persons were less likely to have a usual place to go for medical care than non-Hispanic white persons.

## Data tables for Figures 2.1–2.3:

**Data table for Figure 2.1. Percentage of persons of all ages with a usual place to go for medical care: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	86.2 (85.8–86.7)	86.3 (85.9–86.7)
1998	87.4 (86.9–87.8)	87.4 (87.0–87.9)
1999	86.3 (85.9–86.7)	86.4 (86.0–86.8)
2000	87.0 (86.5–87.4)	87.0 (86.6–87.4)
2001	88.0 (87.6–88.5)	88.0 (87.6–88.5)
2002	87.6 (87.1–88.0)	87.6 (87.1–88.0)
2003	87.9 (87.4–88.4)	87.9 (87.4–88.4)
2004	86.8 (86.3–87.3)	86.8 (86.3–87.2)
2005	87.0 (86.56–87.50)	86.9 (86.47–87.41)
2006	86.3 (85.68–86.92)	86.2 (85.56–86.80)
2007	86.6 (85.97–87.19)	86.5 (85.84–87.06)
2008	86.4 (85.73–87.09)	86.2 (85.54–86.88)
2009	85.5 (84.91–86.12)	85.3 (84.65–85.90)
2010	85.4 (84.85–85.99)	85.1 (84.55–85.66)
2011	86.8 (86.29–87.33)	86.5 (85.99–87.04)
2012	85.8 (85.32–86.38)	85.5 (85.01–86.03)
2013	86.5 (85.99–87.07)	86.1 (85.63–86.67)
2014	87.9 (87.47–88.41)	87.6 (87.09–88.05)
2015	87.8 (87.26–88.24)	87.3 (86.80–87.77)
2016	88.1 (87.53–88.68)	87.6 (87.07–88.21)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: under 18 years, 18–24, 25–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, combined Sample Adult and Sample Child Core components.



**Data table for Figure 2.2. Percentage of persons of all ages with a usual place to go for medical care, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
Under 18, total	95.1	94.61–95.63
Under 18, male	95.3	94.49–96.04
Under 18, female	95.0	94.17–95.75
18–24, total	76.0	73.92–78.12
18–24, male	70.8	67.43–74.26
18–24, female	81.3	79.06–83.56
25–44, total	79.3	78.17–80.35
25–44, male	73.1	71.40–74.77
25–44, female	85.2	84.00–86.45
45–64, total	90.5	89.60–91.37
45–64, male	88.3	87.09–89.50
45–64, female	92.5	91.52–93.56
65 and over, total	96.0	95.43–96.57
65 and over, male	95.2	94.19–96.14
65 and over, female	96.7	95.97–97.37
All ages (crude <sup>1</sup> ), total	88.1	87.53–88.68
All ages (crude <sup>1</sup> ), male	85.2	84.47–86.01
All ages (crude <sup>1</sup> ), female	90.8	90.20–91.47
All ages (age-adjusted <sup>2</sup> ), total	87.6	87.07–88.21
All ages (age-adjusted <sup>2</sup> ), male	84.8	83.99–85.52
All ages (age-adjusted <sup>2</sup> ), female	90.4	89.79–91.08

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: under 18 years, 18–24, 25–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

**Data table for Figure 2.3. Age-sex-adjusted percentage of persons of all ages with a usual place to go for medical care, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	83.0 (81.50–84.57)	83.0 (81.45–84.50)
Not Hispanic or Latino, single race, white	89.4 (88.86–89.92)	89.4 (88.85–89.91)
Not Hispanic or Latino, single race, black	86.5 (85.12–87.88)	86.8 (85.47–88.21)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and using five age groups: under 18 years, 18–24, 25–44, 45–64, and 65 and over.

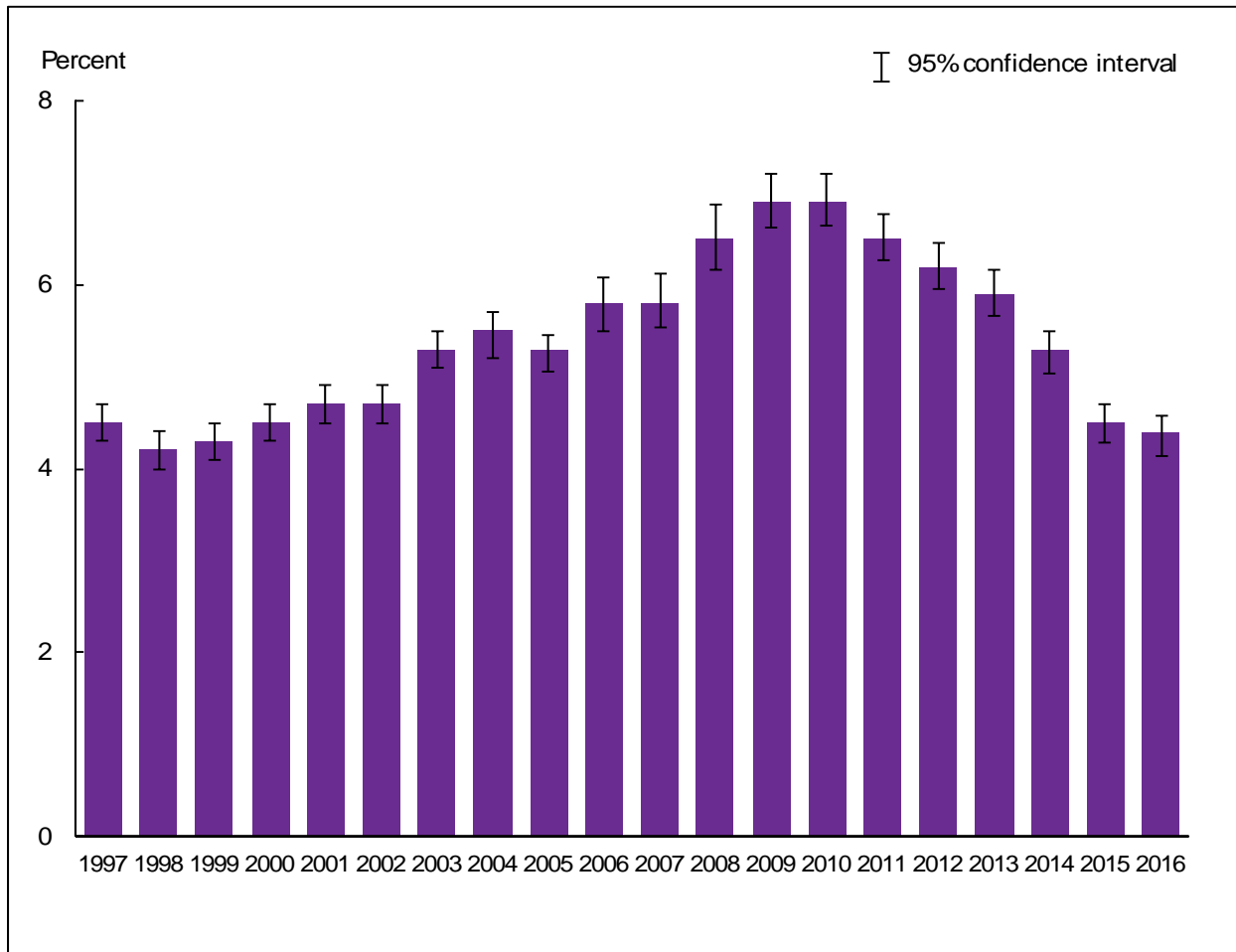
<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and using five age groups: under 18 years, 18–24, 25–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

## Failure to obtain needed medical care

**Figure 3.1. Percentage of persons of all ages who failed to obtain needed medical care due to cost at some time during the past 12 months: United States, 1997–2016**

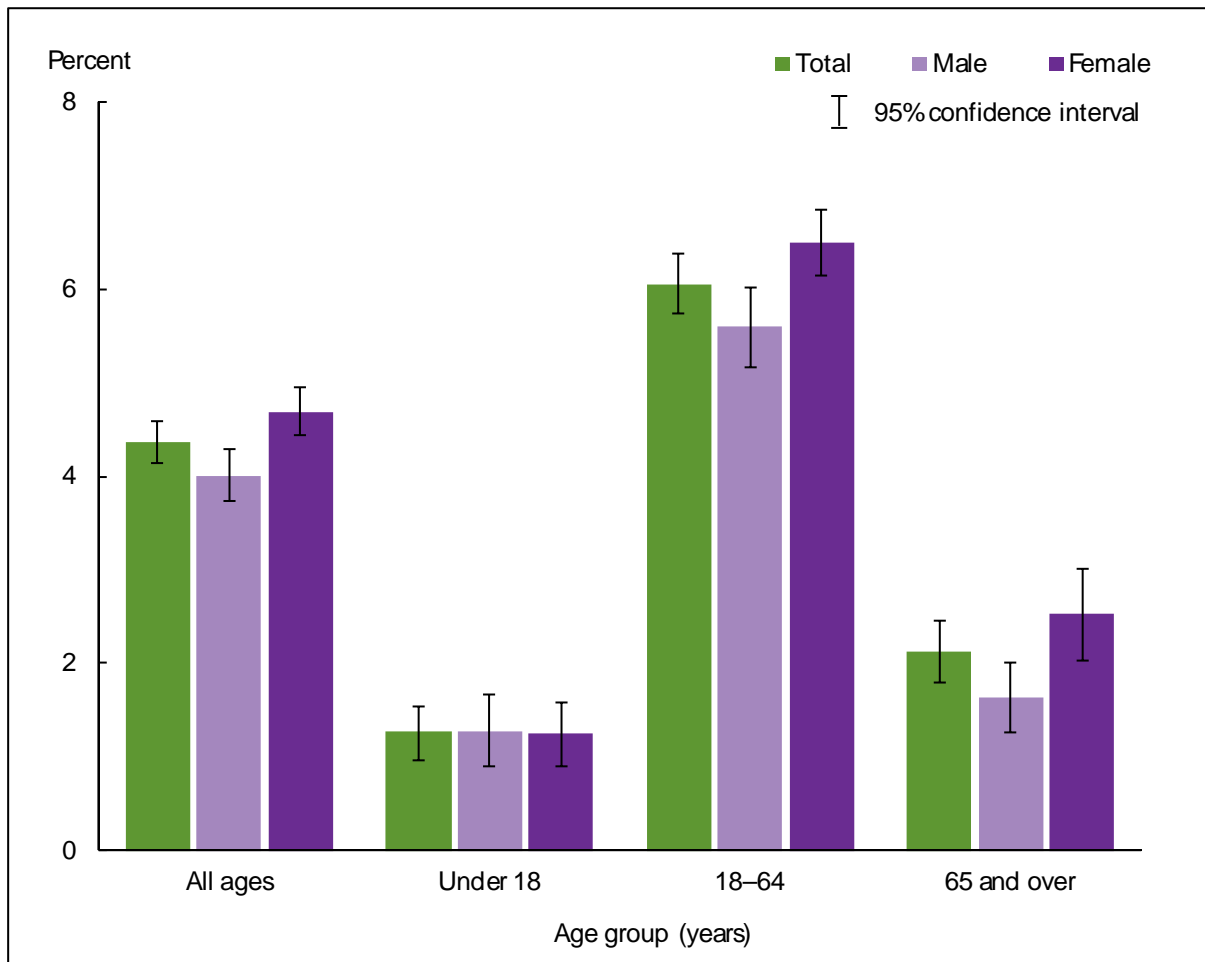


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude persons with unknown responses to the question on failure to obtain needed medical care due to cost (about 0.2% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

- For 2016, 4.4% (95% confidence interval = 4.21%–4.63%) of the population failed to obtain needed medical care due to cost at some time during the past 12 months, which was not significantly different from the 2015 estimate.
- The percentage of persons who failed to obtain needed medical care due to cost increased, from 4.3% in 1999 to 6.9% in 2009 and 2010, and then decreased to 4.4% in 2016.

**Figure 3.2. Percentage of persons of all ages who failed to obtain needed medical care due to cost at some time during the past 12 months, by age group and sex: United States, 2016**

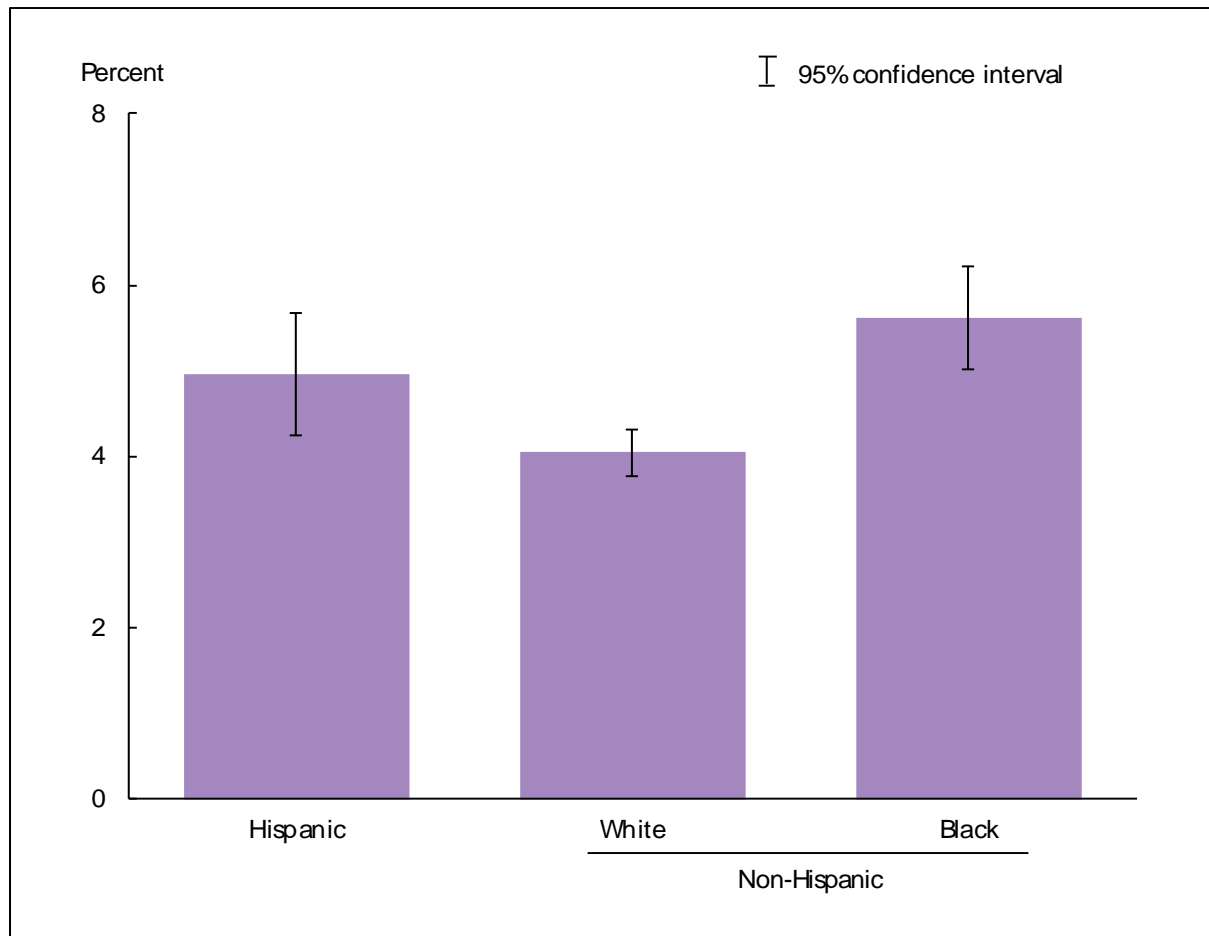


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude the <0.1% of persons with unknown responses to the question on failure to obtain needed medical care due to cost. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- For both sexes combined, the percentage of persons who failed to obtain needed medical care due to cost at some time during the past 12 months by age group was 1.2% for those under age 18 years, 6.2% for those aged 18–64, and 2.1% for those aged 65 and over.
- For both sexes combined, adults aged 18–64 were more likely than children under age 18 years and adults aged 65 and over to have failed to obtain needed medical care due to cost. This pattern held true for both males and females.
- For persons of all ages and adults aged 18–64 and 65 and over, females were more likely than males to have failed to obtain needed medical care due to cost during the past 12 months.

**Figure 3.3. Age-sex-adjusted percentage of persons of all ages who failed to obtain needed medical care due to cost at some time during the past 12 months, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude the <0.1% of persons with unknown responses to the question on failure to obtain needed medical care due to cost. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- After adjustment for age and sex, 4.8% of Hispanic persons, 4.2% of non-Hispanic white persons, and 5.8% of non-Hispanic black persons failed to obtain needed medical care due to cost at some time during the year preceding the interview.
- Non-Hispanic black persons were more likely to have failed to obtain needed medical care due to cost compared with Hispanic persons and non-Hispanic white persons.

## Data tables for Figures 3.1–3.3:

**Data table for Figure 3.1. Percentage of persons of all ages who failed to obtain needed medical care due to cost at some time during the past 12 months: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	4.5 (4.3–4.7)	4.5 (4.4–4.7)
1998	4.2 (4.0–4.4)	4.2 (4.0–4.4)
1999	4.3 (4.1–4.5)	4.3 (4.1–4.5)
2000	4.5 (4.3–4.7)	4.5 (4.2–4.7)
2001	4.7 (4.5–4.9)	4.7 (4.5–4.9)
2002	4.7 (4.5–4.9)	4.7 (4.5–4.9)
2003	5.3 (5.1–5.5)	5.2 (5.0–5.5)
2004	5.5 (5.2–5.7)	5.4 (5.2–5.6)
2005	5.3 (5.05–5.45)	5.2 (4.99–5.40)
2006	5.8 (5.49–6.07)	5.7 (5.42–6.00)
2007	5.8 (5.54–6.11)	5.8 (5.47–6.03)
2008	6.5 (6.17–6.87)	6.4 (6.09–6.78)
2009	6.9 (6.62–7.21)	6.8 (6.54–7.12)
2010	6.9 (6.64–7.20)	6.8 (6.56–7.10)
2011	6.5 (6.26–6.77)	6.4 (6.18–6.68)
2012	6.2 (5.96–6.45)	6.1 (5.89–6.36)
2013	5.9 (5.66–6.16)	5.8 (5.60–6.10)
2014	5.3 (5.03–5.50)	5.2 (4.98–5.44)
2015	4.5 (4.29–4.69)	4.4 (4.25–4.65)
2016	4.4 (4.21–4.63)	4.4 (4.17–4.60)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

**Data table for Figure 3.2. Percentage of persons of all ages who failed to obtain needed medical care due to cost at some time during the past 12 months, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
Under 18 , total	1.2	0.99–1.51
Under 18 , male	1.2	0.87–1.58
Under 18 , female	1.3	0.96–1.58
18–64 , total	6.2	5.85–6.47
18–64 , male	5.7	5.31–6.06
18–64 , female	6.6	6.23–7.01
65 and over, total	2.1	1.88–2.39
65 and over, male	1.7	1.34–1.98
65 and over, female	2.5	2.15–2.88
All ages (crude <sup>1</sup> ), total	4.4	4.21–4.63
All ages (crude <sup>1</sup> ), male	4.1	3.81–4.30
All ages (crude <sup>1</sup> ), female	4.8	4.49–5.04
All ages (age-adjusted <sup>2</sup> ), total	4.4	4.17–4.60
All ages (age-adjusted <sup>2</sup> ), male	4.0	3.78–4.28
All ages (age-adjusted <sup>2</sup> ), female	4.7	4.44–5.00

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and using three age groups: under 18 years, 18–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

**Data table for Figure 3.3. Age-sex-adjusted percentage of persons of all ages who failed to obtain needed medical care due to cost at some time during the past 12 months, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	4.8	4.24–5.38
Not Hispanic or Latino, single race, white	4.2	3.94–4.44
Not Hispanic or Latino, single race, black	5.8	5.28–6.33

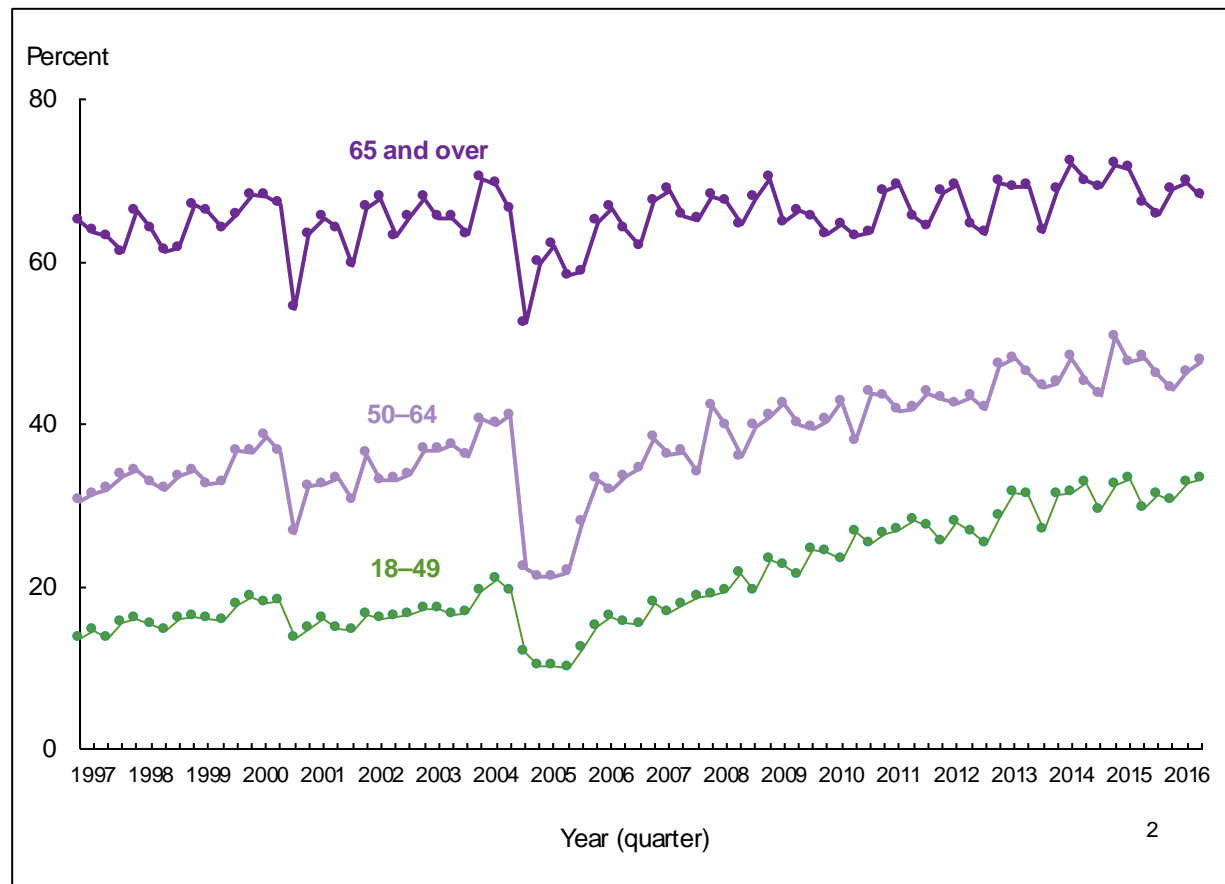
<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

## Receipt of influenza vaccination

**Figure 4.1. Percentage of adults aged 18 and over who received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. National Health Interview Survey (NHIS) questions related to influenza vaccination have changed since 1997. Starting in 1997, respondents were asked if they received a flu shot during the past 12 months. Beginning in 2003, respondents were also asked if they received a flu vaccine sprayed in their nose during the past 12 months. In August 2010, questions were modified to reflect that, for the first time, the widely available influenza vaccine included protection against both seasonal and H1N1 types of influenza. NHIS Early Release influenza vaccination estimates have changed since 1997. Starting in 1997, Early Release influenza vaccination estimates covered receipt of an influenza shot only. Starting in 2005, Early Release influenza vaccination estimates covered seasonal influenza shot or seasonal intranasal influenza vaccination. Estimates based on data collected in quarters three and four of 2010 and quarters one and two of 2011 could be affected, to an unknown extent, by reports of H1N1 immunization without seasonal flu immunization for the period when the two were administered separately (October 2009–May 2010). Prevalence of influenza vaccination during the past 12 months is different from season-specific coverage (see [http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s\\_cid=ss6204a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s_cid=ss6204a1_w); estimates available from: <http://www.cdc.gov/flu/fluview>). Advisory Committee on Immunization Practices recommendations regarding who should receive an influenza vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations (4–6). An influenza vaccine shortage occurred during the 2004–2005 influenza season (4). Delays in the availability of influenza shots also occurred in fall 2000 and, to a lesser extent, in fall 2001 (4–7). The analyses exclude those with unknown influenza vaccination status (about 3% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- In the fourth quarter of 2016, the percentage of adults who received an influenza vaccination during the past 12 months by age group was 62.3% for adults aged 65 and over, 42.2% for those aged 50–64, and 30.6% for those aged 18–49.
- The percentage of adults who received an influenza vaccination in fourth quarter of 2016 was lower than but not significantly different from the fourth quarter of 2015, for adults in all age groups.

**Table 4.1a. Percentage of adults aged 50–64 who received an influenza vaccination during the past 12 months, by sex: United States, 1997–2016**

Year	Total	Men	Women
	Percent (95% confidence interval)		
1997	31.9 (30.5–33.3)	28.0 (26.1–29.9)	35.5 (33.6–37.4)
1998	33.1 (31.7–34.5)	29.0 (27.0–31.0)	37.0 (35.1–38.9)
1999	34.1 (32.8–35.4)	30.5 (28.6–32.4)	37.4 (35.5–39.3)
2000	34.6 (33.1–36.1)	31.9 (29.9–33.9)	37.2 (35.2–39.1)
2001	32.2 (30.9–33.5)	30.3 (28.3–32.2)	34.0 (32.2–35.8)
2002	34.0 (32.7–35.3)	30.7 (28.8–32.5)	37.2 (35.4–38.9)
2003	36.8 (35.4–38.2)	34.5 (32.6–36.3)	38.9 (37.0–40.9)
2004	35.9 (34.6–37.3)	33.3 (31.3–35.3)	38.5 (36.7–40.3)
2005	23.0 (21.93–24.10)	19.7 (18.11–21.36)	26.1 (24.61–27.52)
2006	33.2 (31.59–34.82)	29.9 (27.58–32.18)	36.3 (34.23–38.36)
2007	36.2 (34.56–37.93)	33.0 (30.94–35.05)	39.3 (36.93–41.64)
2008	39.4 (37.79–41.10)	36.3 (34.04–38.56)	42.4 (40.18–44.68)
2009	40.7 (39.31–42.07)	38.3 (36.23–40.30)	43.0 (40.92–45.03)
2010	41.2 (39.73–42.66)	37.5 (35.41–39.56)	44.7 (42.78–46.56)
2011	42.7 (41.31–44.08)	39.0 (36.95–41.00)	46.2 (44.23–48.16)
2012	42.7 (41.44–43.99)	38.5 (36.87–40.11)	46.7 (44.94–48.50)
2013	46.5 (45.05–47.97)	43.1 (40.92–45.35)	49.7 (47.88–51.43)
2014	45.5 (43.91–47.03)	41.0 (38.65–43.38)	49.6 (47.70–51.59)
2015	48.1 (46.46–49.79)	45.3 (43.12–47.50)	50.8 (48.59–52.92)
2016	45.2 (43.88–46.47)	42.0 (40.16–43.77)	48.2 (46.30–50.09)

See notes at end of table.



**Table 4.1b. Percentage of adults aged 65 and over who received an influenza vaccination during the past 12 months, by sex: United States, 1997–2016**

Year	Total	Total	Men	Women
	Crude percent (95% confidence interval)	Age-adjusted percent (95% confidence interval) <sup>1</sup>	Percent (95% confidence interval)	Percent (95% confidence interval)
1997	63.2 (61.9–64.6)	63.1 (61.7–64.4)	64.8 (62.5–67.1)	62.1 (60.5–63.7)
1998	63.3 (61.9–64.7)	63.3 (61.9–64.6)	63.7 (61.5–65.9)	63.0 (61.2–64.8)
1999	65.7 (64.3–67.2)	65.1 (63.6–66.5)	67.2 (65.0–69.4)	64.6 (62.7–66.5)
2000	64.4 (63.0–65.9)	64.6 (63.2–66.0)	66.0 (63.8–68.3)	63.3 (61.6–65.0)
2001	63.1 (61.7–64.5)	63.2 (61.8–64.6)	64.8 (62.5–67.1)	61.8 (60.1–63.5)
2002	65.7 (64.3–67.2)	65.9 (64.5–67.3)	67.1 (64.7–69.5)	64.7 (62.8–66.6)
2003	65.5 (64.1–66.9)	65.6 (64.2–66.9)	66.0 (63.9–68.1)	65.1 (63.2–67.0)
2004	64.6 (63.2–66.1)	64.7 (63.2–66.1)	64.1 (61.9–66.3)	65.0 (63.3–66.7)
2005	59.7 (58.16–61.15)	59.7 (58.24–61.23)	58.9 (56.64–61.17)	60.2 (58.22–62.20)
2006	64.3 (62.39–66.19)	64.4 (62.51–66.32)	64.7 (62.04–67.43)	63.9 (61.65–66.24)
2007	66.7 (64.90–68.59)	66.8 (65.00–68.68)	66.7 (64.06–69.31)	66.8 (64.62–68.96)
2008	66.9 (65.08–68.80)	67.1 (65.31–68.89)	65.5 (62.74–68.33)	68.0 (65.94–70.07)
2009	66.7 (64.99–68.48)	67.0 (65.32–68.69)	67.3 (64.82–69.82)	66.3 (64.11–68.46)
2010	63.6 (61.99–65.29)	63.9 (62.26–65.50)	63.1 (60.76–65.52)	64.0 (61.79–66.26)
2011	67.0 (65.45–68.50)	67.2 (65.74–68.75)	66.3 (64.12–68.53)	67.5 (65.68–69.30)
2012	66.5 (64.98–67.96)	66.9 (65.46–68.38)	65.2 (63.17–67.29)	67.4 (65.56–69.34)
2013	67.9 (66.38–69.48)	68.4 (66.89–69.92)	66.4 (63.89–68.87)	69.2 (67.42–70.88)
2014	70.0 (68.62–71.38)	70.5 (69.09–71.86)	70.1 (67.94–72.31)	69.9 (68.23–71.59)
2015	69.1 (67.79–70.33)	69.4 (68.14–70.63)	70.4 (68.66–72.18)	68.0 (66.16–69.75)
2016	67.2 (65.77–68.65)	67.7 (66.33–69.17)	66.7 (64.72–68.75)	67.6 (65.97–69.21)

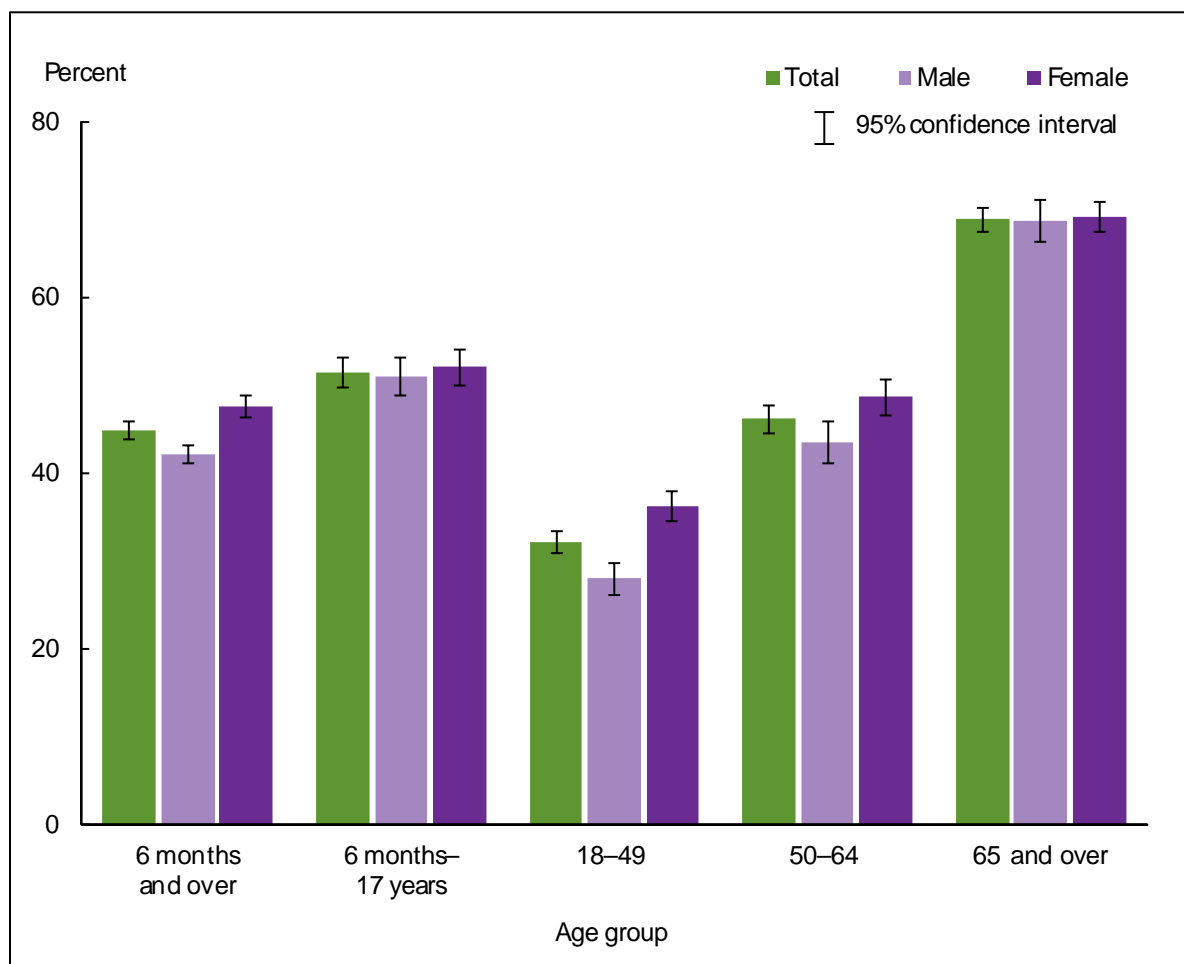
<sup>1</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and two age groups: 65–74 and 75 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. National Health Interview Survey (NHIS) questions related to influenza vaccination have changed since 1997. Starting in 1997, respondents were asked if they received a flu shot during the past 12 months. Beginning in 2003, respondents were also asked if they received a flu vaccine sprayed in their nose during the past 12 months. In August 2010, questions were modified to reflect that, for the first time, the widely available influenza vaccine included protection against both seasonal and H1N1 types of influenza. NHIS Early Release influenza vaccination estimates have changed since 1997. Starting in 1997, Early Release influenza vaccination estimates covered receipt of an influenza shot only. Starting in 2005, Early Release influenza vaccination estimates covered the seasonal influenza shot or seasonal intranasal influenza vaccination. Estimates based on data collected in quarters three and four of 2010 and quarters one and two of 2011 could be affected, to an unknown extent, by reports of H1N1 immunization without seasonal flu immunization for the period when the two were administered separately (October 2009–May 2010). Prevalence of influenza vaccination during the past 12 months is different from season-specific coverage (see [http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s\\_cid=ss6204a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s_cid=ss6204a1_w); estimates available from: <http://www.cdc.gov/flu/fluview>). Advisory Committee on Immunization Practices recommendations regarding who should receive an influenza vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations (4–6). An influenza vaccine shortage occurred during the 2004–2005 influenza season (4). Delays in the availability of influenza shots also occurred in fall 2000 and, to a lesser extent, in fall 2001 (4–7). The analyses exclude those with unknown influenza vaccination status (about 3% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, the percentage of adults aged 50–64 who received an influenza vaccination during the past 12 months was 45.2% (Table 4.1a). This estimate was lower than the 2015 estimate of 48.1%. For this age group, the percentage of adults who received an influenza vaccination during the past 12 months generally increased from 1997 to 2015.
- For 2016, the percentage of adults aged 65 and over who received an influenza vaccination during the past 12 months was 67.2%, which was lower than, but not significantly different from, the 2015 estimate of 69.1% (Table 4.1b). For this age group, the percentage of adults who received an influenza vaccination during the past 12 months increased from 1997 to 2015.

**Figure 4.2. Percentage of persons who received an influenza vaccination during the past 12 months, by age group and sex: United States, 2016**

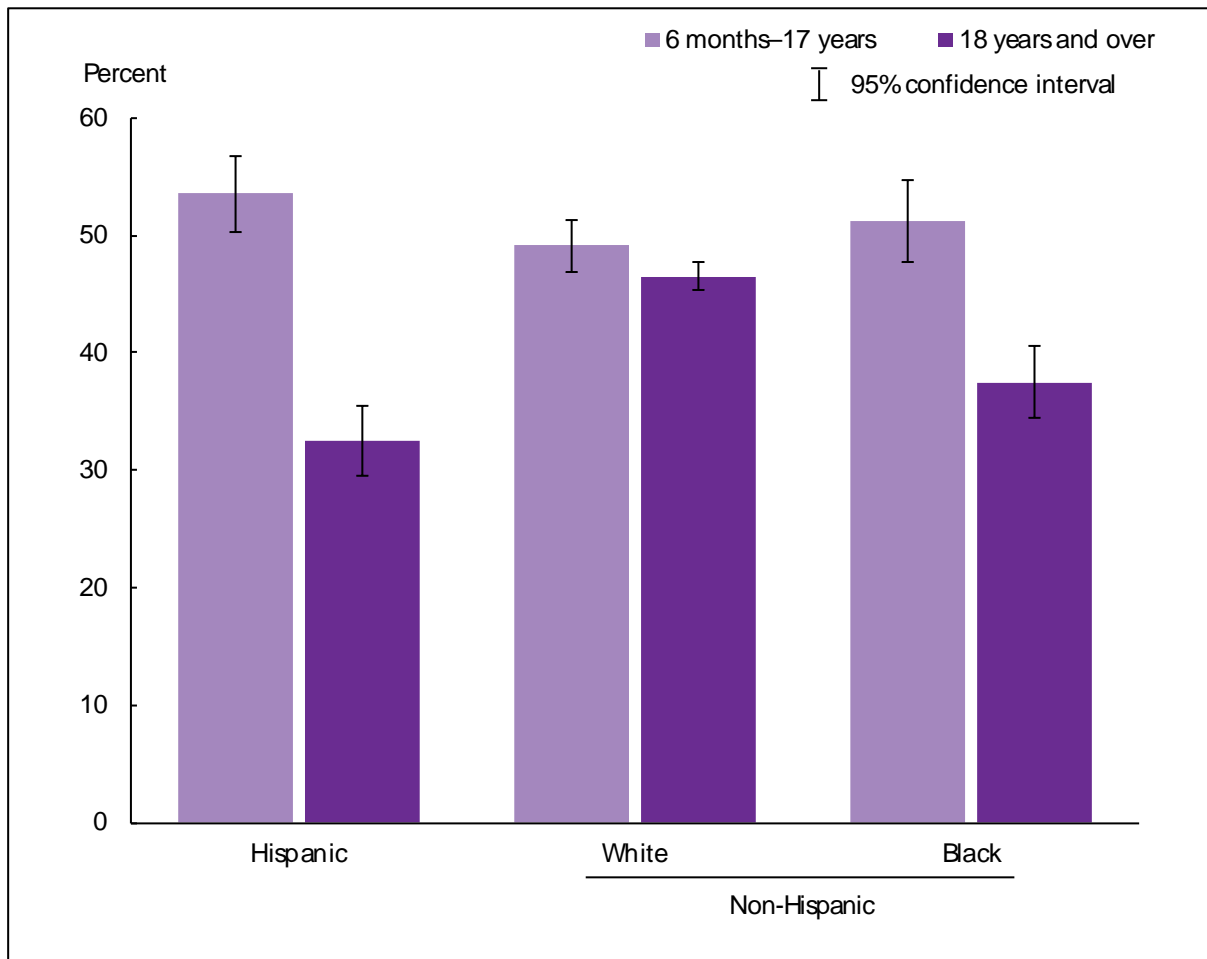


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Respondents were asked in separate questions if they received a flu shot during the past 12 months or a flu vaccine sprayed in their nose during the past 12 months. For children aged 6 months–8 years, who require two doses of vaccine to be fully vaccinated if they have not previously received seasonal influenza vaccination, these questions do not indicate whether the vaccination was a child's first or second dose. In August 2010, National Health Interview Survey influenza vaccination questions were modified to reflect that, for the first time, the widely available influenza vaccine included protection against both seasonal and H1N1 types of influenza. When interpreting influenza vaccination estimates, changes made to the influenza vaccination questions noted above should be taken into account. Prevalence of influenza vaccination during the past 12 months is different from season-specific coverage (see [http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s\\_cid=ss6204a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s_cid=ss6204a1_w); estimates available from: <http://www.cdc.gov/flu/fluview>). Advisory Committee on Immunization Practices recommendations regarding who should receive an influenza vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations (5,8). The analyses exclude the 2.2% of persons with unknown influenza vaccination status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- For both sexes combined, the percentage of persons who received an influenza vaccination during the past 12 months was highest among persons aged 65 and over (67.2%) and lowest among persons aged 18–49 (31.8%). This pattern held true for males and females.
- For persons aged 6 months and over and for adults aged 18–49 and 50–64, females were more likely than males to have received an influenza vaccination during the past 12 months.

**Figure 4.3. Percentage of persons aged 6 months and over who received an influenza vaccination during the past 12 months, by age group and race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Respondents were asked in separate questions if they received a flu shot during the past 12 months or a flu vaccine sprayed in their nose during the past 12 months. For children aged 6 months–8 years, who require two doses of vaccine to be fully vaccinated if they have not previously received seasonal influenza vaccination, these questions do not indicate whether the vaccination was a child's first or second dose. In August 2010, questions were modified to reflect that, for the first time, the widely available influenza vaccine included protection against both seasonal and H1N1 types of influenza. When interpreting influenza vaccination estimates, changes made to the influenza vaccination questions noted above should be taken into account. Prevalence of influenza vaccination during the past 12 months is different from season-specific coverage (see [http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s\\_cid=ss6204a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s_cid=ss6204a1_w); estimates available from: <http://www.cdc.gov/flu/fluview>). Advisory Committee on Immunization Practices recommendations regarding who should receive an influenza vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations (5). The analyses exclude the 2.2% of persons with unknown influenza vaccination status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- For children aged 6 months–17 years, the percentage by race and ethnicity who received an influenza vaccination during the past 12 months was 52.2% for Hispanic children, 48.0% for non-Hispanic white children, and 48.0% for non-Hispanic black children.
- Hispanic children aged 6 months–17 years were more likely to have received an influenza vaccination during the past 12 months than non-Hispanic white children aged 6 months–17 years.
- For adults aged 18 and over, the percentage who received an influenza vaccination during the past 12 months was 32.6% for Hispanic adults, 45.5% for non-Hispanic white adults, and 35.8% for non-Hispanic black adults.
- Non-Hispanic white adults were more likely to have received an influenza vaccination than non-Hispanic black adults and Hispanic adults.

Data tables for Figures 4.1–4.3:

**Data table for Figure 4.1. Percentage of adults aged 18 and over who received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–2016**

Year and quarter	18–49	50–64	65 and over
	Percent (95% confidence interval)		
1997, quarter 1	13.6 (12.5–14.6)	30.5 (27.8–33.2)	65.0 (62.3–67.6)
1997, quarter 2	14.5 (13.4–15.5)	31.3 (28.7–34.0)	63.7 (61.1–66.2)
1997, quarter 3	13.6 (12.6–14.6)	32.0 (29.3–34.6)	63.1 (60.3–65.9)
1997, quarter 4	15.6 (14.5–16.7)	33.6 (31.1–36.2)	61.2 (58.7–63.8)
1998, quarter 1	16.1 (14.8–17.3)	34.2 (31.3–37.1)	66.3 (63.2–69.4)
1998, quarter 2	15.3 (14.1–16.5)	32.8 (30.1–35.5)	64.0 (61.3–66.8)
1998, quarter 3	14.5 (13.3–15.6)	32.0 (29.3–34.6)	61.3 (58.5–64.0)
1998, quarter 4	16.0 (14.8–17.2)	33.5 (30.8–36.1)	61.6 (58.7–64.5)
1999, quarter 1	16.3 (14.8–17.7)	34.2 (31.1–37.3)	67.0 (64.0–70.1)
1999, quarter 2	16.0 (14.7–17.3)	32.6 (29.8–35.4)	66.1 (63.4–68.8)
1999, quarter 3	15.8 (14.5–17.1)	32.8 (30.1–35.5)	64.1 (61.2–67.0)
1999, quarter 4	17.6 (16.2–18.9)	36.7 (34.2–39.2)	65.7 (62.7–68.6)
2000, quarter 1	18.6 (17.2–19.9)	36.6 (33.7–39.4)	68.2 (65.3–71.0)
2000, quarter 2	18.0 (16.7–19.4)	38.5 (35.7–41.4)	68.1 (65.6–70.7)
2000, quarter 3	18.2 (16.9–19.4)	36.6 (33.7–39.5)	67.1 (64.4–69.8)
2000, quarter 4	13.6 (12.4–14.8)	26.6 (24.2–29.0)	54.3 (51.6–57.1)
2001, quarter 1	14.7 (13.4–16.0)	32.3 (29.6–35.0)	63.3 (60.2–66.3)
2001, quarter 2	15.9 (14.7–17.1)	32.6 (30.1–35.1)	65.4 (62.8–68.0)
2001, quarter 3	14.9 (13.9–15.9)	33.3 (30.7–35.8)	64.0 (61.1–66.8)
2001, quarter 4	14.5 (13.6–15.9)	30.6 (28.0–33.1)	59.6 (56.7–62.4)
2002, quarter 1	16.4 (15.2–17.7)	36.3 (33.6–38.9)	66.6 (63.8–69.4)
2002, quarter 2	16.0 (14.8–17.2)	33.0 (30.5–35.5)	67.8 (65.3–70.3)
2002, quarter 3	16.2 (14.9–17.5)	33.1 (30.6–35.6)	63.1 (60.5–65.8)
2002, quarter 4	16.4 (15.1–17.8)	33.8 (31.0–36.6)	65.5 (62.4–68.6)
2003, quarter 1	17.1 (15.7–18.4)	36.8 (34.2–39.4)	67.8 (65.0–70.6)
2003, quarter 2	17.2 (15.8–18.6)	36.8 (33.9–39.7)	65.4 (62.6–68.3)
2003, quarter 3	16.4 (15.2–17.6)	37.4 (34.9–39.9)	65.4 (62.8–67.9)
2003, quarter 4	16.7 (15.2–18.1)	36.1 (33.3–39.0)	63.3 (60.1–66.5)
2004, quarter 1	19.3 (17.9–20.8)	40.6 (38.0–43.3)	70.3 (67.5–73.0)
2004, quarter 2	20.9 (19.1–22.6)	40.0 (37.1–43.0)	69.5 (66.7–72.3)
2004, quarter 3	19.4 (18.2–20.7)	41.0 (38.4–43.6)	66.4 (63.6–69.2)
2004, quarter 4	12.0 (10.9–13.1)	22.3 (20.2–24.5)	52.4 (49.5–55.4)
2005, quarter 1	10.2 (9.03–11.41)	21.2 (19.05–23.42)	59.8 (56.66–62.90)
2005, quarter 2	10.3 (9.25–11.37)	21.1 (19.05–23.19)	62.0 (59.02–64.91)
2005, quarter 3	10.0 (9.03–11.03)	21.8 (19.64–24.01)	58.2 (55.42–60.97)
2005, quarter 4	12.4 (11.28–13.51)	27.8 (25.47–30.19)	58.7 (55.68–61.71)

See notes at end of table.

**Data table for Figure 4.1. Percentage of adults aged 18 and over who received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–2016 (Cont.)**

Year and quarter	18–49	50–64	65 and over
	Percent (95% confidence interval)		
2006, quarter 1	15.0 (13.69–16.36)	33.1 (29.95–36.20)	64.9 (61.65–68.15)
2006, quarter 2	16.2 (14.78–17.68)	31.8 (29.05–34.50)	66.6 (63.60–69.51)
2006, quarter 3	15.5 (13.56–17.47)	33.5 (29.45–37.51)	63.9 (58.90–68.84)
2006, quarter 4	15.4 (14.07–16.82)	34.5 (31.81–37.11)	61.9 (58.72–65.00)
2007, quarter 1	18.0 (16.36–19.63)	38.3 (35.28–41.39)	67.5 (64.47–70.62)
2007, quarter 2	16.7 (15.07–18.31)	36.2 (33.37–39.03)	68.8 (65.62–71.91)
2007, quarter 3	17.6 (15.47–19.74)	36.5 (32.10–40.95)	65.6 (60.90–70.39)
2007, quarter 4	18.7 (17.11–20.38)	34.0 (31.14–36.79)	65.1 (62.17–68.02)
2008, quarter 1	19.0 (17.41–20.56)	42.3 (39.12–45.57)	68.0 (64.78–71.21)
2008, quarter 2	19.5 (17.87–21.08)	39.8 (37.01–42.57)	67.4 (64.60–70.20)
2008, quarter 3	21.6 (19.95–23.26)	36.0 (33.10–38.86)	64.5 (61.09–68.00)
2008, quarter 4	19.4 (17.29–21.60)	39.7 (35.45–43.92)	67.8 (63.70–71.91)
2009, quarter 1	23.3 (20.81–25.78)	40.9 (37.05–44.67)	70.3 (66.08–74.59)
2009, quarter 2	22.5 (20.92–24.06)	42.5 (40.09–44.93)	64.8 (62.04–67.55)
2009, quarter 3	21.4 (19.81–22.98)	40.0 (37.13–42.82)	66.3 (63.03–69.48)
2009, quarter 4	24.5 (23.06–25.93)	39.5 (37.24–41.75)	65.5 (62.96–68.03)
2010, quarter 1	24.3 (22.45–26.17)	40.4 (37.81–43.05)	63.3 (60.51–66.04)
2010, quarter 2	23.3 (21.56–25.02)	42.7 (39.65–45.74)	64.6 (61.74–67.39)
2010, quarter 3	26.7 (24.81–28.64)	37.9 (35.02–40.69)	63.1 (59.87–66.39)
2010, quarter 4	25.1 (23.24–27.04)	43.8 (40.80–46.82)	63.6 (60.19–66.99)
2011, quarter 1	26.4 (24.86–27.93)	43.4 (40.61–46.17)	68.7 (66.01–71.37)
2011, quarter 2	26.9 (25.32–28.46)	41.7 (38.97–44.39)	69.4 (67.00–71.78)
2011, quarter 3	28.2 (26.47–29.87)	41.9 (39.23–44.57)	65.5 (62.59–68.50)
2011, quarter 4	27.5 (25.48–29.47)	43.8 (41.26–46.32)	64.3 (61.52–67.14)
2012, quarter 1	25.5 (23.78–27.25)	43.1 (40.28–46.00)	68.6 (65.62–71.63)
2012, quarter 2	27.9 (26.16–29.55)	42.5 (39.69–45.21)	69.4 (66.84–72.03)
2012, quarter 3	26.6 (24.68–28.54)	43.3 (40.95–45.73)	64.6 (61.86–67.32)
2012, quarter 4	25.2 (23.49–26.84)	41.9 (39.03–44.78)	63.4 (60.28–66.44)
2013, quarter 1	28.7 (26.90–30.51)	47.2 (44.43–49.88)	69.8 (66.84–72.70)
2013, quarter 2	31.5 (29.65–33.44)	48.1 (45.22–50.95)	69.1 (66.21–71.97)
2013, quarter 3	31.2 (29.45–32.96)	46.2 (43.58–48.90)	69.3 (66.30–72.20)
2013, quarter 4	27.0 (25.21–28.71)	44.6 (41.64–47.54)	63.7 (60.59–66.77)
2014, quarter 1	31.2 (29.29–33.06)	45.0 (42.03–47.95)	68.8 (65.96–71.63)
2014, quarter 2	31.6 (29.55–33.72)	48.2 (45.02–51.40)	72.2 (69.54–74.86)
2014, quarter 3	32.7 (30.64–34.67)	45.1 (42.11–48.11)	69.9 (67.35–72.48)
2014, quarter 4	29.3 (27.66–30.96)	43.6 (40.90–46.26)	69.1 (66.38–71.85)
2015, quarter 1	32.5 (30.48–34.43)	50.7 (47.82–53.52)	71.9 (69.48–74.34)
2015, quarter 2	33.3 (31.49–35.03)	47.6 (44.68–50.47)	71.4 (68.76–74.13)
2015, quarter 3	29.7 (27.83–31.62)	48.2 (45.07–51.38)	67.2 (64.35–69.96)
2015, quarter 4	31.2 (28.84–33.52)	46.0 (43.07–48.90)	65.8 (63.05–68.60)
2016, quarter 1	30.5 (28.28–32.69)	44.3 (41.52–47.17)	68.9 (66.52–71.24)

See notes at end of table.

**Data table for Figure 4.1. Percentage of adults aged 18 and over who received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–2016 (Cont.)**

Year and quarter	18–49	50–64	65 and over
	Percent (95% confidence interval)		
2016, quarter 2	32.7 (31.07–34.43)	46.4 (43.37–49.52)	69.8 (67.11–72.54)
2016, quarter 3	33.3 (31.18–35.39)	47.7 (45.12–50.25)	68.0 (65.15–70.81)
2016, quarter 4	30.6 (28.46–32.73)	42.2 (39.40–44.92)	62.3 (59.49–65.05)

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 4.2. Percentage of persons who received an influenza vaccination during the past 12 months, by age group and sex: United States, 2016**

Age (months and years) and sex	Percent	95% confidence interval
6 months–4 years, total	55.0	52.70–57.36
6 months–4 years, male	54.2	50.88–57.54
6 months–4 years, female	55.9	52.36–59.40
5–11, total	50.9	48.96–52.80
5–11, male	51.4	48.59–54.16
5–11, female	50.4	47.93–52.77
12–17, total	45.2	43.33–47.15
12–17, male	45.3	42.84–47.75
12–17, female	45.2	42.51–47.86
6 months–17 years, total	49.9	48.54–51.34
6 months–17 years, male	50.0	48.27–51.63
6 months–17 years, female	49.9	47.93–51.93
18–49, total	31.8	30.73–32.83
18–49, male	27.6	26.09–29.12
18–49, female	35.9	34.28–37.44
50–64, total	45.2	43.88–46.47
50–64, male	42.0	40.16–43.77
50–64, female	48.2	46.30–50.09
65 and over, total	67.2	65.77–68.65
65 and over, male	66.7	64.72–68.75
65 and over, female	67.6	65.97–69.21
6 months and over (crude <sup>1</sup> ), total	43.9	43.09–44.74
6 months and over (crude <sup>1</sup> ), male	41.1	40.26–41.98
6 months and over (crude <sup>1</sup> ), female	46.6	45.49–47.68
18 and over (crude <sup>1</sup> ), total	42.2	41.38–42.98
18 and over (crude <sup>1</sup> ), male	38.4	37.48–39.39
18 and over (crude <sup>1</sup> ), female	45.7	44.53–46.83
65 and over (age-adjusted <sup>2</sup> ), total	67.7	66.33–69.17
65 and over (age-adjusted <sup>2</sup> ), male	67.8	65.96–69.70
65 and over (age-adjusted <sup>2</sup> ), female	67.8	66.18–69.47

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and two age groups: 65–74 and 75 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

**Data table for Figure 4.3. Percentage of persons aged 6 months and over who received an influenza vaccination during the past 12 months, by age group and race and ethnicity: United States, 2016**

Age and race and ethnicity	Percent <sup>1</sup>	95% confidence interval
6 months–17 years, Hispanic or Latino	52.2	49.12–55.27
6 months–17 years, not Hispanic or Latino, single race, white	48.0	46.28–49.82
6 months–17 years, not Hispanic or Latino, single race, black	48.0	44.72–51.26
18 and over, Hispanic or Latino	32.6	30.06–35.23
18 and over, not Hispanic or Latino, single race, white	45.5	44.57–46.41
18 and over, not Hispanic or Latino, single race, black	35.8	33.46–38.10

<sup>1</sup>Crude estimates are presented.

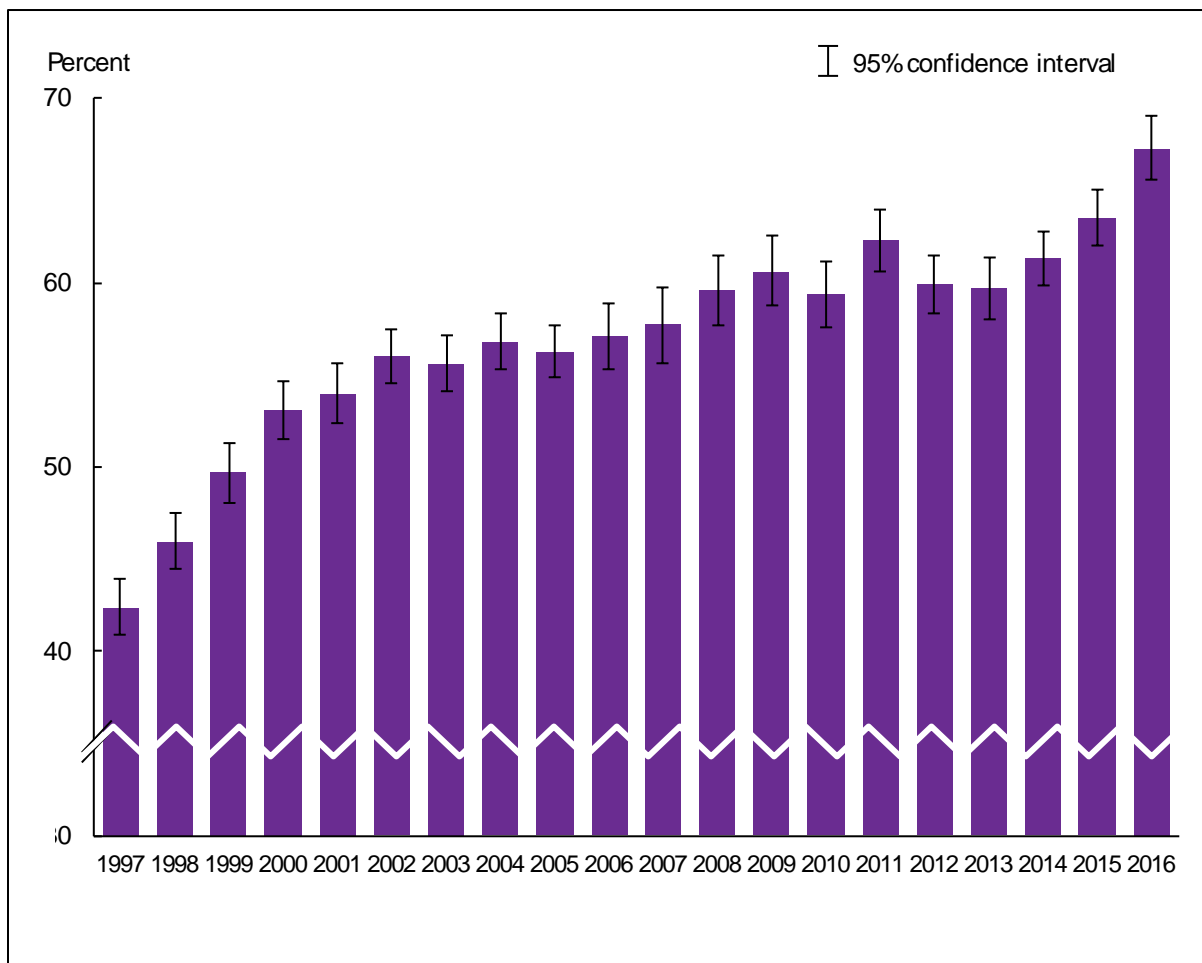
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.



## Receipt of pneumococcal vaccination

**Figure 5.1. Percentage of adults aged 65 and over who had ever received a pneumococcal vaccination: United States, 1997–2016**

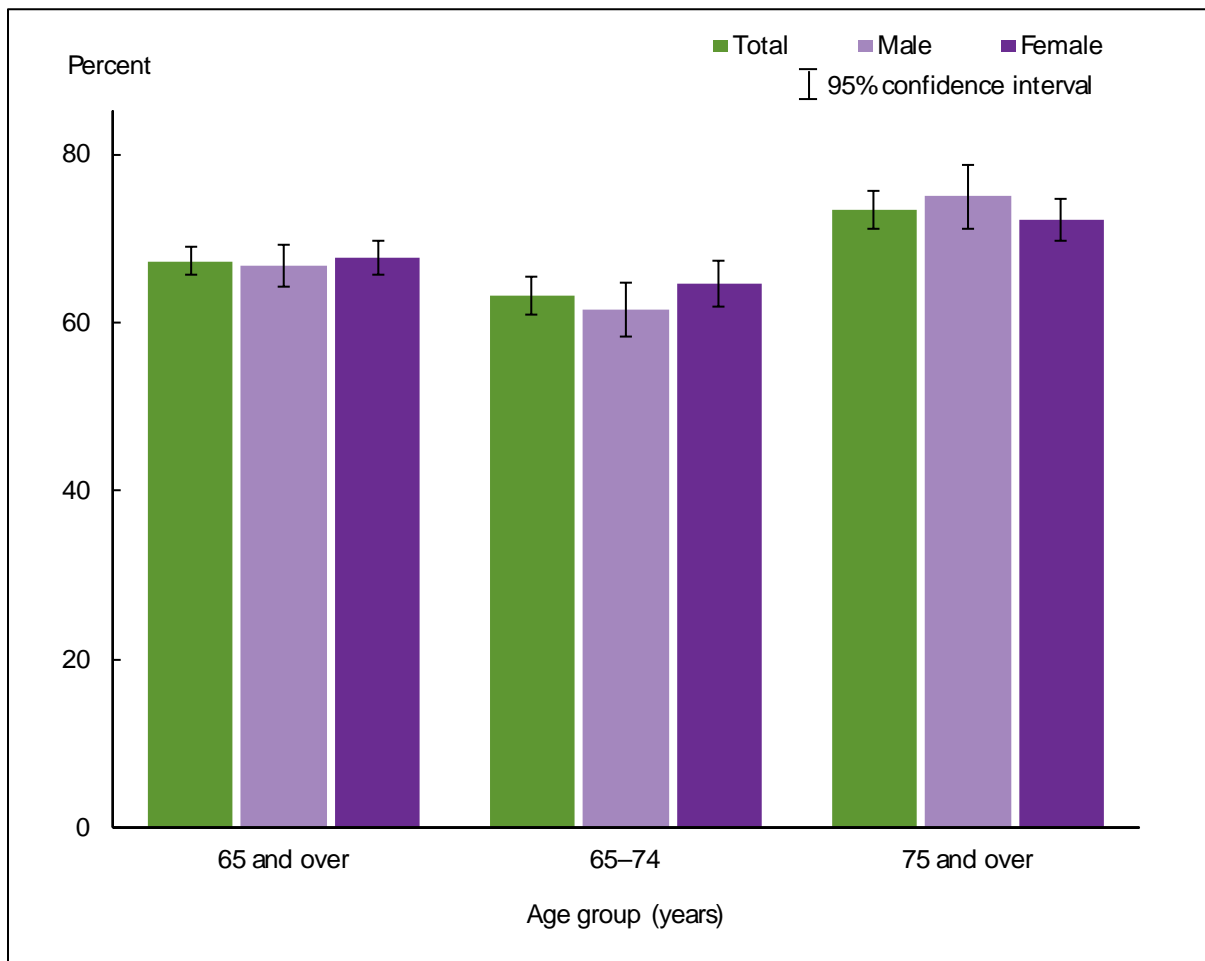


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude those with unknown pneumococcal vaccination status (about 5% of respondents each year). Advisory Committee on Immunization Practices recommendations regarding who should receive pneumococcal vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations. Of particular note, beginning in 2014, all adults aged 65 and over are recommended to receive both the 13-valent pneumococcal conjugate vaccine (PCV13) and the 23-valent pneumococcal polysaccharide vaccine (PPSV23) in series (9–11). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, the percentage of adults aged 65 and over who had ever received a pneumococcal vaccination was 66.9% (95% confidence interval = 65.47%–68.38%), which was higher than the 2015 estimate of 63.5%.
- The percentage of adults aged 65 and over who had ever received a pneumococcal vaccination increased from 42.4% in 1997 to 53.1% in 2000, and then increased more slowly to 59.7% in 2013. The percentage of adults aged 65 and over who had ever received a pneumococcal vaccination again increased more rapidly, from 59.7% in 2013 to 66.9% in 2016.

**Figure 5.2. Percentage of adults aged 65 and over who had ever received a pneumococcal vaccination, by age group and sex: United States, 2016**

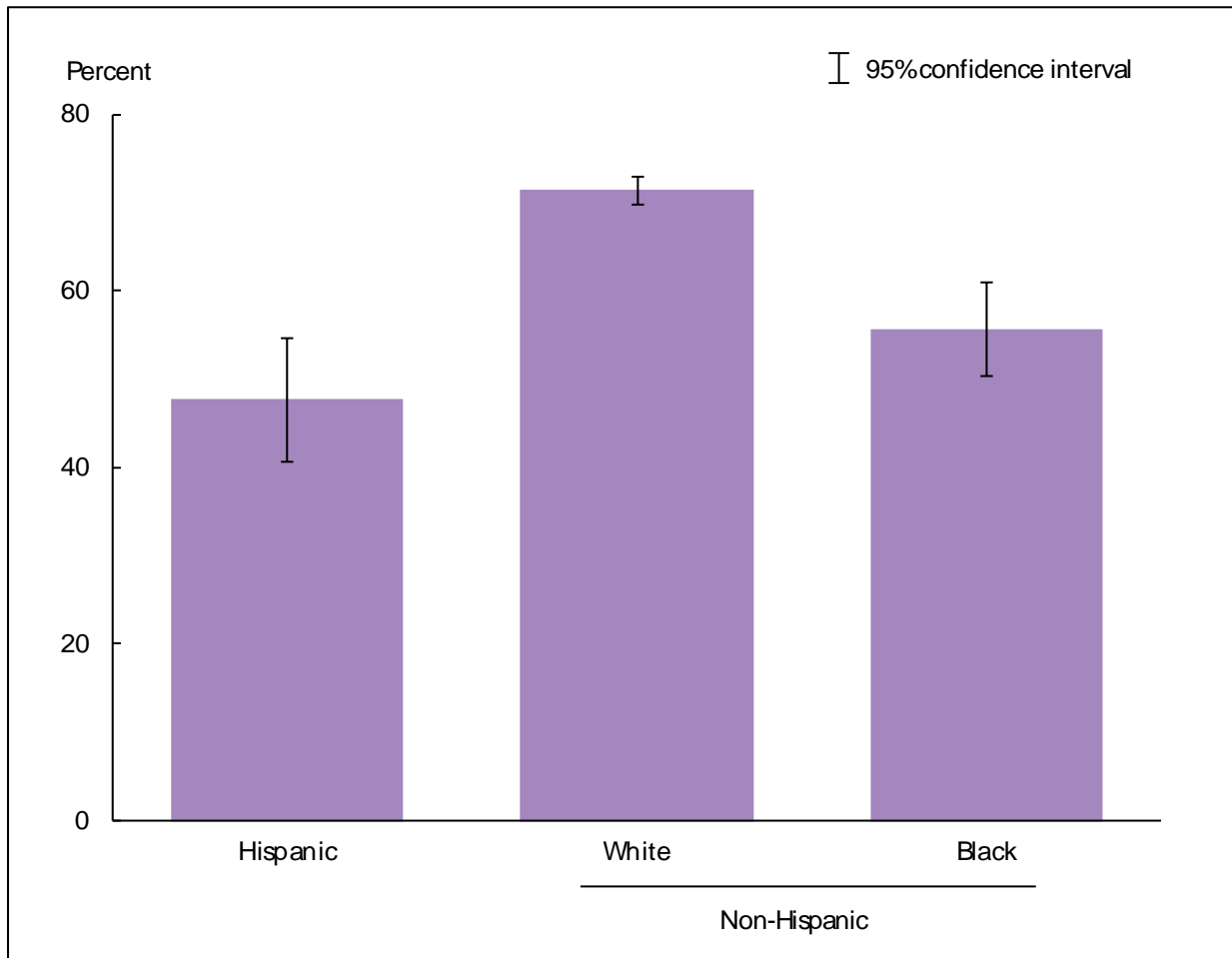


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude the 3.3% of adults aged 65 and over with unknown pneumococcal vaccination status. Advisory Committee on Immunization Practices recommendations regarding who should receive pneumococcal vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations. Of particular note, beginning in 2014, all adults aged 65 and over are recommended to receive both the 13-valent pneumococcal conjugate vaccine (PCV13) and the 23-valent pneumococcal polysaccharide vaccine (PPSV23) in series (9–11). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, the percentage of adults by age group who had ever received a pneumococcal vaccination was 62.6% for persons aged 65–74 and 73.3% for persons aged 75 and over.
- For both sexes combined, adults aged 75 and over were more likely than those aged 65–74 to have ever received a pneumococcal vaccination. This pattern held for males and females.
- Among adults aged 65–74 women were more likely to have ever received a pneumococcal vaccination than men.

**Figure 5.3. Percentage of adults aged 65 and over who had ever received a pneumococcal vaccination, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude the 3.3% of adults aged 65 and over with unknown pneumococcal vaccination status. Advisory Committee on Immunization Practices recommendations regarding who should receive pneumococcal vaccination have changed over the years, and changes in coverage estimates may reflect changes in recommendations. Of particular note, beginning in 2014, all adults aged 65 and over are recommended to receive both the 13-valent pneumococcal conjugate vaccine (PCV13) and the 23-valent pneumococcal polysaccharide vaccine (PPSV23) in series (9–11). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The percentage of adults aged 65 and over by race and ethnicity who had ever received a pneumococcal vaccination was 47.8% for Hispanic persons, 71.0% for non-Hispanic white persons, and 55.2% for non-Hispanic black persons.
- Of the three race and ethnicity groups, non-Hispanic white adults were more likely to have ever received a pneumococcal vaccination than non-Hispanic black and Hispanic adults.

## Data tables for Figures 5.1–5.3:

**Data table for Figure 5.1. Percentage of adults aged 65 and over who had ever received a pneumococcal vaccination: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	42.4 (40.9–43.9)	42.6 (41.1–44.1)
1998	46.0 (44.5–47.5)	46.3 (44.8–47.8)
1999	49.7 (48.1–51.3)	49.9 (48.3–51.5)
2000	53.1 (51.5–54.7)	53.4 (51.8–55.0)
2001	54.0 (52.4–55.6)	54.2 (52.6–55.7)
2002	56.0 (54.5–57.5)	56.2 (54.8–57.7)
2003	55.6 (54.1–57.1)	55.7 (54.2–57.1)
2004	56.8 (55.3–58.3)	57.0 (55.5–58.5)
2005	56.2 (54.82–57.64)	56.3 (54.95–57.72)
2006	57.1 (55.25–58.88)	57.2 (55.43–59.04)
2007	57.7 (55.68–59.69)	57.8 (55.78–59.80)
2008	59.6 (57.68–61.48)	59.8 (57.98–61.64)
2009	60.6 (58.74–62.51)	61.0 (59.15–62.79)
2010	59.4 (57.61–61.17)	59.8 (58.02–61.51)
2011	62.3 (60.55–63.95)	62.7 (61.04–64.31)
2012	59.9 (58.29–61.49)	60.4 (58.86–62.01)
2013	59.7 (58.02–61.36)	60.4 (58.77–62.05)
2014	61.3 (59.88–62.80)	62.3 (60.82–63.70)
2015	63.5 (62.00–65.05)	64.1 (62.59–65.57)
2016	66.9 (65.47–68.38)	67.7 (66.30–69.14)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and two age groups: 65–74 and 75 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 5.2. Percentage of adults aged 65 and over who had ever received a pneumococcal vaccination, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
65–74, total	62.6	60.71–64.50
65–74, male	60.5	57.66–63.32
65–74, female	64.4	61.96–66.90
75 and over, total	73.3	71.34–75.29
75 and over, male	73.6	70.68–76.58
75 and over, female	73.1	70.72–75.47
65 and over (crude <sup>1</sup> ), total	66.9	65.47–68.38
65 and over (crude <sup>1</sup> ), male	65.5	63.40–67.55
65 and over (crude <sup>1</sup> ), female	68.1	66.18–70.00
65 and over (age-adjusted <sup>2</sup> ), total	67.7	66.30–69.14
65 and over (age-adjusted <sup>2</sup> ), male	66.8	64.83–68.70
65 and over (age-adjusted <sup>2</sup> ), female	68.6	66.66–70.48

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and two age groups: 65–74 and 75 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 5.3. Percentage of adults aged 65 and over who had ever received a pneumococcal vaccination, by race and ethnicity: United States, 2016**

Race and ethnicity	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	47.8 (42.06–53.57)	48.8 (42.91–54.77)
Not Hispanic or Latino, single race, white	71.0 (69.64–72.34)	71.7 (70.41–72.95)
Not Hispanic or Latino, single race, black	55.2 (50.47–59.89)	55.7 (50.98–60.33)

<sup>1</sup>Crude estimates are presented.

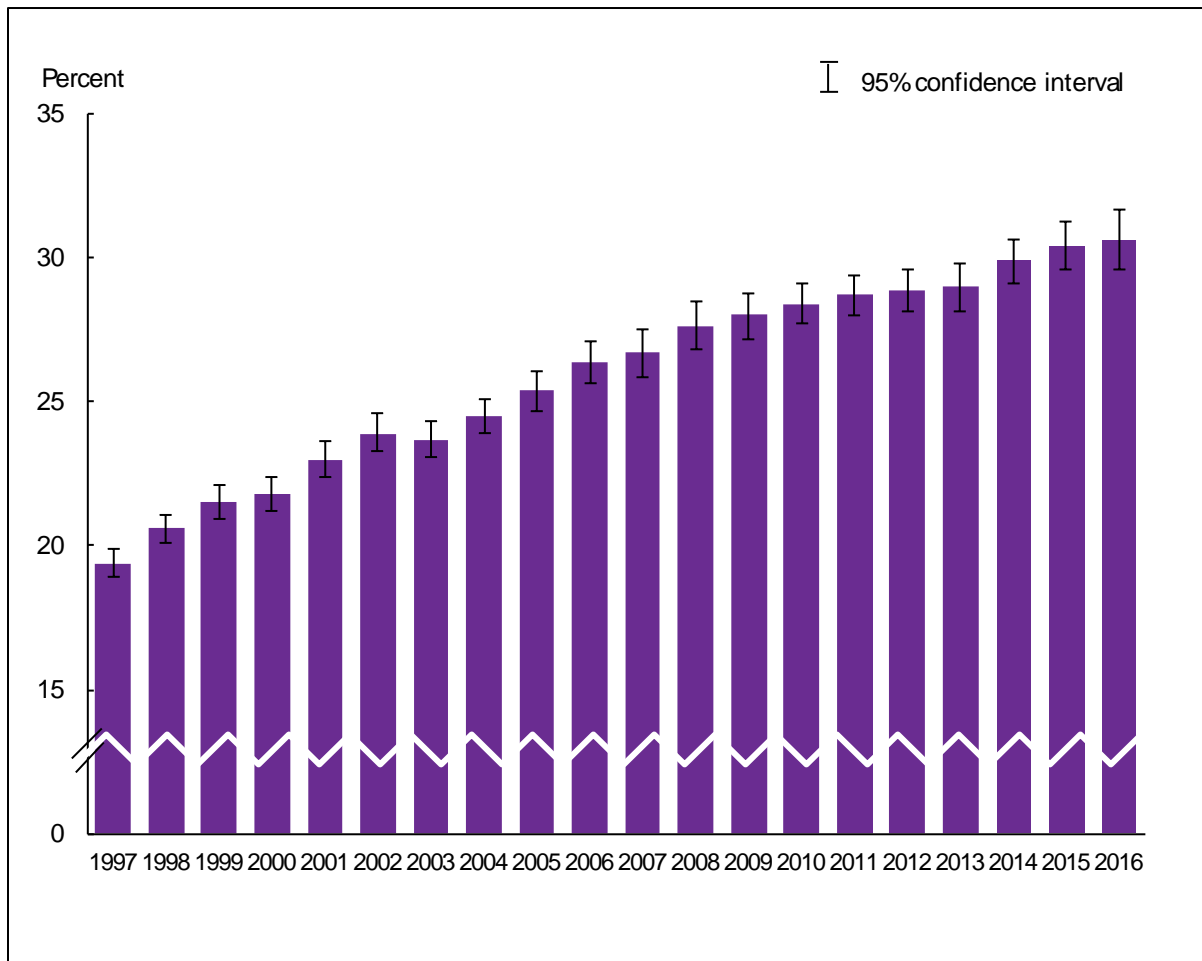
<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and two age groups: 65–74 and 75 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Obesity

**Figure 6.1. Prevalence of obesity among adults aged 20 and over: United States, 1997–2016**

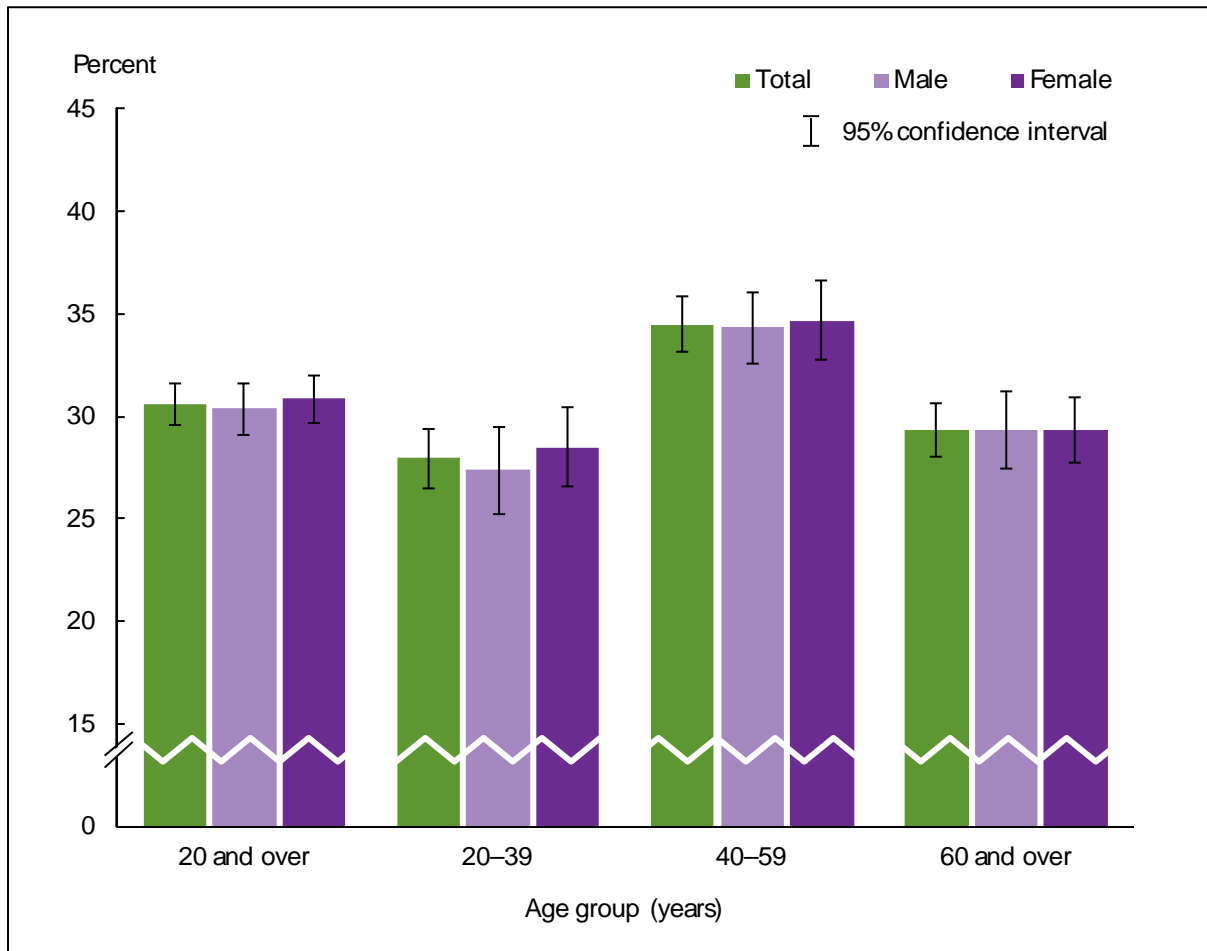


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Obesity is defined as a body mass index of 30 kg/m<sup>2</sup> or more. The measure is based on self-reported height (m) and weight (kg). Estimates of obesity are restricted to adults aged 20 and over for consistency with the Healthy People 2020 (3) initiative. The analyses excluded people with unknown height or weight (about 6% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, 30.6% (95% confidence interval = 29.77%–31.37%) of U.S. adults aged 20 and over were obese. This was not significantly different from the 2015 estimate of 30.4%.
- The prevalence of obesity among U.S. adults aged 20 and over increased, from 19.4% in 1997 to 30.6% in 2016.

**Figure 6.2. Prevalence of obesity among adults aged 20 and over, by age group and sex: United States, 2016**

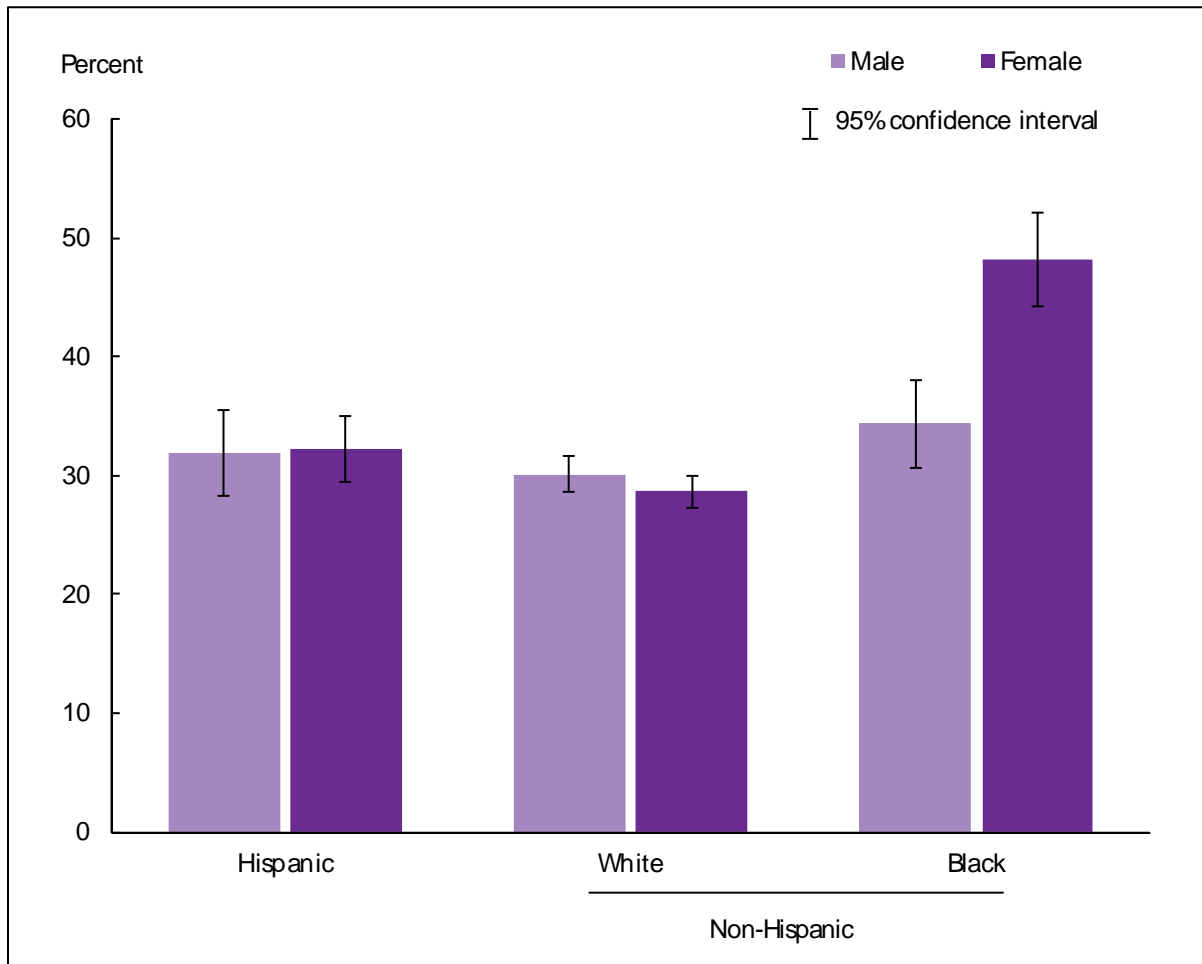


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Obesity is defined as a body mass index of 30 kg/m<sup>2</sup> or more. The measure is based on self-reported height (m) and weight (kg). Estimates of obesity are restricted to adults aged 20 and over for consistency with the Healthy People 2020 (3) initiative. The analyses exclude the 3.7% of persons with unknown height or weight. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, the prevalence of obesity was higher among adults aged 40–59 (34.7%), compared with adults aged 60 and over (29.2%) and those aged 20–39 (27.7%). This pattern held for males and females.
- There was no significant difference in the prevalence of obesity between men and women in any age group.

**Figure 6.3. Age-adjusted prevalence of obesity among adults aged 20 and over, by sex and race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Obesity is defined as a body mass index of 30 kg/m<sup>2</sup> or more. The measure is based on self-reported height (m) and weight (kg). Estimates of obesity are restricted to adults aged 20 and over for consistency with the Healthy People 2020 (3) initiative. The analyses exclude the 3.7% of persons with unknown height or weight. Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 20–24, 25–34, 35–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- Non-Hispanic black women (46.7%) were most likely to be obese, compared with Hispanic women (32.2%) and non-Hispanic white women (28.4%).
- Non-Hispanic black men (34.0%) were more likely to be obese, compared with non-Hispanic white men (30.2%).
- There was no significant difference in the prevalence of obesity among Hispanic men (32.2%) compared with non-Hispanic black men and non-Hispanic white men.



## Data tables for Figures 6.1–6.3:

**Data table for Figure 6.1. Prevalence of obesity among adults aged 20 and over: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	19.4 (18.9–19.9)	19.5 (18.9–20.0)
1998	20.6 (20.1–21.1)	20.6 (20.0–21.1)
1999	21.5 (20.9–22.1)	21.5 (20.9–22.1)
2000	21.8 (21.2–22.4)	21.8 (21.2–22.3)
2001	23.0 (22.4–23.6)	22.9 (22.3–23.5)
2002	23.9 (23.3–24.6)	23.8 (23.2–24.5)
2003	23.7 (23.1–24.3)	23.5 (22.9–24.2)
2004	24.5 (23.9–25.1)	24.3 (23.8–25.0)
2005	25.4 (24.77–26.09)	25.3 (24.66–25.96)
2006	26.4 (25.62–27.09)	26.2 (25.44–26.90)
2007	26.7 (25.82–27.50)	26.6 (25.78–27.49)
2008	27.6 (26.80–28.50)	27.5 (26.69–28.36)
2009	28.0 (27.20–28.76)	27.9 (27.13–28.71)
2010	28.4 (27.74–29.09)	28.3 (27.58–28.94)
2011	28.7 (28.01–29.42)	28.7 (27.96–29.35)
2012	28.9 (28.14–29.61)	28.7 (27.94–29.43)
2013	29.0 (28.13–29.78)	28.9 (28.06–29.78)
2014	29.9 (29.13–30.65)	29.8 (28.98–30.52)
2015	30.4 (29.62–31.27)	30.2 (29.40–31.08)
2016	30.6 (29.77–31.37)	30.5 (29.70–31.26)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and seven age groups: 20–29, 30–39, 40–49, 50–59, 60–69, 70–79, and 80 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 6.2. Prevalence of obesity among adults aged 20 and over, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
20–39, total	27.7	26.49–28.89
20–39, male	27.0	25.19–28.83
20–39, female	28.4	26.63–30.08
40–59, total	34.7	33.43–35.91
40–59, male	35.0	33.50–36.58
40–59, female	34.3	32.46–36.13
60 and over, total	29.2	28.06–30.43
60 and over, male	29.5	27.90–31.11
60 and over, female	29.0	27.71–30.34
20 and over (crude <sup>1</sup> ), total	30.6	29.77–31.37
20 and over (crude <sup>1</sup> ), male	30.6	29.56–31.55
20 and over (crude <sup>1</sup> ), female	30.6	29.60–31.55
20 and over (age-adjusted <sup>2</sup> ), total	30.5	29.70–31.26
20 and over (age-adjusted <sup>2</sup> ), male	30.3	29.36–31.20
20 and over (age-adjusted <sup>2</sup> ), female	30.6	29.60–31.67

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and seven age groups: 20–29, 30–39, 40–49, 50–59, 60–69, 70–79, and 80 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 6.3. Age-adjusted prevalence of obesity among adults aged 20 and over, by sex and race and ethnicity: United States, 2016**

Sex and race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Male, Hispanic or Latino	32.2	28.88–35.47
Male, not Hispanic or Latino, single race, white	30.2	28.91–31.54
Male, not Hispanic or Latino, single race, black	34.0	30.69–37.23
Female, Hispanic or Latino	32.2	29.56–34.81
Female, not Hispanic or Latino, single race, white	28.4	27.17–29.55
Female, not Hispanic or Latino, single race, black	46.7	43.59–49.83

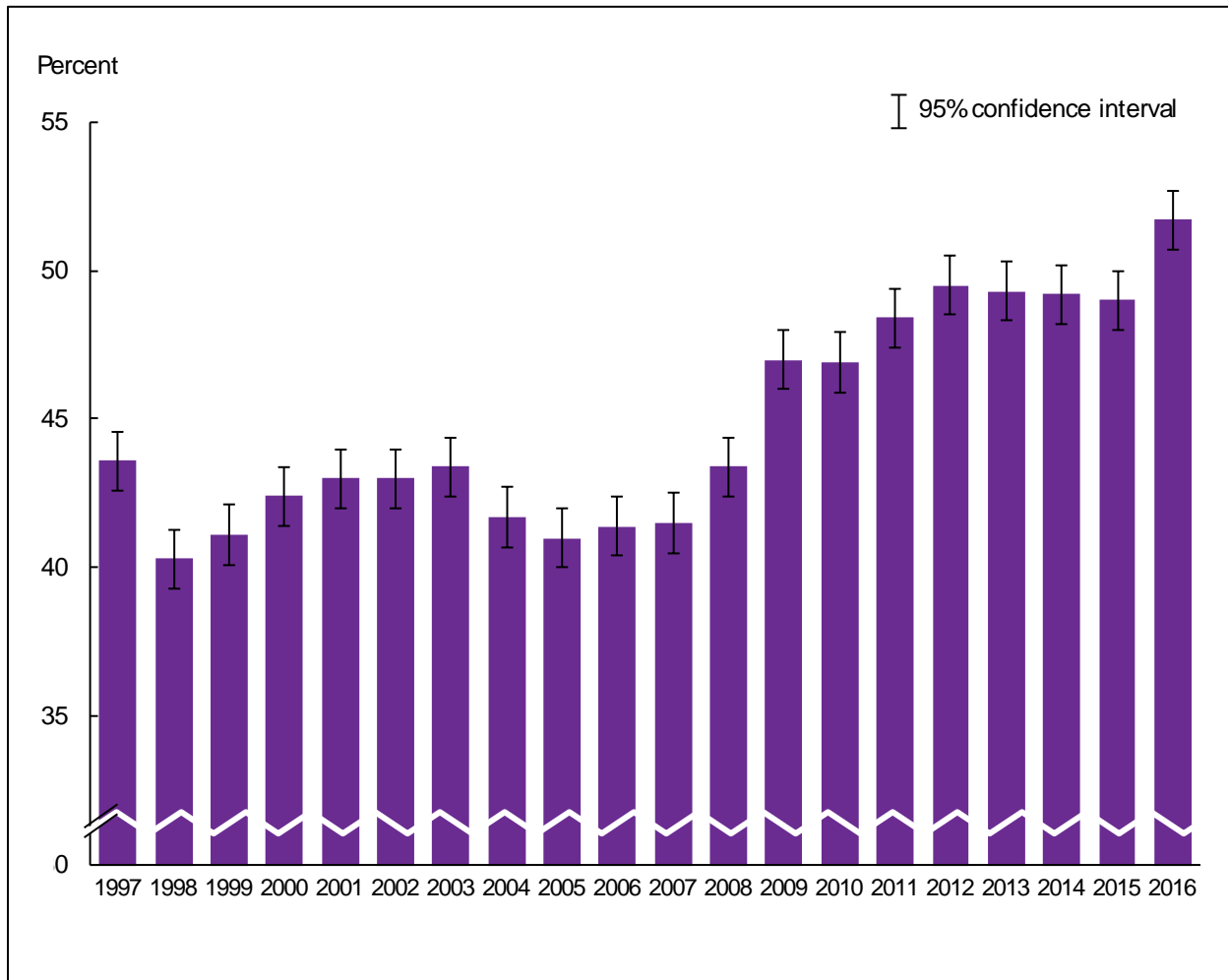
<sup>1</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 20–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Leisure-time physical activity

**Figure 7.1. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity: United States, 1997–2016**

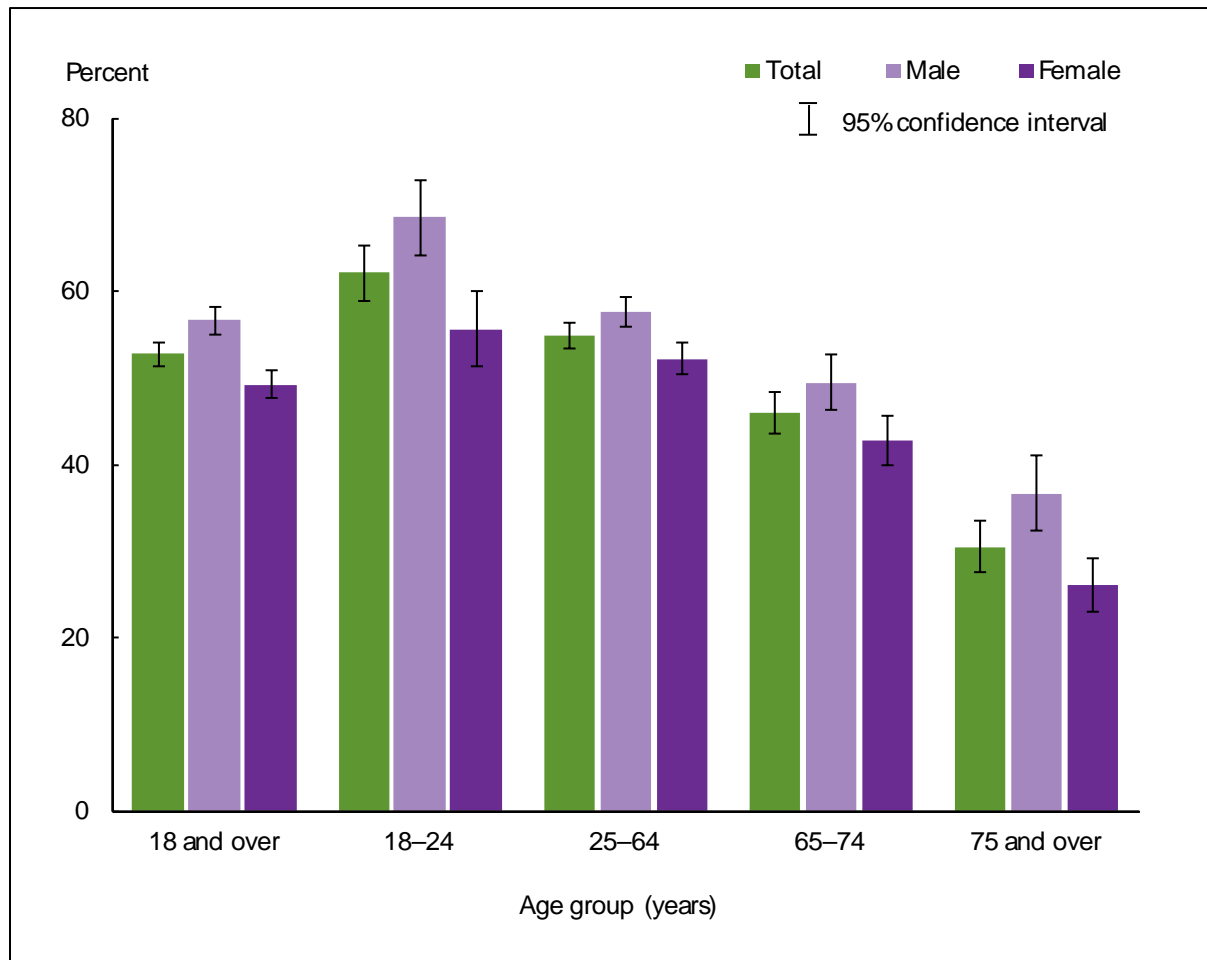


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic activity motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic activity, not just leisure-time aerobic activity, so the leisure-time aerobic activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. This figure presents the percentage of adults who met the 2008 federal guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The 2008 guidelines were applied to leisure-time activity data starting with 1997 to derive the aerobic activity estimates in this figure, allowing trend analysis. The analyses exclude persons with unknown physical activity participation (about 3% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, 51.7% (95% confidence interval = 50.57%–52.87%) of U.S. adults aged 18 and over met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity). This percentage was higher than the 2015 estimate (49.0%).
- The annual percentage of adults aged 18 and over who met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) was stable from 1997 through 2006, then steadily increased to 51.7% in 2016.

**Figure 7.2. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by age group and sex: United States, 2016**

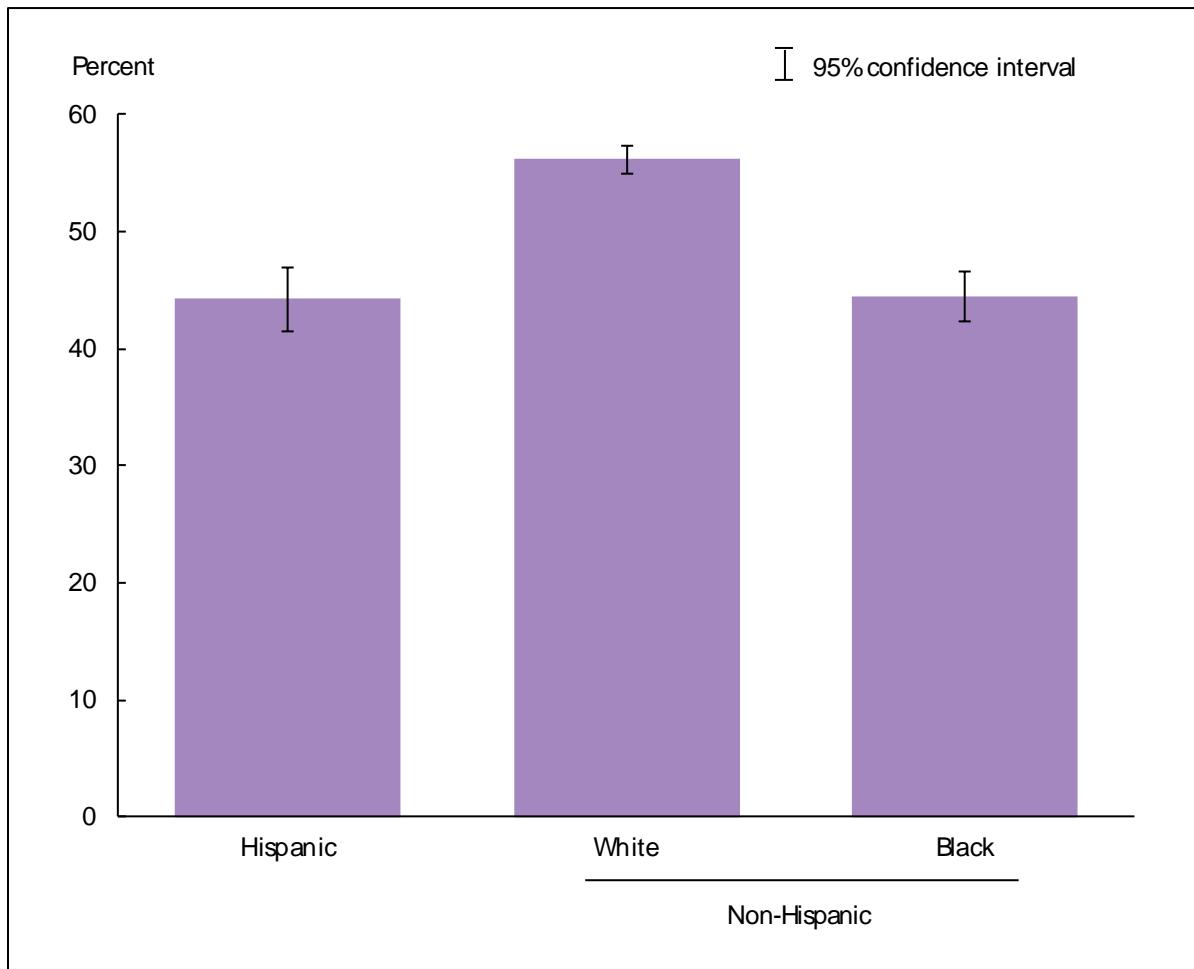


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic activity motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic activity, not just leisure-time aerobic activity, so the leisure-time aerobic activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. This figure presents the percentage of adults who met the 2008 federal guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The analyses exclude the 1.9% of persons with unknown physical activity participation. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, as age increased, the percentage of adults who met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) decreased. This pattern also held for males and females.
- For adults aged 18 and over, and for age groups 18-24, 25-64, 65-74, and 75 and over, women were less likely than men to meet the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity).

**Figure 7.3. Age-sex-adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by race and ethnicity: United States, 2016**

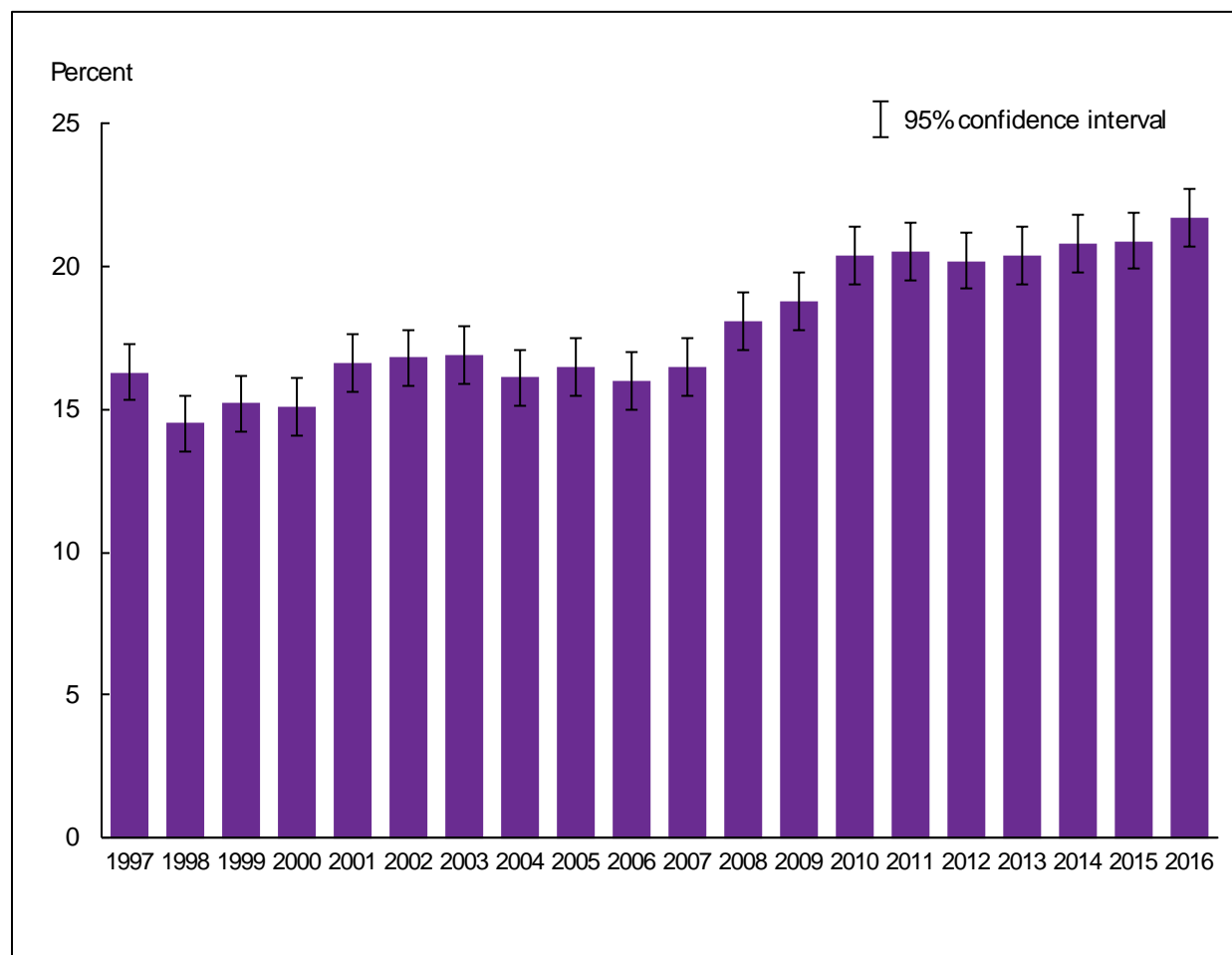


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic activity motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic activity, not just leisure-time aerobic activity, so the leisure-time aerobic activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. This figure presents the percentage of adults who met the 2008 federal guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The analyses exclude the 1.9% of persons with unknown physical activity participation. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted percentage of adults by race and ethnicity who met the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) was 44.3% for Hispanic adults, 56.2% for non-Hispanic white adults, and 44.4% for non-Hispanic black adults.
- Non-Hispanic white adults were more likely to meet the 2008 federal physical activity guidelines for aerobic activity (based on leisure-time activity) compared with Hispanic adults and non-Hispanic black adults.

**Figure 7.4. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities: United States, 1997–2016**



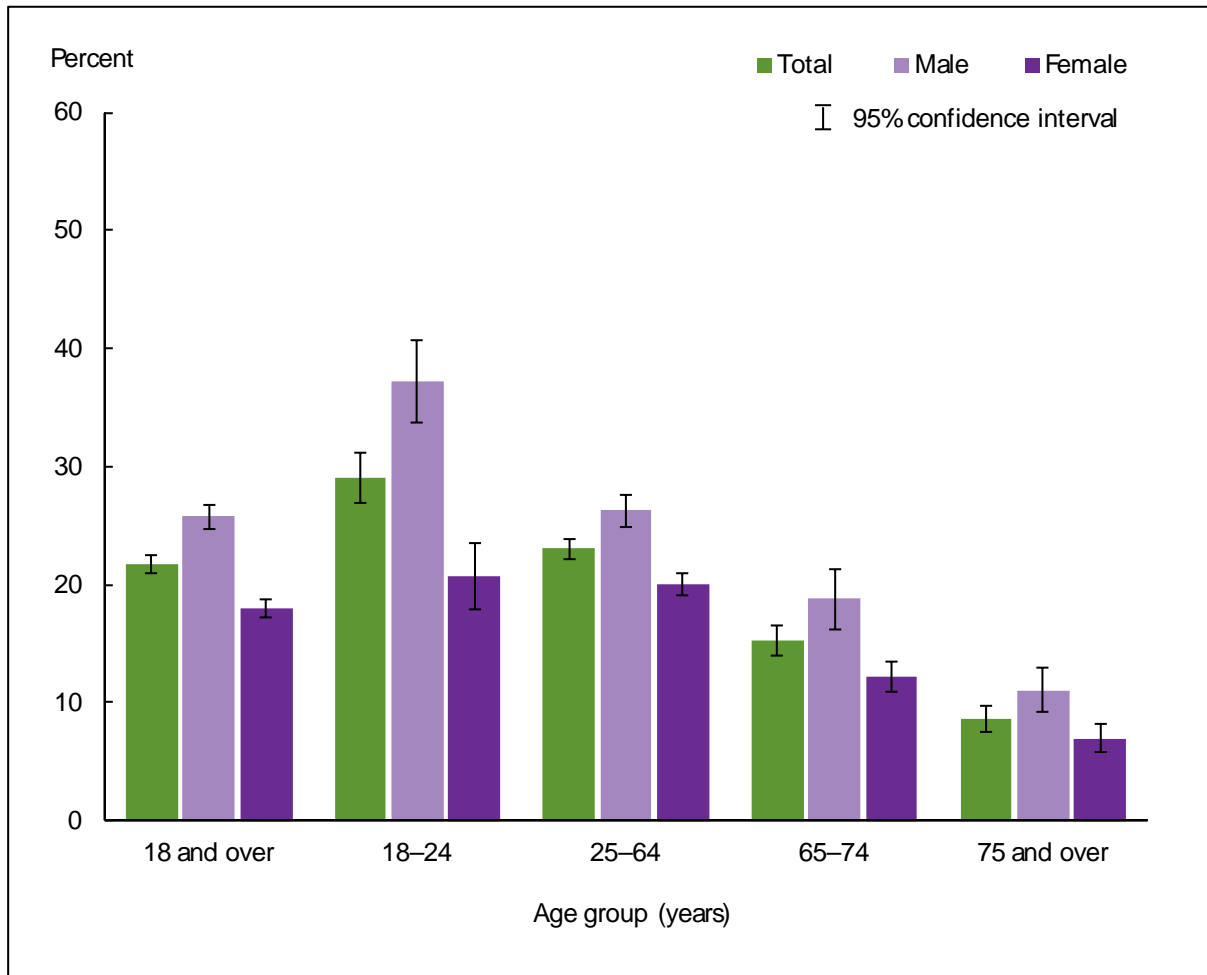
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic and muscle-strengthening activities motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic and muscle-strengthening activity, not just leisure-time aerobic and muscle-strengthening activities, so the leisure-time aerobic and muscle-strengthening activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic and muscle-strengthening activities. This figure presents the percentage of adults who met the 2008 federal guidelines for both aerobic activity and muscle strengthening. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The 2008 guidelines also recommend that adults perform muscle-strengthening activities that are of moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. The National Health Interview Survey estimates are based on number of times per week, which may or may not be the same as number of days per week. The 2008 guidelines were applied to both leisure-time activity and muscle-strengthening data starting with 1997 to derive the aerobic activity and muscle-strengthening estimates in this figure, allowing trend analysis. The analyses exclude persons with unknown physical activity participation (about 3% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- In 2016, 21.7% (95% confidence interval = 21.00%–22.47%) of U.S. adults aged 18 and over met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities). This percentage was higher than, but not significantly different from, the 2015 estimate of 20.9%.

- The annual percentage of adults aged 18 and over who met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) increased, from 16.0% in 2006 to 20.4% in 2010, and remained stable through 2016.

**Figure 7.5. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by age group and sex: United States, 2016**



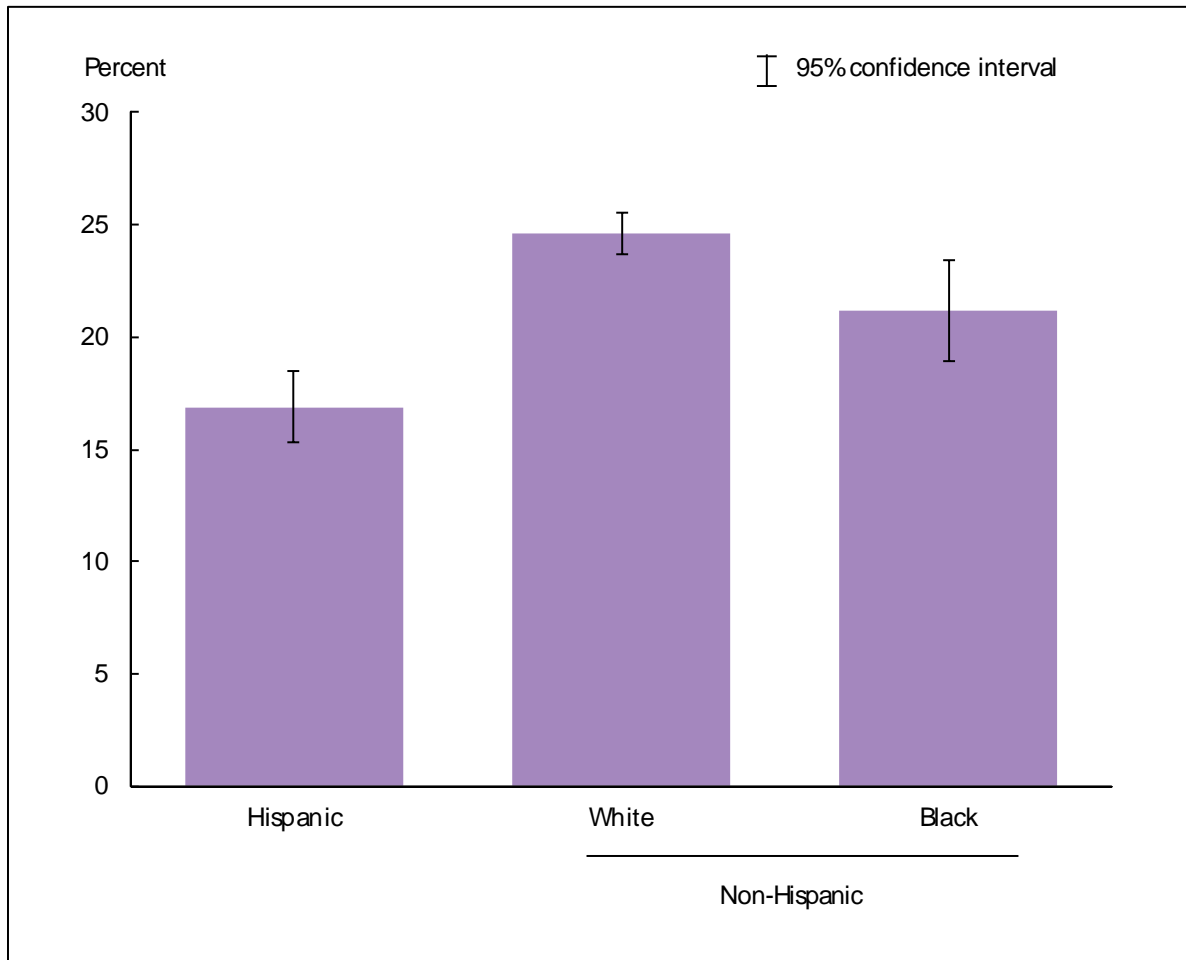
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic and muscle-strengthening activities motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic and muscle-strengthening activity, not just leisure-time aerobic and muscle-strengthening activities, so the leisure-time aerobic and muscle-strengthening activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic and muscle-strengthening activities. This figure presents the percentage of adults who met the 2008 federal guidelines for both aerobic and muscle strengthening activities. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The 2008 guidelines also recommend that adults perform muscle-strengthening activities that are of moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. The National Health Interview Survey estimates are based on number of times per week, which may not be the same as number of days per week. The analyses exclude the 2.1% of persons with unknown physical activity participation. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, as age increased, the percentage of adults who met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) decreased. This pattern held for males and females.
- For adults aged 18 and over and age groups 18-24, 25-64, 65-74, and 75 and over, women were less likely to meet the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) compared with men.



**Figure 7.6. Age-sex-adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Estimates in this figure are limited to leisure-time physical activity only. This measure reflects an estimate of leisure-time aerobic and muscle-strengthening activities motivated by the 2008 federal Physical Activity Guidelines for Americans, which are being used for Healthy People 2020 Objectives (3). The 2008 guidelines refer to any kind of aerobic and muscle-strengthening activity, not just leisure-time aerobic and muscle-strengthening activities, so the leisure-time aerobic and muscle-strengthening activity estimates in this figure may underestimate the percentage of adults who met the 2008 guidelines for aerobic and muscle-strengthening activities. This figure presents the percentage of adults who met the 2008 federal guidelines for both aerobic and muscle strengthening activities. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The 2008 guidelines also recommend that adults perform muscle-strengthening activities that are of moderate or high intensity and involve all major muscle groups on 2 or more days a week, because these activities provide additional health benefits. The National Health Interview Survey estimates are based on number of times per week, which may not be the same as number of days per week. The analyses exclude the 2.1% of persons with unknown physical activity participation. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted percentage of adults by race and ethnicity who met the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) was 16.9% for Hispanic adults, 24.6% for non-Hispanic white adults, and 21.2% for non-Hispanic black adults.
- Non-Hispanic white adults were more likely to meet the 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities (based on leisure-time activities) compared with non-Hispanic black adults and Hispanic adults.

## Data tables for Figures 7.1–7.6:

**Data table for Figure 7.1. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure–time aerobic activity: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	43.6 (42.5–44.6)	43.3 (42.2–44.3)
1998	40.3 (39.5–41.1)	40.1 (39.3–40.9)
1999	41.1 (40.3–41.9)	40.9 (40.2–41.7)
2000	42.4 (41.6–43.2)	42.3 (41.5–43.1)
2001	43.0 (42.2–43.8)	42.9 (42.1–43.7)
2002	43.0 (42.1–43.9)	42.9 (42.1–43.8)
2003	43.4 (42.5–44.3)	43.3 (42.4–44.2)
2004	41.7 (40.8–42.6)	41.6 (40.8–42.5)
2005	41.0 (40.18–41.89)	41.1 (40.21–41.90)
2006	41.4 (40.31–42.42)	41.4 (40.37–42.47)
2007	41.5 (40.36–42.63)	41.5 (40.33–42.59)
2008	43.4 (42.33–44.47)	43.5 (42.43–44.58)
2009	47.0 (46.05–47.95)	47.2 (46.25–48.16)
2010	46.9 (45.96–47.78)	47.1 (46.20–47.98)
2011	48.4 (47.42–49.30)	48.7 (47.76–49.61)
2012	49.5 (48.51–50.49)	49.9 (48.92–50.87)
2013	49.3 (48.38–50.28)	49.9 (48.95–50.84)
2014	49.2 (48.21–50.24)	49.8 (48.78–50.82)
2015	49.0 (47.98–49.95)	49.7 (48.72–50.69)
2016	51.7 (50.57–52.87)	52.5 (51.29–53.61)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 7.2. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–24, total	60.2	57.08–63.24
18–24, male	65.7	61.49–69.90
18–24, female	54.5	50.76–58.25
25–64, total	54.0	52.78–55.21
25–64, male	56.9	55.43–58.34
25–64, female	51.2	49.85–52.63
65–74, total	44.9	42.90–46.82
65–74, male	49.1	46.20–52.09
65–74, female	41.1	38.93–43.34
75 and over, total	29.3	26.67–31.88
75 and over, male	35.3	31.60–39.08
75 and over, female	24.9	22.14–27.62
18 and over (crude <sup>1</sup> ), total	51.7	50.57–52.87
18 and over (crude <sup>1</sup> ), male	55.6	54.23–57.06
18 and over (crude <sup>1</sup> ), female	48.1	46.78–49.34
18 and over (age-adjusted <sup>2</sup> ), total	52.5	51.29–53.61
18 and over (age-adjusted <sup>2</sup> ), male	56.1	54.68–57.48
18 and over (age-adjusted <sup>2</sup> ), female	49.1	47.76–50.35

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 7.3. Adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	44.3 (41.52–46.99)	44.3 (41.57–47.03)
Not Hispanic or Latino, single race, white	56.2 (54.97–57.40)	56.3 (55.07–57.48)
Not Hispanic or Latino, single race, black	44.4 (42.29–46.55)	44.0 (41.87–46.13)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 7.4. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	16.3 (15.5-17.1)	16.1 (15.3-16.9)
1998	14.5 (14.0-15.1)	14.4 (13.9-14.9)
1999	15.2 (14.6-15.8)	15.0 (14.5-15.6)
2000	15.1 (14.5-15.7)	15.0 (14.5-15.6)
2001	16.6 (16.1-17.2)	16.5 (16.0-17.1)
2002	16.8 (16.2-17.4)	16.7 (16.2-17.3)
2003	16.9 (16.3-17.6)	16.9 (16.3-17.5)
2004	16.1 (15.5-16.7)	16.1 (15.5-16.7)
2005	16.5 (15.96-17.13)	16.6 (15.99-17.14)
2006	16.0 (15.30-16.80)	16.1 (15.37-16.87)
2007	16.5 (15.79-17.19)	16.5 (15.83-17.20)
2008	18.1 (17.38-18.91)	18.2 (17.49-19.00)
2009	18.8 (18.14-19.56)	19.0 (18.32-19.75)
2010	20.4 (19.69-21.06)	20.6 (19.90-21.25)
2011	20.5 (19.79-21.31)	20.8 (20.05-21.56)
2012	20.2 (19.45-20.99)	20.6 (19.79-21.31)
2013	20.4 (19.65-21.10)	20.7 (19.99-21.45)
2014	20.8 (20.01-21.60)	21.2 (20.43-22.06)
2015	20.9 (20.20-21.66)	21.4 (20.69-22.17)
2016	21.7 (21.00-22.47)	22.3 (21.56-23.06)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 7.5. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–24, total	29.0	26.98–31.10
18–24, male	37.3	33.76–40.75
18–24, female	20.7	17.86–23.51
25–64, total	23.1	22.21–23.92
25–64, male	26.3	24.96–27.56
25–64, female	20.0	19.05–20.99
65–74, total	15.3	13.95–16.59
65–74, male	18.8	16.29–21.31
65–74, female	12.2	10.94–13.46
75 and over, total	8.7	7.58–9.80
75 and over, male	11.1	9.18–12.95
75 and over, female	7.0	5.79–8.14
18 and over (crude <sup>1</sup> ), total	21.7	21.00–22.47
18 and over (crude <sup>1</sup> ), male	25.8	24.71–26.80
18 and over (crude <sup>1</sup> ), female	18.0	17.18–18.82
18 and over (age-adjusted <sup>2</sup> ), total	22.3	21.56–23.06
18 and over (age-adjusted <sup>2</sup> ), male	26.2	25.09–27.28
18 and over (age-adjusted <sup>2</sup> ), female	18.6	17.79–19.42

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 7.6. Adjusted percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activities through leisure-time aerobic and muscle-strengthening activities, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	16.9 (15.31–18.47)	16.9 (15.39–18.49)
Not Hispanic or Latino, single race, white	24.6 (23.71–25.51)	24.7 (23.77–25.55)
Not Hispanic or Latino, single race, black	21.2 (18.96–23.44)	20.6 (18.49–22.77)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

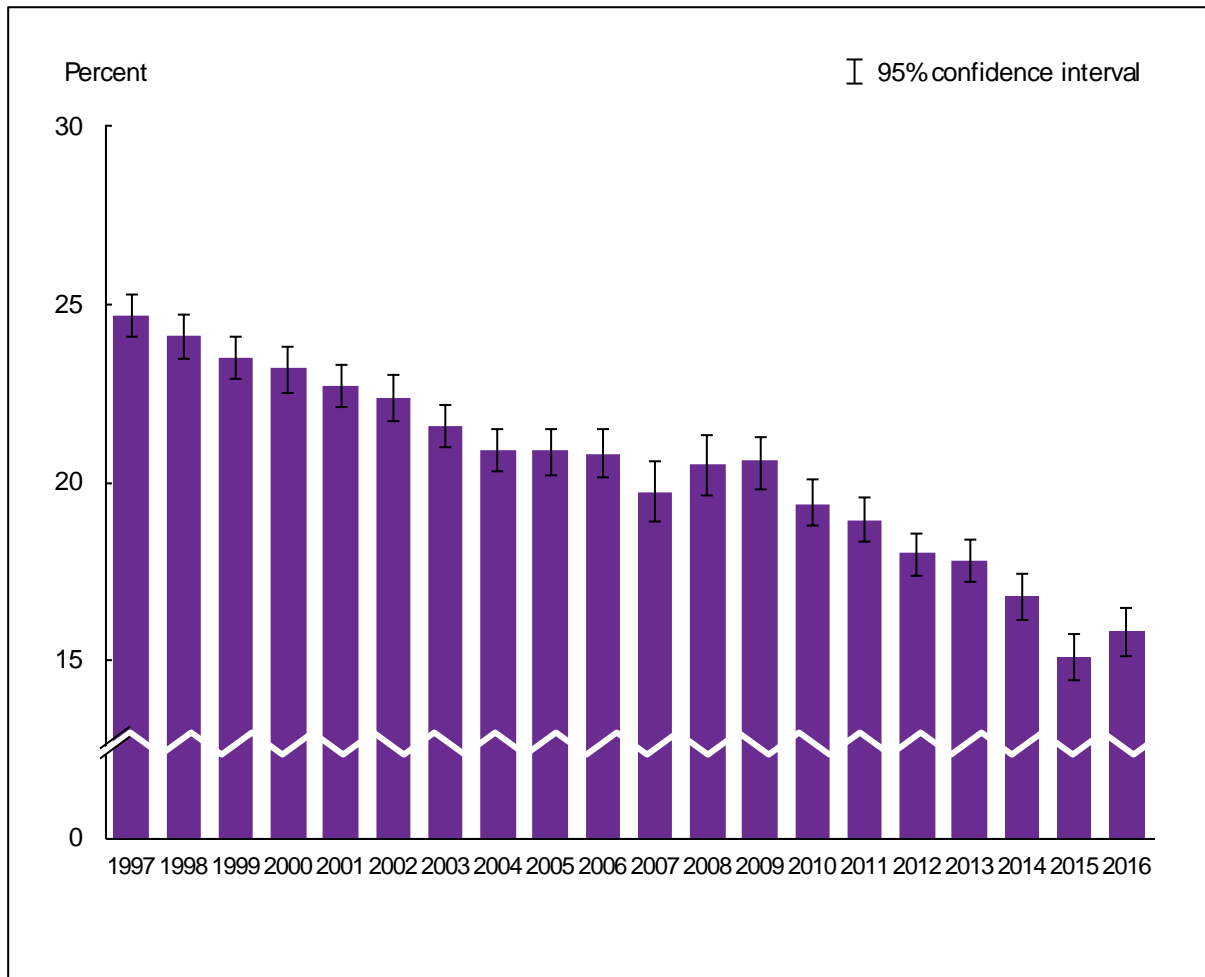
<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Current smoking

**Figure 8.1. Prevalence of current cigarette smoking among adults aged 18 and over: United States, 1997–2016**

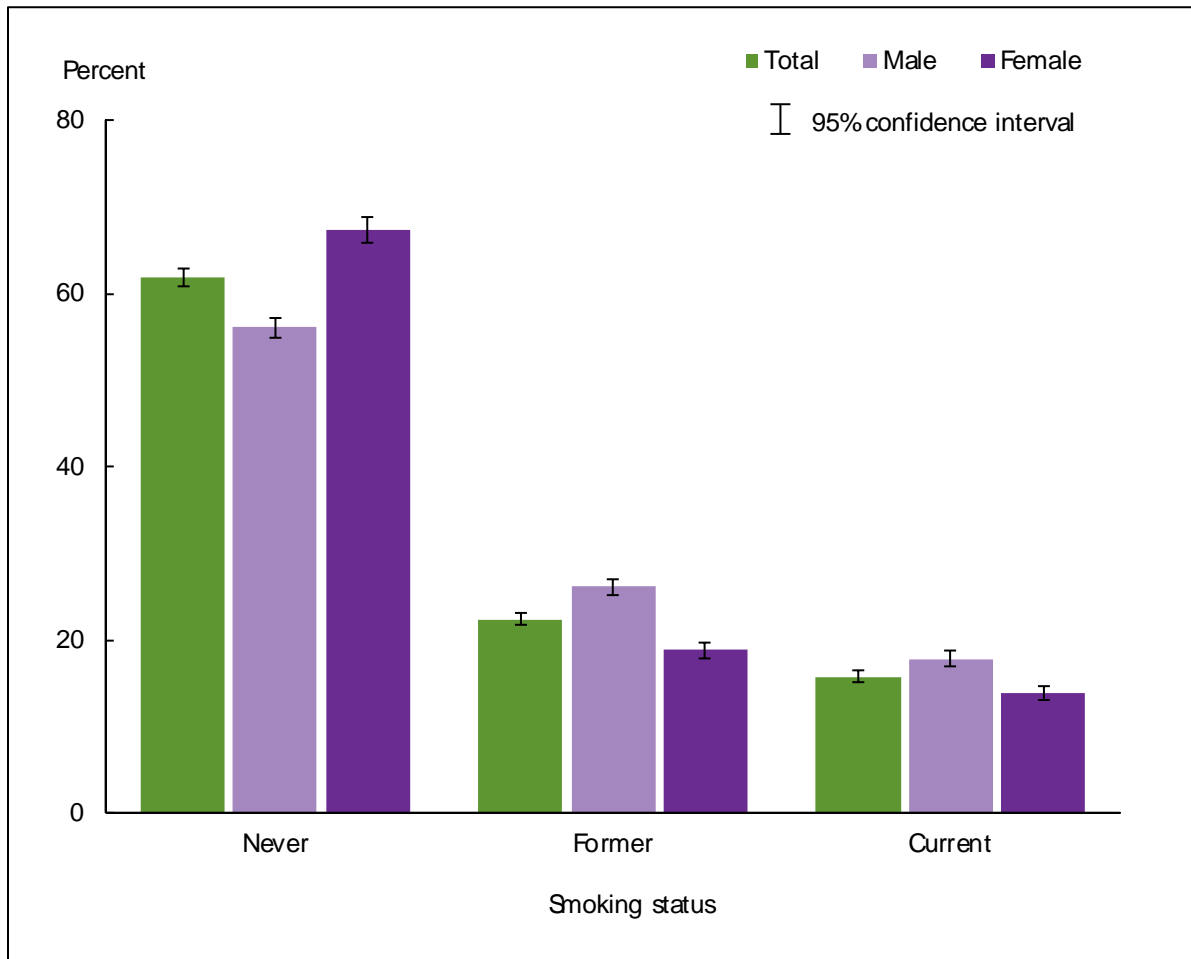


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Current cigarette smokers were defined as those who had smoked more than 100 cigarettes in their lifetime and now smoke every day or some days. The analyses exclude persons with unknown cigarette smoking status (about 2% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, the percentage of adults aged 18 and over who were current cigarette smokers was 15.8% (95% confidence interval = 15.11%–16.45%), which was higher than, but not significantly different from, the 2015 estimate of 15.1%.
- The prevalence of current cigarette smoking among U.S. adults declined from 24.7% in 1997 to 15.8% in 2016.

**Figure 8.2. Percent distribution of cigarette smoking status among adults aged 18 and over, by sex: United States, 2016**

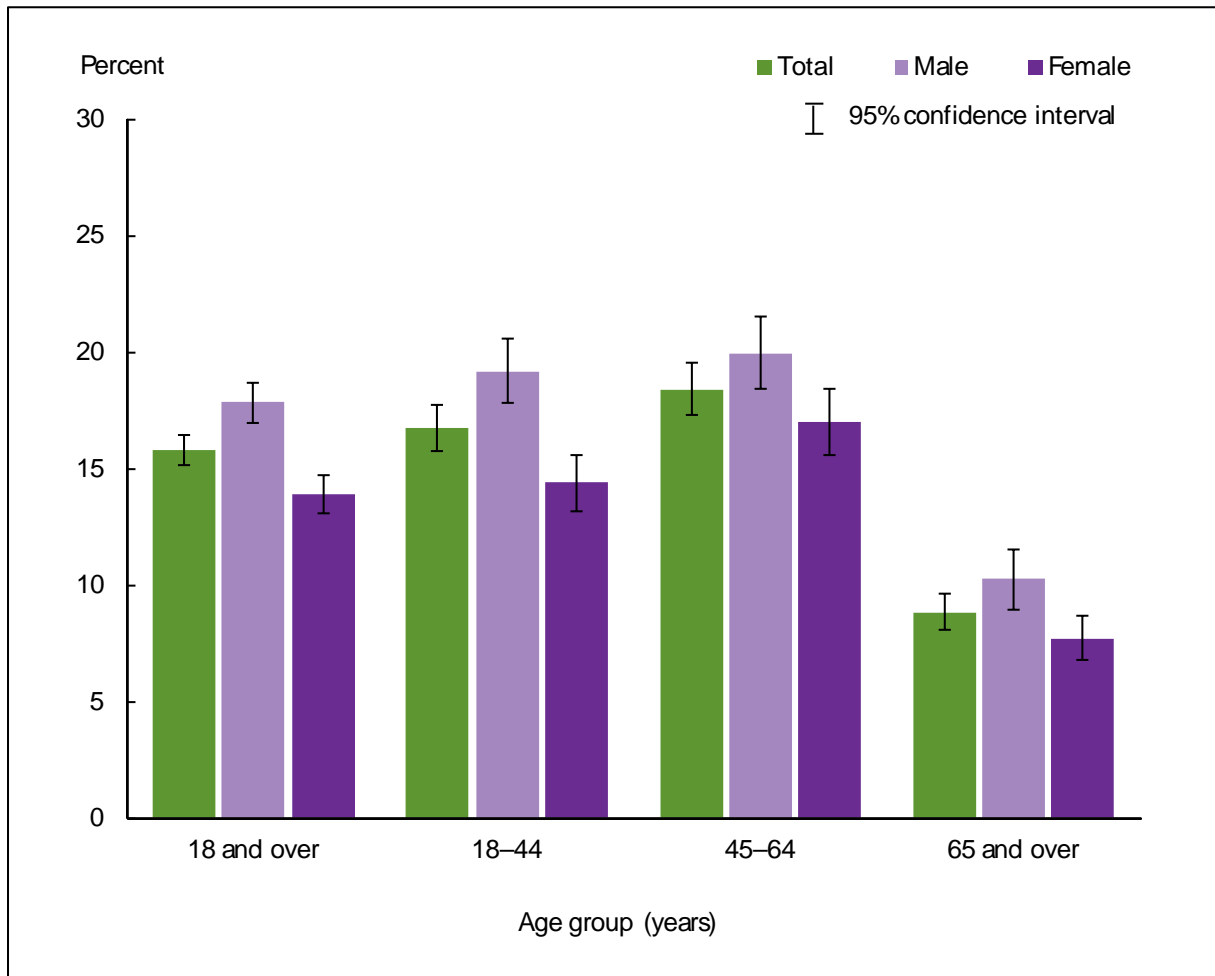


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Current cigarette smokers were defined as those who had smoked more than 100 cigarettes in their lifetime and now smoke every day or some days. The analyses exclude the 0.3% of persons with unknown smoking status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The percentage of current cigarette smokers was higher for men (17.8%) than for women (13.9%).
- The percentage of former cigarette smokers was higher for men (26.1%) than for women (18.8%).
- The percentage of those who had never smoked cigarettes was higher for women (67.3%) than for men (56.1%).

**Figure 8.3. Prevalence of current cigarette smoking among adults aged 18 and over, by age group and sex: United States, 2016**



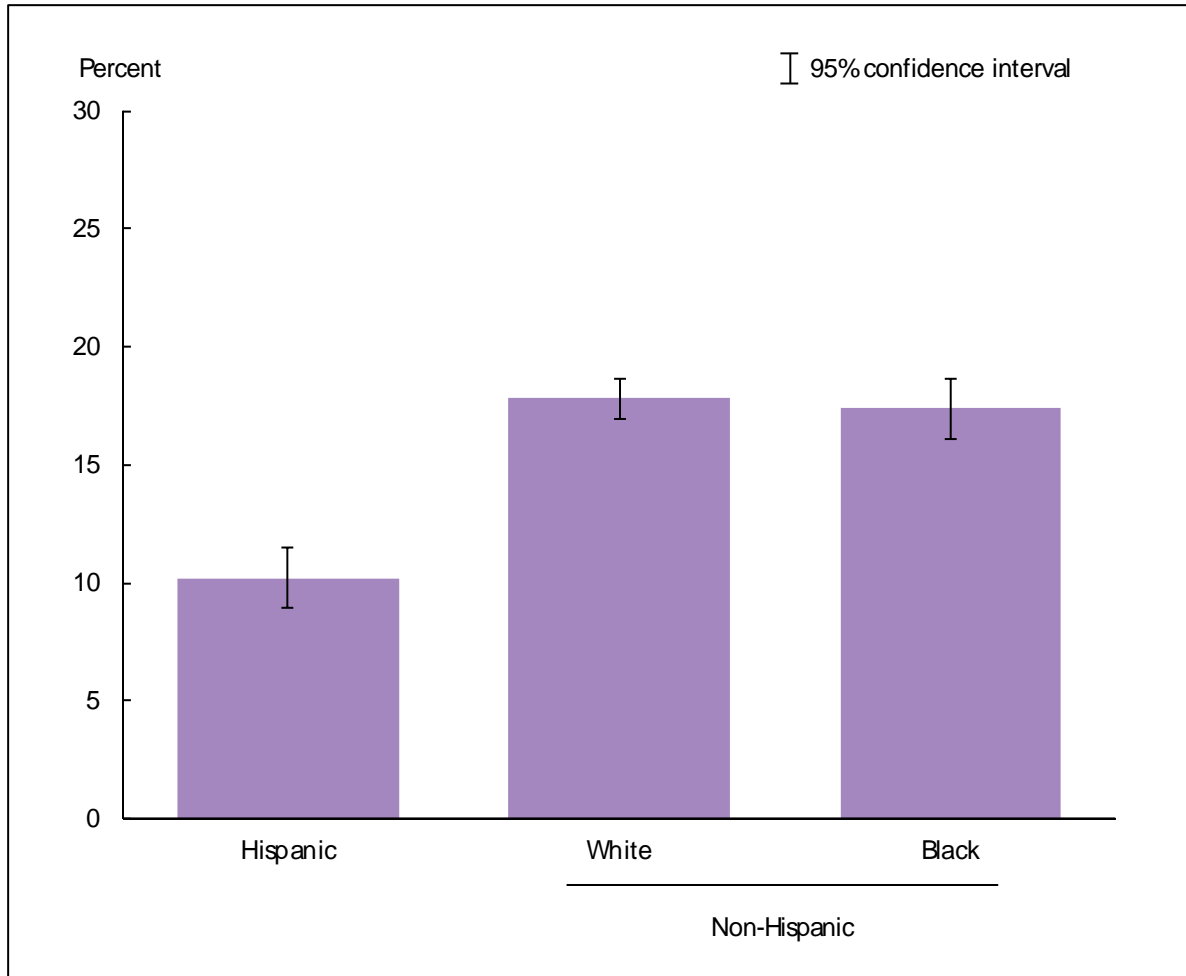
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Current cigarette smokers were defined as those who had smoked more than 100 cigarettes in their lifetime and now smoke every day or some days. The analyses exclude the 0.3% of persons with unknown cigarette smoking status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, the percentage of adults who were current cigarette smokers by age group was lower among adults aged 65 and over (8.8%) than among those aged 18-44 (16.8%) and 45-64 (18.4%). This pattern in current cigarette smoking by age group was observed in both men and women.
- For adults aged 18 and over and age groups 18-44, 45-64, and 65 and over, men were more likely than women to be current cigarette smokers.



**Figure 8.4. Age-sex-adjusted prevalence of current cigarette smoking among adults aged 18 and over, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Current cigarette smokers were defined as those who had smoked more than 100 cigarettes in their lifetime and now smoke every day or some days. The analyses exclude the 0.3% of persons with unknown cigarette smoking status. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted prevalence of current cigarette smoking by race and ethnicity was 10.2% for Hispanic adults, 17.8% for non-Hispanic white adults, and 17.4% for non-Hispanic black adults.
- Hispanic adults were less likely to be current cigarette smokers compared with non-Hispanic black adults and non-Hispanic white adults.

## Data tables for Figures 8.1–8.4:

**Data table for Figure 8.1. Prevalence of current cigarette smoking among adults aged 18 and over: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	24.7 (24.1–25.3)	24.6 (24.0–25.1)
1998	24.1 (23.5–24.7)	24.0 (23.4–24.6)
1999	23.5 (22.9–24.1)	23.3 (22.7–24.0)
2000	23.2 (22.5–23.8)	23.1 (22.5–23.7)
2001	22.7 (22.1–23.3)	22.6 (22.0–23.2)
2002	22.4 (21.7–23.0)	22.3 (21.7–22.9)
2003	21.6 (21.0–22.2)	21.5 (20.9–22.1)
2004	20.9 (20.3–21.5)	20.8 (20.2–21.4)
2005	20.9 (20.28–21.52)	20.8 (20.20–21.44)
2006	20.8 (20.14–21.51)	20.8 (20.09–21.43)
2007	19.7 (18.91–20.59)	19.7 (18.83–20.48)
2008	20.5 (19.65–21.30)	20.4 (19.59–21.21)
2009	20.6 (19.83–21.27)	20.6 (19.86–21.28)
2010	19.4 (18.76–20.10)	19.4 (18.71–20.07)
2011	18.9 (18.32–19.55)	18.9 (18.29–19.53)
2012	18.0 (17.40–18.56)	18.1 (17.49–18.66)
2013	17.8 (17.21–18.41)	17.9 (17.29–18.53)
2014	16.8 (16.14–17.45)	17.0 (16.37–17.71)
2015	15.1 (14.46–15.72)	15.3 (14.63–15.94)
2016	15.8 (15.11–16.45)	16.0 (15.27–16.67)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 8.2. Percent distribution of cigarette smoking status among adults aged 18 and over, by sex: United States, 2016**

Smoking status and sex	Percent	95% confidence interval
Never, total	61.9	60.84–62.92
Never, male	56.1	54.92–57.24
Never, female	67.3	65.85–68.71
Former, total	22.3	21.65–23.03
Former, male	26.1	25.26–26.94
Former, female	18.8	17.92–19.77
Current, total	15.8	15.11–16.45
Current, male	17.8	16.95–18.69
Current, female	13.9	13.04–14.72

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 8.3. Prevalence of current cigarette smoking among adults aged 18 and over, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–44, total	16.8	15.78–17.76
18–44, male	19.2	17.78–20.56
18–44, female	14.4	13.19–15.62
45–64, total	18.4	17.28–19.55
45–64, male	19.9	18.40–21.49
45–64, female	17.0	15.54–18.40
65 and over, total	8.8	8.06–9.64
65 and over, male	10.2	8.99–11.51
65 and over, female	7.7	6.77–8.67
18 and over (crude <sup>1</sup> ), total	15.8	15.11–16.45
18 and over (crude <sup>1</sup> ), male	17.8	16.95–18.69
18 and over (crude <sup>1</sup> ), female	13.9	13.04–14.72
18 and over (age-adjusted <sup>2</sup> ), total	16.0	15.27–16.67
18 and over (age-adjusted <sup>2</sup> ), male	18.0	17.04–18.86
18 and over (age-adjusted <sup>2</sup> ), female	14.1	13.21–14.97

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 8.4. Age-sex-adjusted prevalence of current cigarette smoking among adults aged 18 and over, by race and ethnicity: United States, 2016**

Race and ethnicity	Age-sex-adjusted <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
Hispanic or Latino	10.2 (8.91–11.48)	10.3 (8.99–11.54)
Not Hispanic or Latino, single race, white	17.8 (16.91–18.62)	17.8 (16.92–18.64)
Not Hispanic or Latino, single race, black	17.4 (16.13–18.66)	17.2 (15.88–18.44)

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

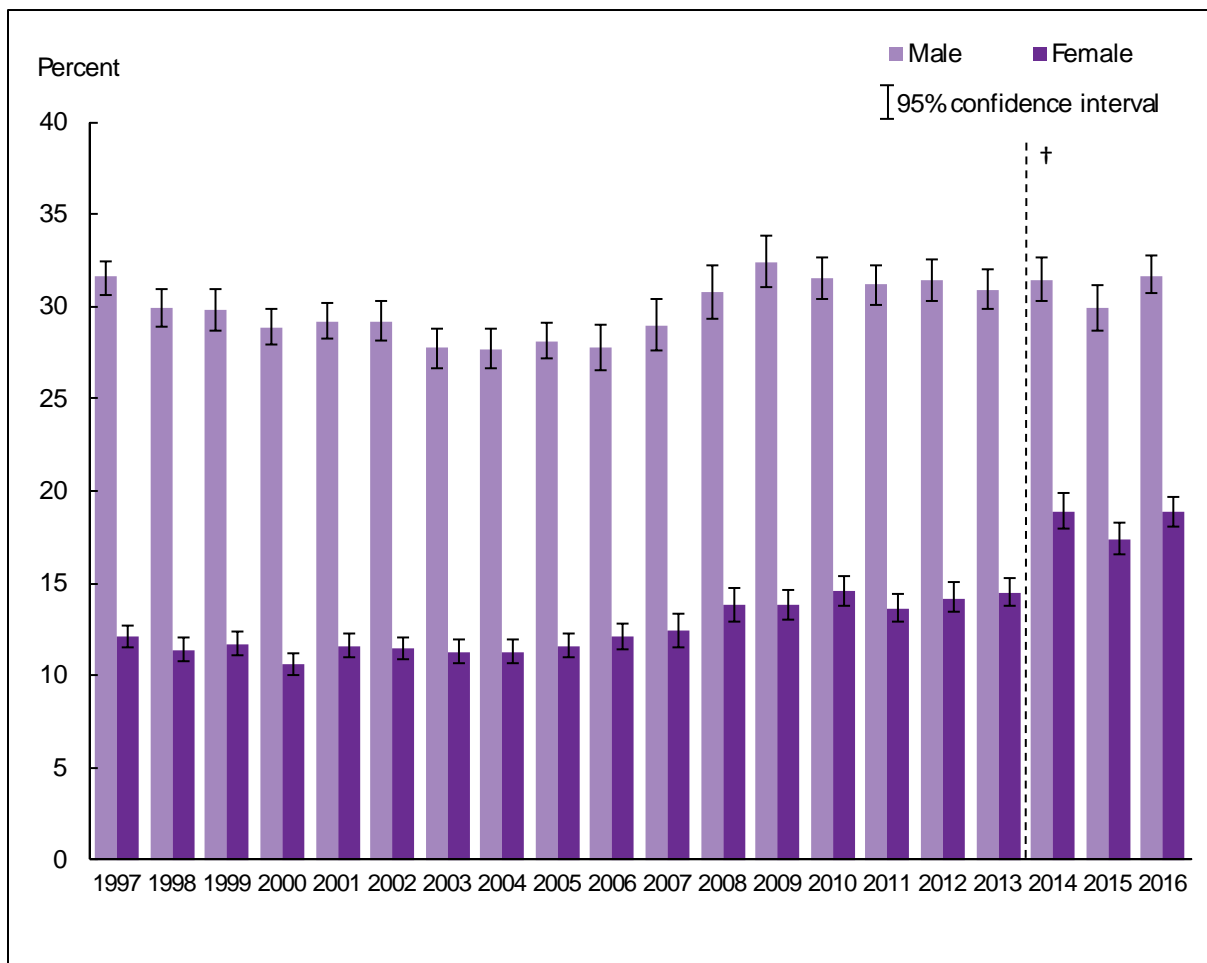
<sup>2</sup>Estimates for this Healthy People 2020 Leading Health Indicator are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Alcohol consumption

**Figure 9.1. Percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year, by sex: United States, 1997–2016**



† For 1997–2013, the alcohol consumption estimates presented were for the percentage of adults aged 18 and over who had five or more drinks in 1 day at least once in the past year, regardless of sex. However, in the 2014 National Health Interview Survey (NHIS), the survey questions were changed; male and female respondents were asked about a different quantity of drinks consumed in a day in the past year. As a result, the estimates presented for 2014 and later (dashed line) were for men aged 18 and over who had five or more drinks in 1 day at least once in the past year and for women aged 18 and over who had four or more drinks in 1 day at least once in the past year. Differences observed in estimates for women based on the 2014 and later NHIS may be partially or fully attributable to these changes in the survey questions on alcohol consumption.

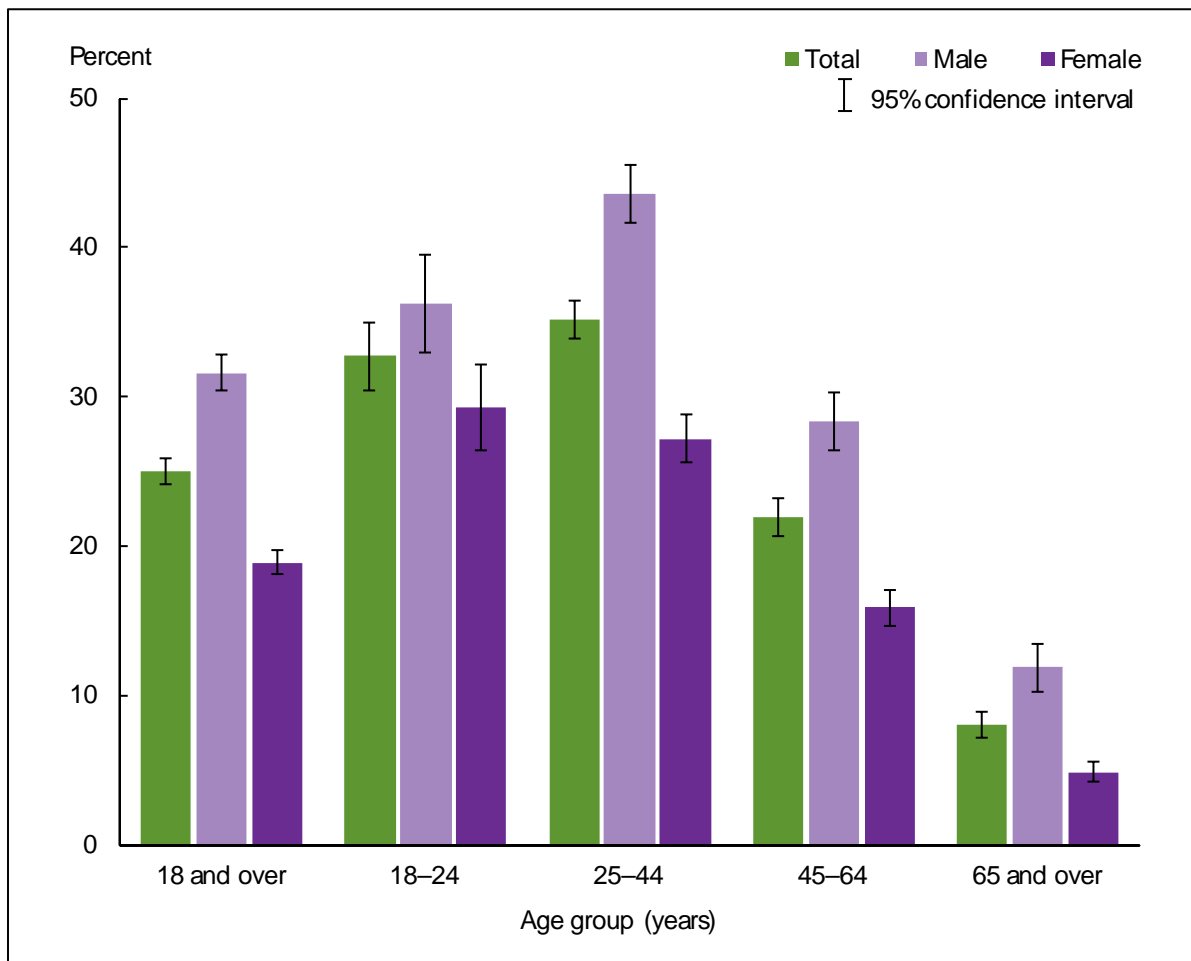
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. The analyses exclude adults with unknown alcohol consumption (about 1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, the percentage of men who had at least 1 heavy drinking day in the past year was 31.6% (95% confidence interval = 30.46%–32.79%). This was higher than, but not significantly different from, the 2015 estimate of 29.9%.
- The percentage of women who had at least one heavy drinking day in the past year during 2016 was 18.9% (95% confidence interval = 18.08%–19.73%). This was higher than the 2015 estimate of 17.4%.
- The percentage of men who had at least 1 heavy drinking day in the past year decreased, from 31.6% in 1997 to 27.8% in 2006, and then increased to 32.4% in 2009. From 2009 through 2013, the percentage of men who had at least 1 heavy drinking day in the past year remained stable.
- The percentage of women who had at least 1 heavy drinking day in the past year increased, from 11.2% in 2004 to 14.5% in 2013.

- The percentage of men or women who had at least 1 heavy drinking day in the past year was not significantly different between 2014 and 2016.

**Figure 9.2. Percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year, by age group and sex: United States, 2016**

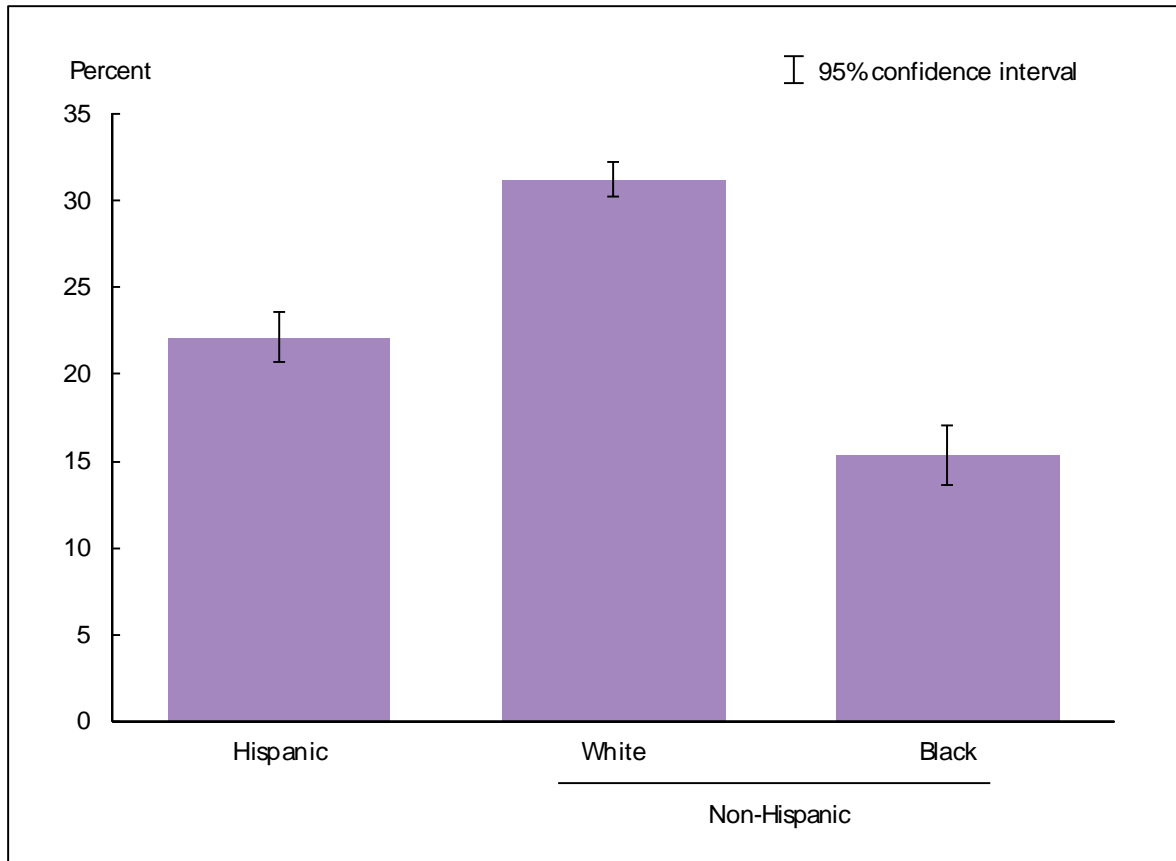


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Heavy drinking days are defined as days in which men consumed five or more drinks and women consumed four or more drinks. The analyses exclude the 1.1% of adults with unknown alcohol consumption. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For 2016, the percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year was 25.0% (95% confidence interval = 24.19%–25.86%).
- For both sexes combined, the percentage of adults who had at least 1 heavy drinking day in the past year was highest among adults aged 18–24 (32.8%) and 25–44 (35.2%), and decreased with increasing age after age 45. This pattern was also observed for men.
- For adults aged 18 and over and those aged 18–24, 25–44, 45–64, and 65 and over, men were more likely than women to have had at least 1 heavy drinking day in the past year.

**Figure 9.3. Age-sex-adjusted percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Heavy drinking days are defined as days in which men consumed five or more drinks and women consumed four or more drinks. The analyses exclude the 1.1% of adults with unknown alcohol consumption. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–24, 25–44, 45–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted percentage of adults by race and ethnicity who had at least 1 heavy drinking day in the past year was 22.1% for Hispanic adults, 31.2% for non-Hispanic white adults, and 15.4% for non-Hispanic black adults.
- Non-Hispanic white adults were the most likely to have had at least 1 heavy drinking day in the past year compared with Hispanic adults and non-Hispanic black adults. Hispanic adults were more likely to have had at least 1 heavy drinking day in the past year compared with non-Hispanic black adults.



## Data tables for Figures 9.1–9.3:

**Data table for Figure 9.1. Percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year, by sex: United States, 1997–2016**

Year and sex	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997, male	31.6 (30.6–32.5)	30.6 (29.7–31.5)
1997, female	12.1 (11.5–12.7)	12.2 (11.6–12.7)
1998, male	29.9 (28.9–30.9)	29.0 (28.1–29.9)
1998, female	11.4 (10.8–12.1)	11.5 (10.9–12.1)
1999, male	29.8 (28.7–30.9)	29.0 (28.0–30.0)
1999, female	11.7 (11.1–12.4)	11.8 (11.2–12.5)
2000, male	28.9 (27.9–29.9)	28.2 (27.2–29.2)
2000, female	10.6 (10.0–11.2)	10.8 (10.2–11.4)
2001, male	29.2 (28.3–30.2)	28.6 (27.7–29.4)
2001, female	11.6 (11.0–12.3)	11.9 (11.3–12.5)
2002, male	29.2 (28.2–30.3)	28.7 (27.7–29.7)
2002, female	11.5 (10.9–12.1)	11.8 (11.2–12.4)
2003, male	27.8 (26.7–28.8)	27.3 (26.3–28.3)
2003, female	11.3 (10.7–12.0)	11.6 (10.9–12.3)
2004, male	27.7 (26.6–28.8)	27.3 (26.2–28.4)
2004, female	11.2 (10.7–11.9)	11.6 (11.0–12.2)
2005, male	28.1 (27.14–29.15)	27.9 (26.91–28.81)
2005, female	11.6 (10.95–12.28)	12.0 (11.38–12.72)
2006, male	27.8 (26.54–29.01)	27.6 (26.38–28.72)
2006, female	12.1 (11.41–12.86)	12.6 (11.83–13.29)
2007, male	29.0 (27.58–30.44)	28.9 (27.56–30.27)
2007, female	12.4 (11.53–13.32)	13.0 (12.05–13.88)
2008, male	30.8 (29.38–32.24)	30.8 (29.42–32.19)
2008, female	13.8 (12.91–14.72)	14.5 (13.56–15.47)
2009, male	32.4 (31.05–33.80)	32.6 (31.20–33.91)
2009, female	13.8 (13.01–14.66)	14.5 (13.72–15.36)
2010, male	31.5 (30.36–32.66)	31.8 (30.64–32.89)
2010, female	14.6 (13.81–15.42)	15.4 (14.56–16.19)
2011, male	31.2 (30.08–32.28)	31.6 (30.54–32.67)
2011, female	13.6 (12.91–14.38)	14.4 (13.69–15.20)
2012, male	31.4 (30.28–32.52)	31.9 (30.80–33.06)
2012, female	14.2 (13.45–15.01)	15.2 (14.41–16.00)
2013, male	30.9 (29.82–32.01)	31.7 (30.60–32.71)
2013, female	14.5 (13.75–15.25)	15.6 (14.73–16.37)
2014, male <sup>3</sup>	31.4 (30.25–32.63)	32.3 (31.13–33.53)
2014, female <sup>3</sup>	18.9 (17.96–19.86)	20.2 (19.27–21.20)
2015, male <sup>3</sup>	29.9 (28.68–31.18)	30.8 (29.61–32.06)
2015, female <sup>3</sup>	17.4 (16.56–18.29)	18.6 (17.70–19.54)
2016, male <sup>3</sup>	31.6 (30.46–32.79)	32.7 (31.52–33.84)
2016, female <sup>3</sup>	18.9 (18.08–19.73)	20.3 (19.39–21.15)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–24, 25–44, 45–64, and 65 and over.

<sup>3</sup>For 1997–2013, the alcohol consumption estimates presented were for the percentage of adults aged 18 and over who had five or more drinks in 1 day at least once in the past year, regardless of sex. However, in the 2014 National Health Interview Survey (NHIS), the survey questions were changed; male and female respondents were asked about a different quantity of drinks consumed in a day in the past year. As a result, the estimates presented for 2014 and later were for men aged 18 and over who had five or more drinks in 1 day at least once in the past year and for women aged 18 and over who had four or more drinks in 1 day at least once in the past year. Differences observed in estimates for women based on the 2014 and earlier NHIS may be partially or fully attributable to these changes in the survey questions on alcohol consumption.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, NHIS transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 9.2. Percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–24 , total	32.8	30.48–35.02
18–24 , male	36.2	32.92–39.45
18–24 , female	29.3	26.46–32.17
25–44 , total	35.2	33.96–36.50
25–44 , male	43.6	41.62–45.59
25–44 , female	27.2	25.55–28.78
45–64 , total	21.9	20.60–23.23
45–64 , male	28.3	26.37–30.30
45–64 , female	15.9	14.78–17.01
65 and over, total	8.0	7.16–8.85
65 and over, male	11.9	10.27–13.50
65 and over, female	4.9	4.17–5.58
18 and over (crude <sup>1</sup> ), total	25.0	24.19–25.86
18 and over (crude <sup>1</sup> ), male	31.6	30.46–32.79
18 and over (crude <sup>1</sup> ), female	18.9	18.08–19.73
18 and over (age-adjusted <sup>2</sup> ), total	26.3	25.48–27.11
18 and over (age-adjusted <sup>2</sup> ), male	32.7	31.52–33.84
18 and over (age-adjusted <sup>2</sup> ), female	20.3	19.39–21.15

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–24, 25–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 9.3. Age-sex-adjusted percentage of adults aged 18 and over who had at least 1 heavy drinking day in the past year, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	22.1	20.69–23.60
Not Hispanic or Latino, single race, white	31.2	30.21–32.21
Not Hispanic or Latino, single race, black	15.4	13.64–17.06

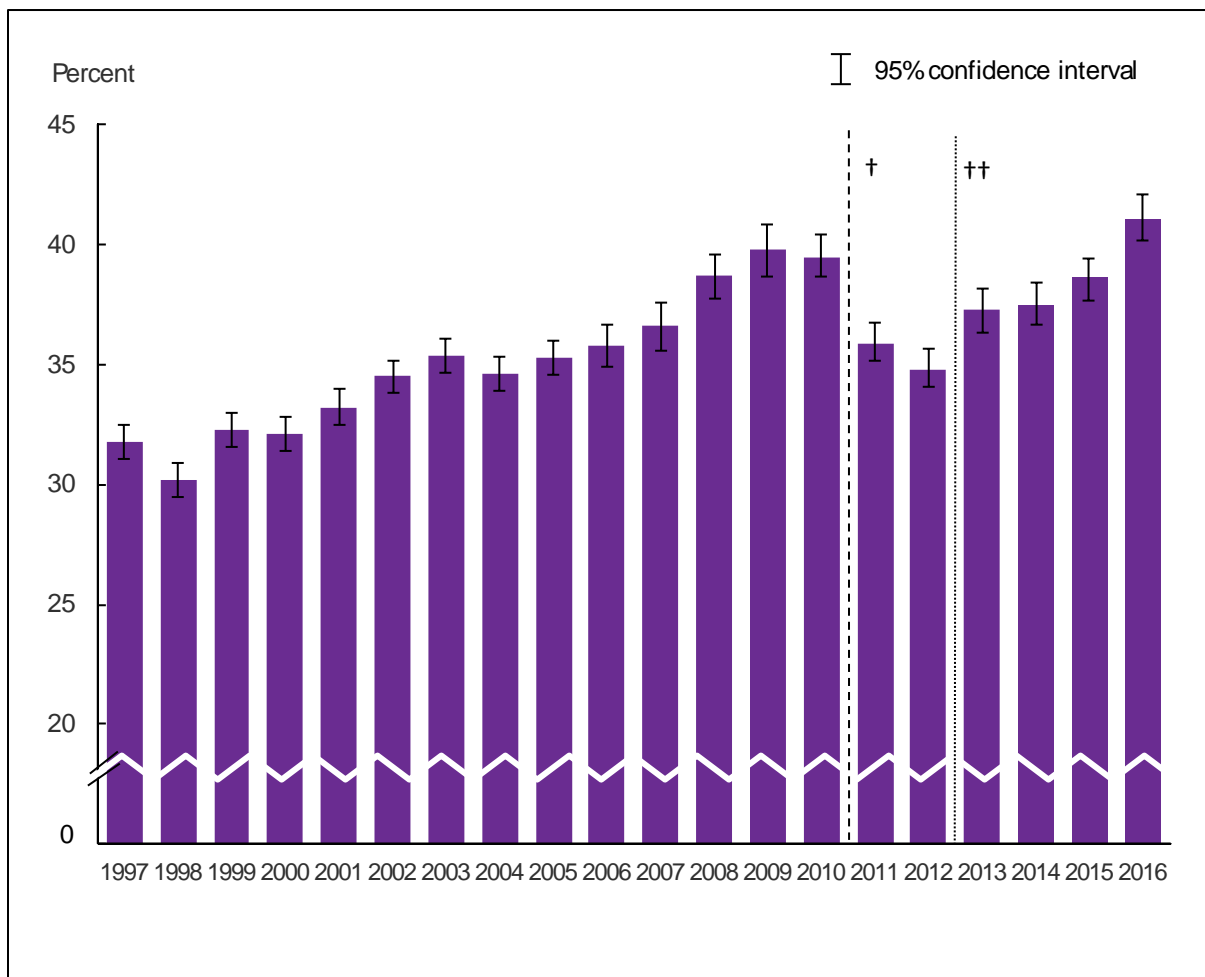
<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–24, 25–44, 45–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Human immunodeficiency virus testing

**Figure 10.1. Percentage of adults aged 18 and over who had ever been tested for HIV: United States, 1997–2016**



† The AIDS Knowledge and Attitudes section of the National Health Interview Survey (NHIS) was dropped in 2011; only the human immunodeficiency virus (HIV) testing question was retained, and it was moved to the Adult Access to Health Care and Utilization section of the Sample Adult questionnaire. HIV testing estimates based on 2011–2012 NHIS (dashed line) are not comparable with those from 2010 and earlier, or 2013 and later. Differences observed in estimates based on 2010 and earlier NHIS, 2011–2012 NHIS, and 2013 and later NHIS may be partially or fully attributable to these changes in placement of the HIV testing question in the NHIS questionnaire.

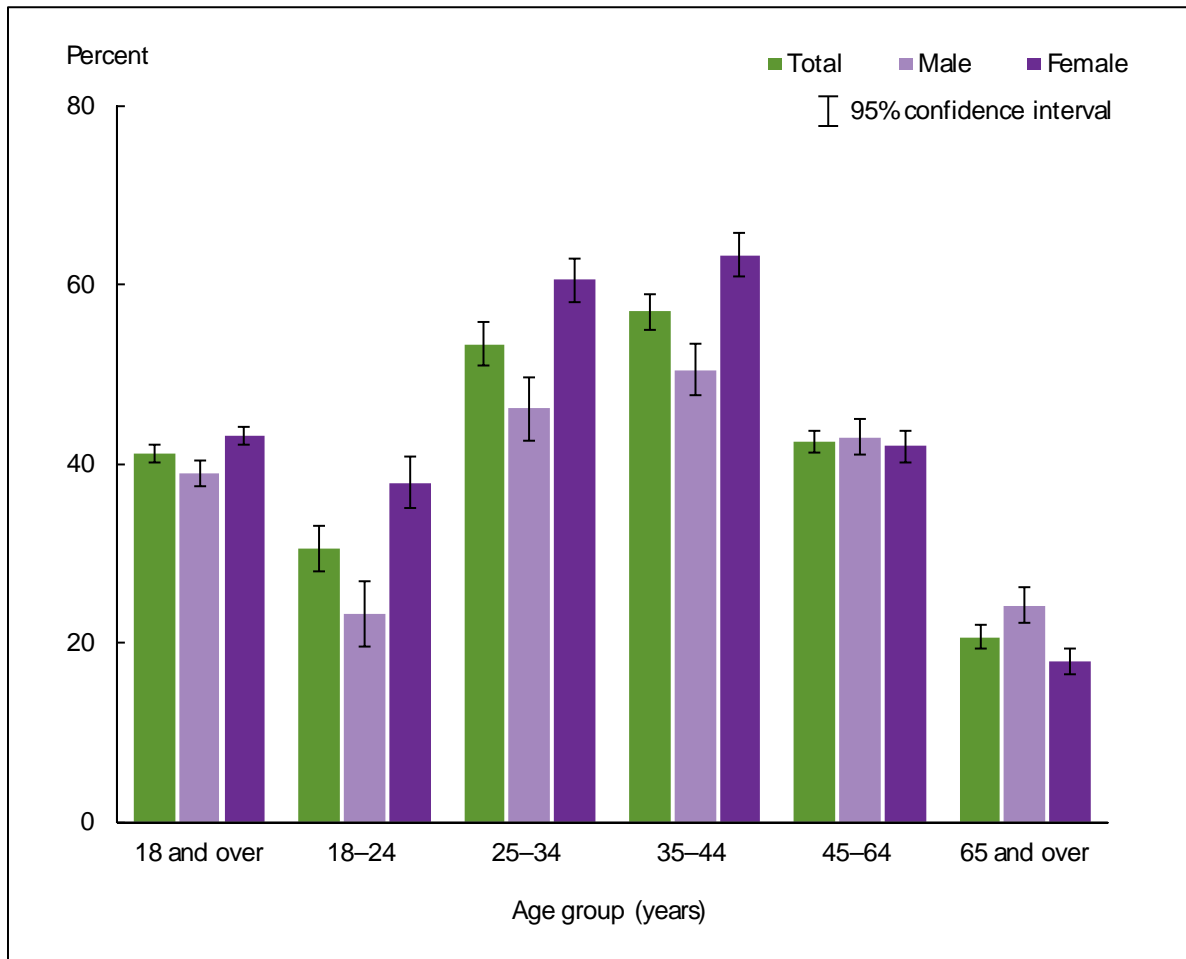
†† In 2013, the HIV testing question was moved from the Adult Access to Care and Utilization section of the Sample Adult questionnaire to the Adult Selected Items section of the Sample Adult questionnaire. HIV testing estimates based on 2013 and later NHIS (dotted line) are not comparable with those from 2012 and earlier. Differences observed in estimates based on 2012 and earlier NHIS and on 2013 and later NHIS may be partially or fully attributable to these changes in placement of the HIV testing question in the NHIS questionnaire.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Persons who received HIV testing solely as a result of blood donation were considered not to have been tested for HIV. The analyses exclude those with unknown HIV test status (about 5% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, the percentage of adults who had ever been tested for HIV was 41.1% (95% confidence interval = 40.1%–42.1%), which was higher than the 2015 estimate of 38.6%.
- The percentage of adults who had ever had an HIV test increased, from 31.8% in 1997 to 39.5% in 2010.
- From 2013 through 2016, the percentage of adults who had ever been tested for HIV increased, from 37.3% to 41.1%.

**Figure 10.2. Percentage of adults aged 18 and over who had ever been tested for HIV, by age group and sex: United States, 2016**

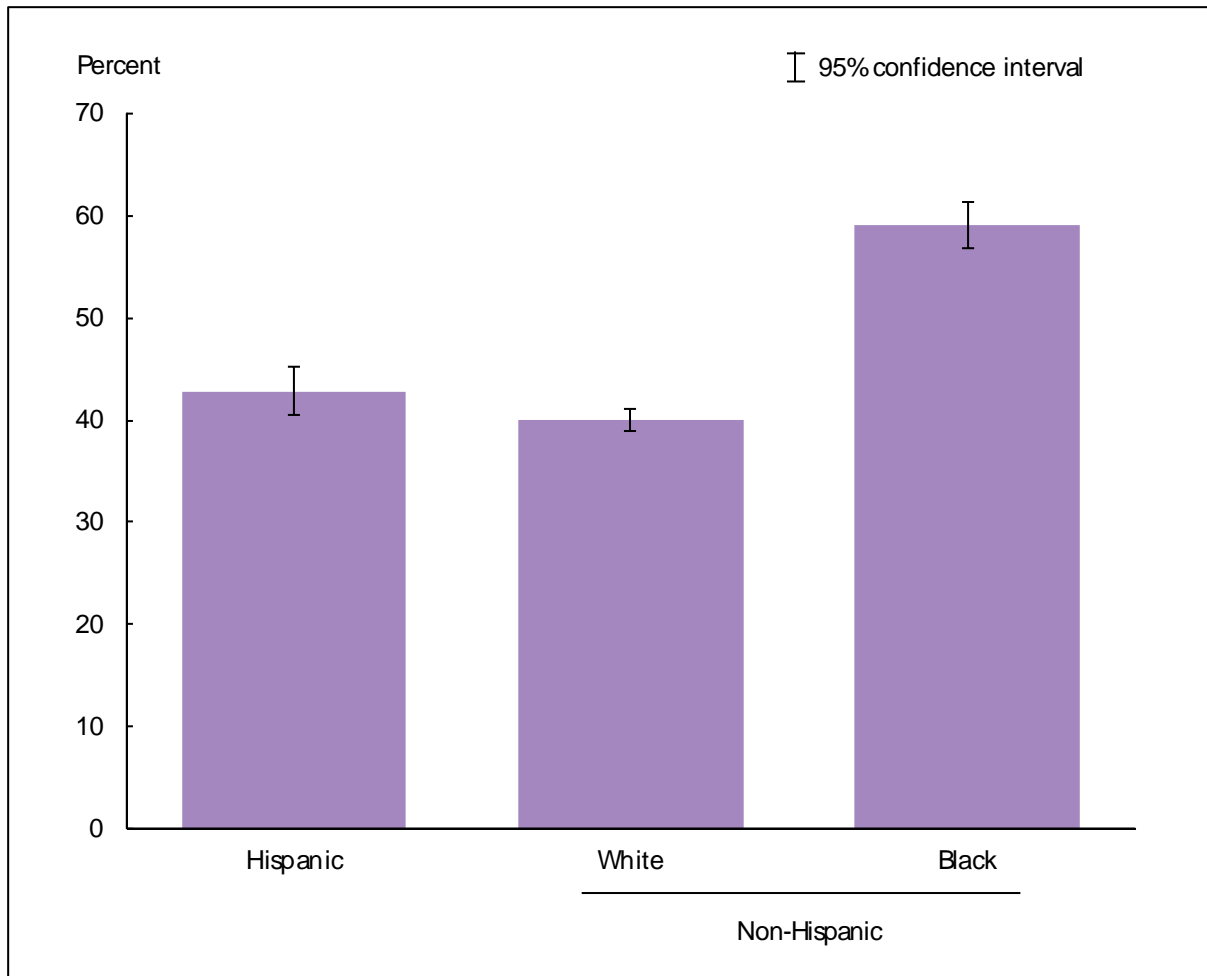


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Persons who received human immunodeficiency virus (HIV) testing solely as a result of blood donation were considered not to have been tested for HIV. The AIDS Knowledge and Attitudes section of the National Health Interview Survey (NHIS) was dropped in 2011; only the HIV testing question was retained, and it was moved to the Adult Access to Health Care and Utilization section of the Sample Adult questionnaire. In 2013, the HIV testing question was moved again to the Adult Selected Items section of the Sample Adult questionnaire and is not comparable with 2011–2012. Differences observed in estimates based on 2010 and earlier NHIS, 2011–2012 NHIS, and 2013 and later NHIS may be partially or fully attributable to these changes in placement of the HIV testing question in the NHIS questionnaire. The analyses exclude the 4.9% of adults with unknown HIV test status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, the percentage of persons by age group who ever had an HIV test was highest among adults aged 25–34 (53.4%) and 35–44 (57.0%) and lowest among adults aged 65 and over (20.7%). The percentage of males and females who ever had an HIV test was highest among adults aged 25–34 and 35–44 also.
- For adults aged 18 and over and those aged 18–24, 25–34, and 35–44, women were more likely than men to have ever had an HIV test. For adults aged 65 and over, women were less likely than men to have ever had an HIV test.

**Figure 10.3. Age-sex-adjusted percentage of adults aged 18 and over who had ever been tested for HIV, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Persons who received human immunodeficiency virus (HIV) testing solely as a result of blood donation were considered not to have been tested for HIV. The AIDS Knowledge and Attitudes section of the National Health Interview Survey (NHIS) was dropped in 2011; only the HIV testing question was retained, and it was moved to the Adult Access to Health Care and Utilization section of the Sample Adult questionnaire. In 2013, the HIV testing question was moved again to the Adult Selected Items section of the Sample Adult questionnaire and is not comparable with 2011–2012. Differences observed in estimates based on 2010 and earlier NHIS, 2011–2012 NHIS, and 2013 and later NHIS may be partially or fully attributable to these changes in placement of the HIV testing question in the NHIS questionnaire. The analyses exclude the 4.9% of adults with unknown HIV test status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted percentage of persons by race and ethnicity who ever had an HIV test was 42.8% for Hispanic persons, 40.0% for non-Hispanic white persons, and 59.0% for non-Hispanic black persons.
- Of the three race and ethnicity groups, non-Hispanic black persons were more likely to have ever had an HIV test compared with Hispanic and non-Hispanic white persons.

## Data tables for Figures 10.1–10.3:

**Data table for Figure 10.1. Percentage of adults aged 18 and over who had ever been tested for HIV: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	31.8 (31.1–32.5)	31.0 (30.4–31.6)
1998	30.2 (29.5–30.9)	29.6 (28.9–30.2)
1999	32.3 (31.6–33.0)	31.8 (31.1–32.5)
2000	32.1 (31.4–32.8)	31.8 (31.2–32.5)
2001	33.2 (32.5–34.0)	33.1 (32.4–33.7)
2002	34.5 (33.8–35.2)	34.5 (33.8–35.1)
2003	35.4 (34.7–36.1)	35.3 (34.7–36.0)
2004	34.6 (33.9–35.3)	34.8 (34.1–35.5)
2005	35.3 (34.58–36.01)	35.4 (34.73–36.10)
2006	35.8 (34.94–36.70)	36.1 (35.25–36.92)
2007	36.6 (35.59–37.62)	37.0 (35.28–38.79)
2008	38.7 (37.73–39.59)	39.2 (38.40–40.09)
2009	39.8 (38.70–40.84)	40.4 (39.36–41.40)
2010	39.5 (38.65–40.41)	40.3 (39.52–41.15)
2011 <sup>3</sup>	35.9 (35.14–36.72)	36.7 (35.97–37.51)
2012	34.8 (34.04–35.64)	35.8 (34.98–36.62)
2013 <sup>3</sup>	37.3 (36.33–38.20)	38.3 (37.42–39.25)
2014	37.5 (36.66–38.41)	38.8 (37.92–39.71)
2015	38.6 (37.66–39.45)	39.8 (38.95–40.73)
2016	41.1 (40.18–42.10)	42.4 (41.47–43.32)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

<sup>3</sup>The AIDS Knowledge and Attitudes section of the National Health Interview Survey (NHIS) was dropped in 2011; only the HIV testing question was retained, and it was moved to the Adult Access to Health Care and Utilization section of the Sample Adult questionnaire. In 2013, the HIV testing question was moved again to the Adult Selected Items section of the Sample Adult questionnaire. HIV testing estimates from these three periods (2010 and earlier, 2011–2012, and 2013 and later) are not comparable; differences observed in estimates may be partially or fully attributable to these changes in placement of the HIV testing question in the NHIS questionnaire.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, NHIS transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 10.2. Percentage of adults aged 18 and over who had ever been tested for HIV, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–24 , total	30.5	28.02–33.03
18–24 , male	23.3	19.68–26.87
18–24 , female	37.9	35.00–40.75
25–34 , total	53.4	51.00–55.79
25–34 , male	46.2	42.68–49.64
25–34 , female	60.5	58.11–62.90
35–44 , total	57.0	55.05–58.96
35–44 , male	50.5	47.71–53.33
35–44 , female	63.3	60.87–65.71
45–64 , total	42.5	41.15–43.75
45–64 , male	43.0	41.01–44.94
45–64 , female	42.0	40.23–43.69
65 and over, total	20.7	19.40–21.96
65 and over, male	24.1	22.18–26.12
65 and over, female	17.9	16.45–19.29
18–64 , total	46.1	44.99–47.15
18–64 , male	42.2	40.61–43.80
18–64 , female	49.8	48.60–51.01
18 and over (crude <sup>1</sup> ), total	41.1	40.18–42.10
18 and over (crude <sup>1</sup> ), male	39.0	37.53–40.39
18 and over (crude <sup>1</sup> ), female	43.2	42.22–44.14
18 and over (age-adjusted <sup>2</sup> ), total	42.4	41.47–43.32
18 and over (age-adjusted <sup>2</sup> ), male	39.5	38.06–40.88
18 and over (age-adjusted <sup>2</sup> ), female	30.5	28.02–33.03

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.



**Data table for Figure 10.3. Age-sex-adjusted percentage of adults aged 18 and over who had ever been tested for HIV, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	42.8	40.58–45.12
Not Hispanic or Latino, single race, white	40.0	38.98–41.10
Not Hispanic or Latino, single race, black	59.0	56.77–61.24

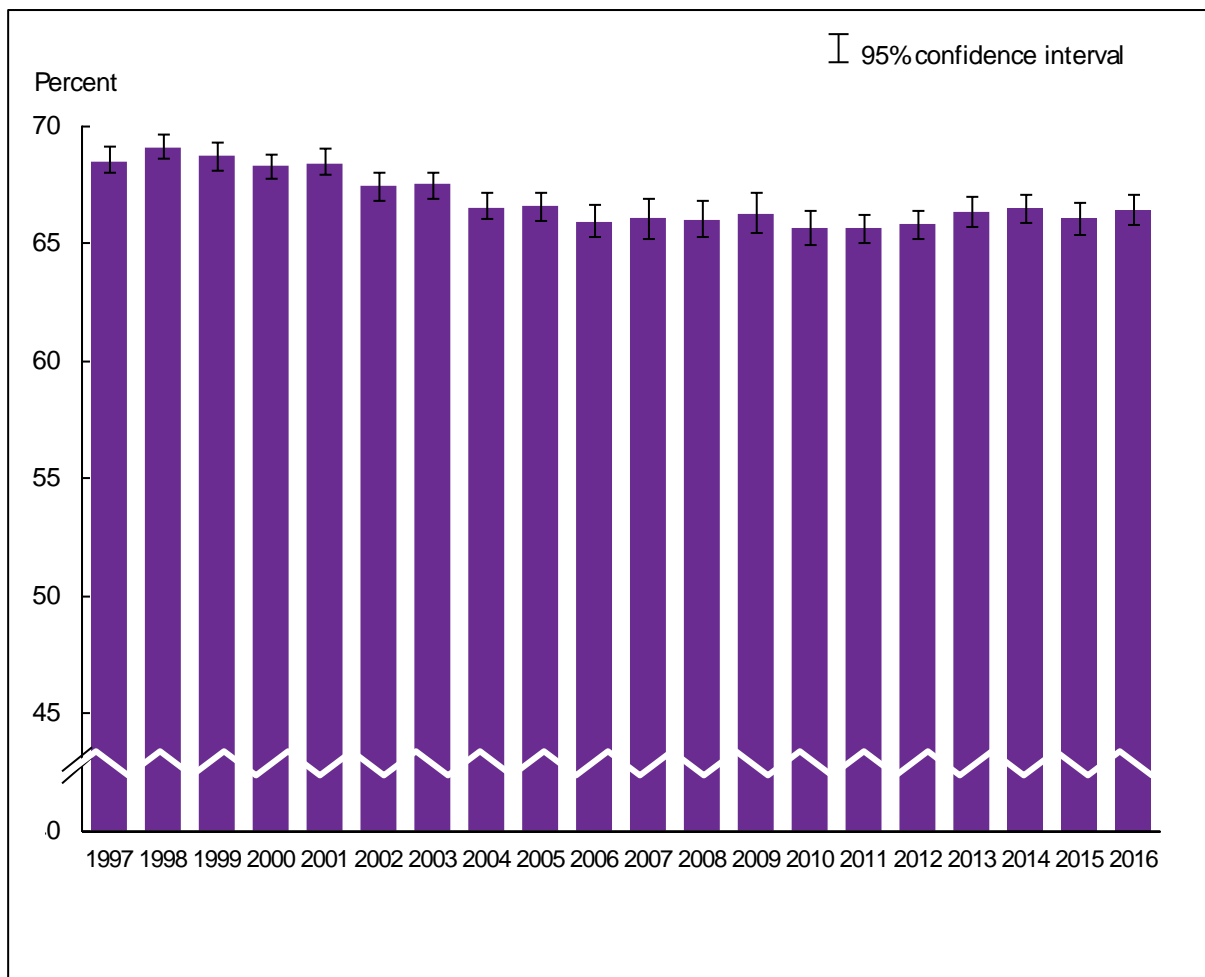
<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## General health status

**Figure 11.1. Percentage of persons of all ages who had excellent or very good health: United States, 1997–2016**

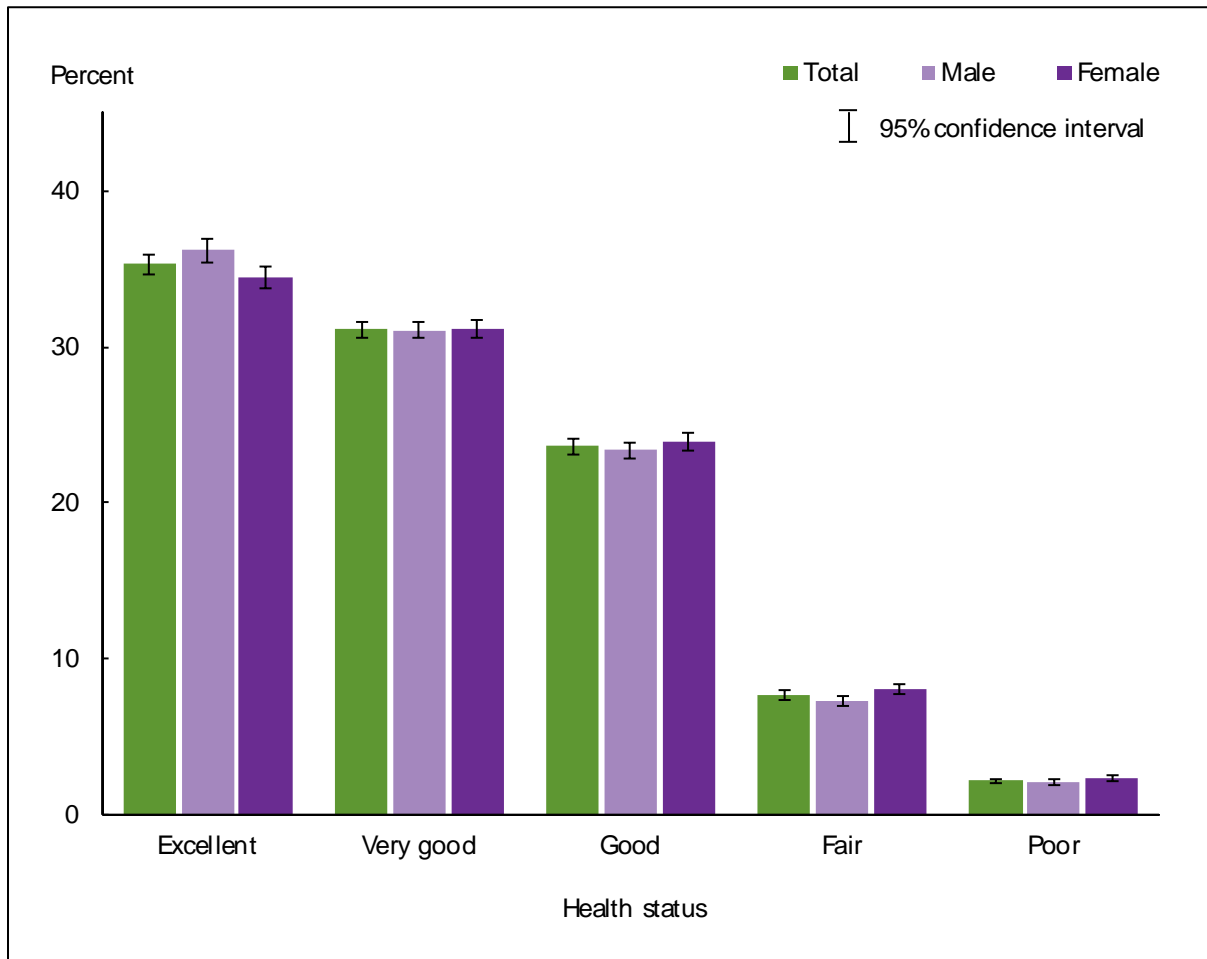


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses exclude persons with unknown health status (about 0.1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

- For 2016, the percentage of persons who had excellent or very good health was 66.4% (95% confidence interval = 65.76%–67.09%), which was not significantly different from the 2015 estimate of 66.1%.
- The percentage of persons who had excellent or very good health decreased, from 68.5% in 1997 to 65.9% in 2006. Since 2006, the percentage of persons who had excellent or very good health has remained stable.

**Figure 11.2. Percent distribution of respondent–assessed health status for all ages, by sex: United States, 2016**

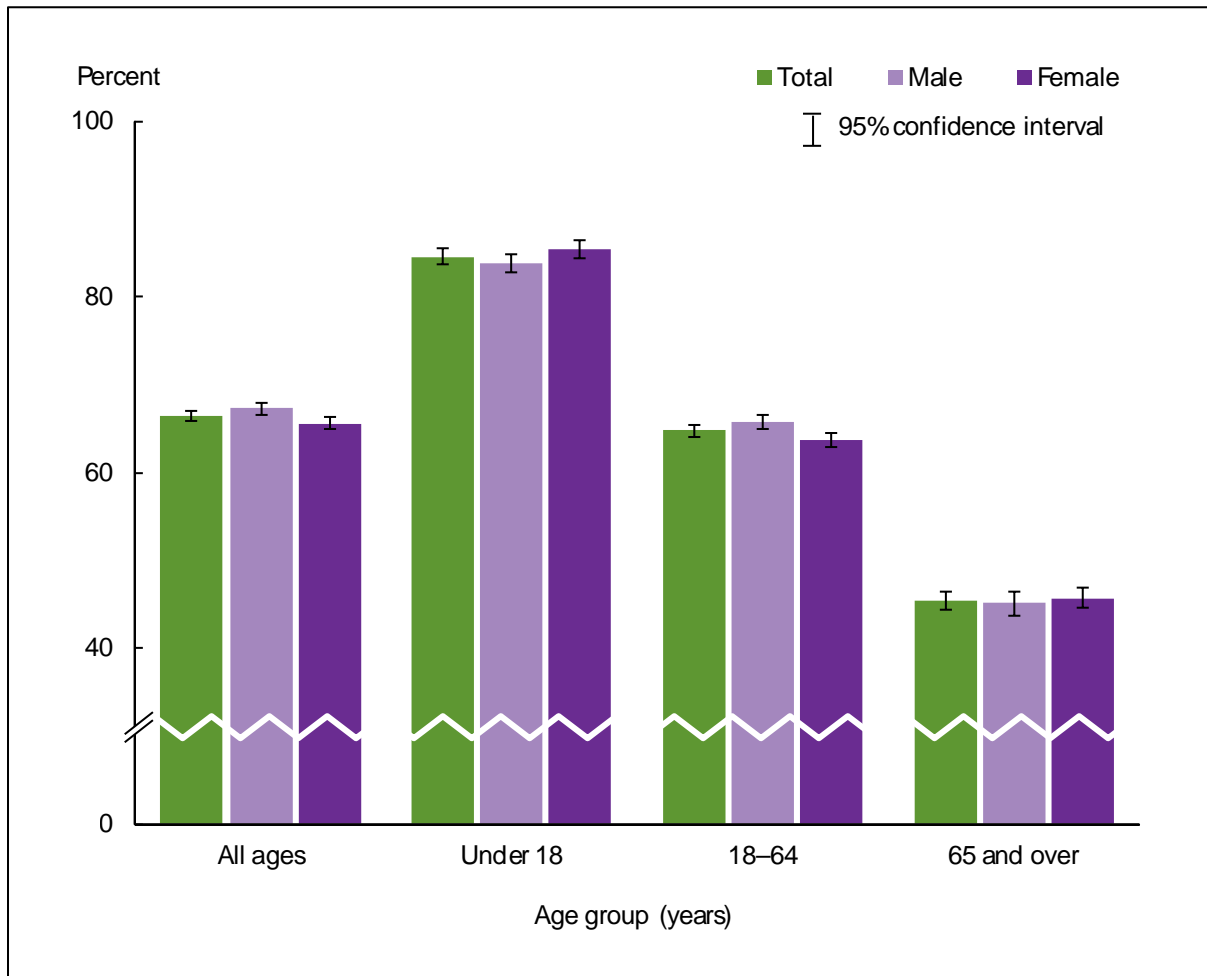


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses exclude the 0.1% of persons with unknown health status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- For both sexes combined, most persons' health was either excellent (35.3%) or very good (31.1%). A smaller percentage of persons had good (23.7%), fair (7.7%), or poor (2.2%) health. This pattern held for males and females.
- Men were more likely to have excellent health compared with women. Women were more likely than men to have fair or poor health.

**Figure 11.3. Percentage of persons of all ages who had excellent or very good health, by age group and sex: United States, 2016**

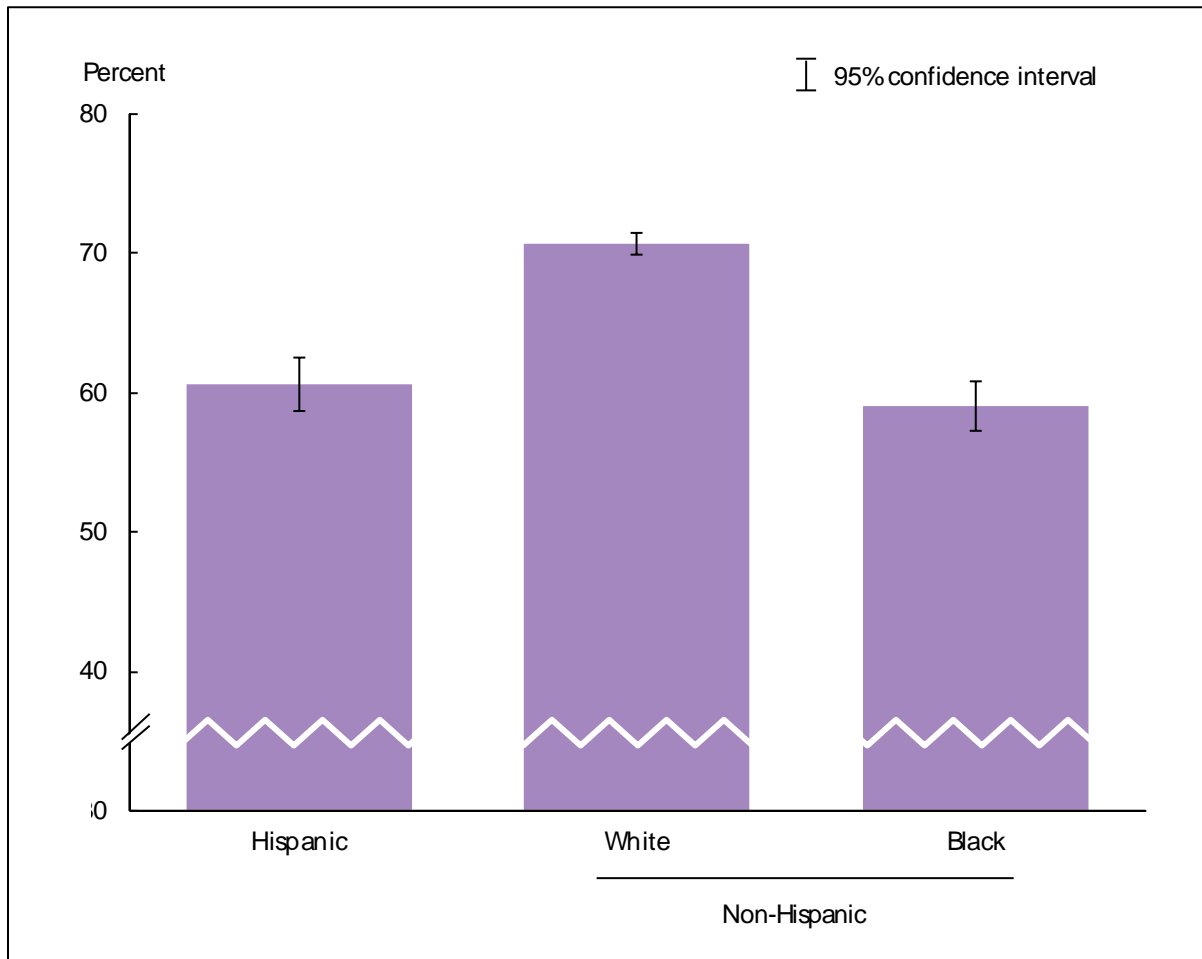


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses exclude the 0.1% of persons with unknown health status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- For both sexes combined, the percentage of persons with excellent or very good health decreased with age, 84.6% for those under age 18 years to 64.7% for those aged 18-64, and 45.5% for those aged 65 and over. This pattern was observed in both men and women.
- For adults of all ages and those aged 18-64, men were more likely than women to have excellent or very good health.
- For persons under age 18 years, females were more likely than males to have excellent or very good health.

**Figure 11.4. Age-sex-adjusted percentage of persons of all ages who had excellent or very good health, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses exclude the 0.1% of persons with unknown health status. Estimates are age-sex adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- After adjustment for age and sex, the percentage of persons by race and ethnicity who had excellent or very good health was 60.6% for Hispanic persons, 70.7% for non-Hispanic white persons, and 59.0% for non-Hispanic black persons.
- Of the three race and ethnicity groups, non-Hispanic white persons were more likely to have excellent or very good health compared with non-Hispanic black persons and Hispanic persons.

## Data tables for Figures 11.1–11.4:

**Data table for Figure 11.1. Percentage of persons of all ages who had excellent or very good health: United States, 1997–2016**

Year	Percent	95% confidence interval
1997	68.5	68.0–69.1
1998	69.1	68.6–69.6
1999	68.7	68.1–69.3
2000	68.3	67.7–68.8
2001	68.4	67.9–69.0
2002	67.4	66.8–68.0
2003	67.5	66.9–68.0
2004	66.5	66.0–67.1
2005	66.5	65.98–67.11
2006	65.9	65.25–66.61
2007	66.0	65.18–66.88
2008	66.0	65.30–66.79
2009	66.3	65.46–67.10
2010	65.7	64.95–66.35
2011	65.6	64.98–66.24
2012	65.8	65.19–66.41
2013	66.3	65.70–66.93
2014	66.5	65.85–67.08
2015	66.1	65.37–66.73
2016	66.4	65.76–67.09

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

**Data table for Figure 11.2. Percent distribution of respondent–assessed health status, by sex for all ages: United States, 2016**

Health status and sex	Percent	95% confidence interval
Excellent, total	35.3	34.66–35.92
Excellent, male	36.2	35.46–36.90
Excellent, female	34.4	33.72–35.15
Very good, total	31.1	30.62–31.66
Very good, male	31.1	30.54–31.64
Very good, female	31.2	30.57–31.79
Good, total	23.7	23.16–24.17
Good, male	23.4	22.81–23.92
Good, female	23.9	23.38–24.52
Fair, total	7.7	7.43–7.97
Fair, male	7.3	6.95–7.61
Fair, female	8.1	7.77–8.44
Poor, total	2.2	2.08–2.34
Poor, male	2.1	1.93–2.25
Poor, female	2.3	2.17–2.50

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

**Data table for Figure 11.3. Percentage of persons of all ages who had excellent or very good health, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
Under 18, total	84.6	83.66–85.54
Under 18, male	83.8	82.82–84.87
Under 18, female	85.4	84.32–86.45
18–64, total	64.7	63.99–65.50
18–64, male	65.8	64.88–66.63
18–64, female	63.8	62.98–64.59
65 and over, total	45.5	44.48–46.44
65 and over, male	45.1	43.76–46.45
65 and over, female	45.7	44.63–46.85
All ages (crude <sup>1</sup> ), total	66.4	65.76–67.09
All ages (crude <sup>1</sup> ), male	67.3	66.53–68.01
All ages (crude <sup>1</sup> ), female	65.6	64.89–66.34
All ages (age-adjusted <sup>2</sup> ), total	67.4	66.76–68.09
All ages (age-adjusted <sup>2</sup> ), male	67.8	67.05–68.56
All ages (age-adjusted <sup>2</sup> ), female	67.1	66.36–67.78

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

**Data table for Figure 11.4. Age-sex-adjusted percentage of persons of all ages who had excellent or very good health, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	60.6	58.70–62.48
Not Hispanic or Latino, single race, white	70.7	69.93–71.43
Not Hispanic or Latino, single race, black	59.0	57.23–60.86

<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: under 18 years, 18–64, and 65 and over.

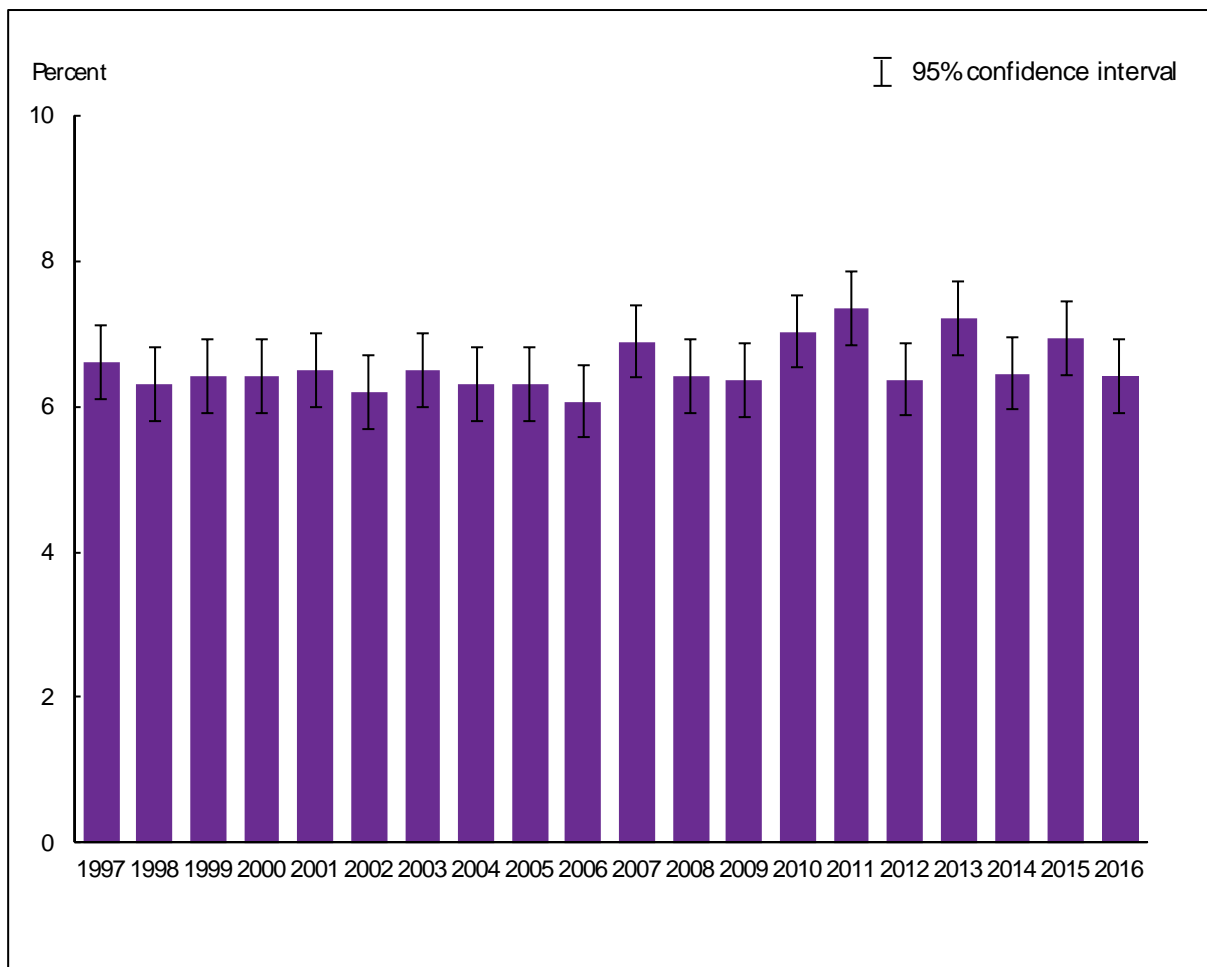
NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.



## Personal care needs

**Figure 12.1. Percentage of adults aged 65 and over who needed help with personal care from other persons: United States, 1997–2016**

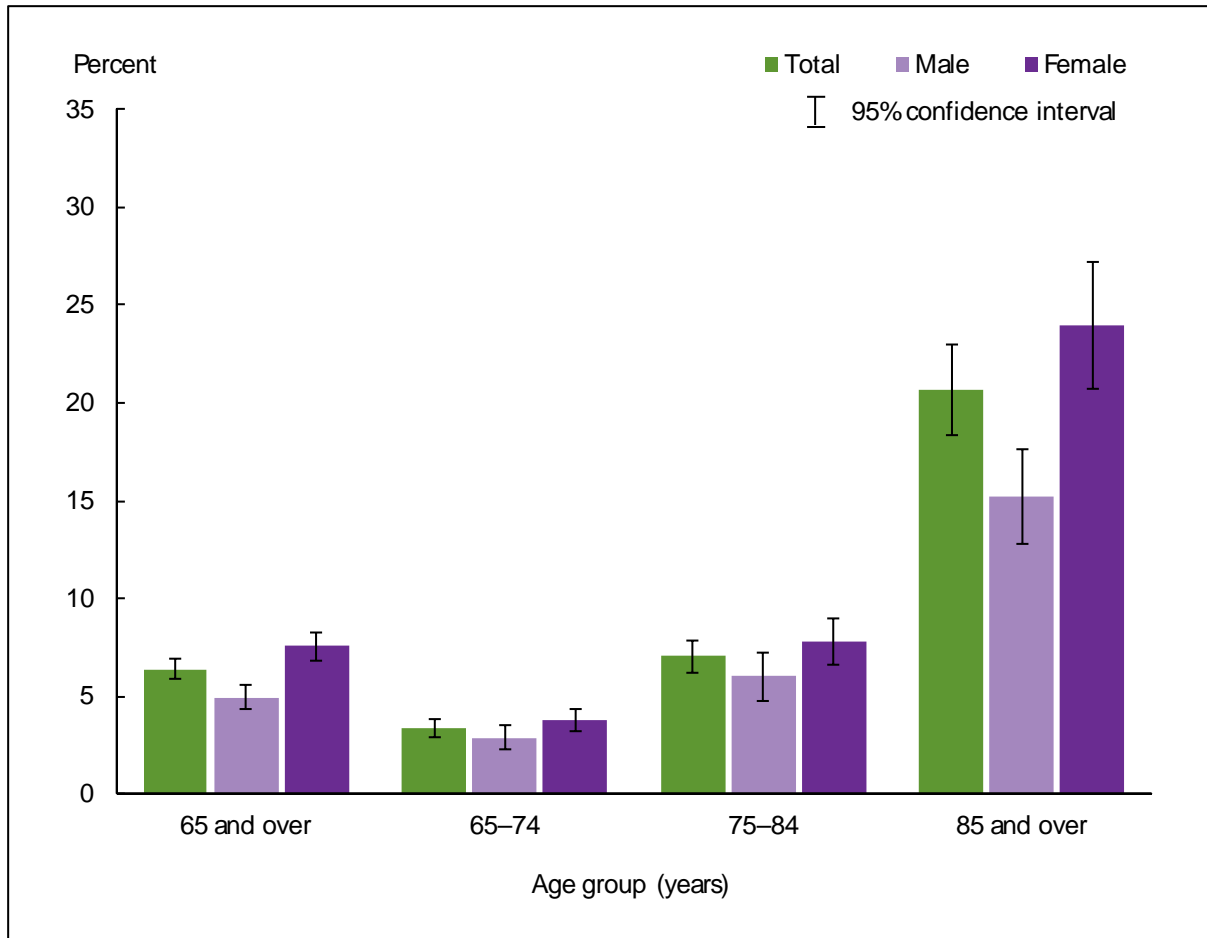


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Personal care needs, or activities of daily living, include eating, bathing, dressing, and getting around inside the person’s home. The analyses exclude persons with unknown information on personal care needs (less than 0.1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

- For 2016, 6.4% (95% confidence interval = 5.90%–6.91%) of adults aged 65 and over needed help with personal care from other persons. This estimate was lower than, but not significantly different from, the 2015 estimate of 6.9%.
- From 1997–2016, no clear trend was observed in the percentage of older adults who needed help with personal care from other persons.

**Figure 12.2. Percentage of adults aged 65 and over who needed help with personal care from other persons, by age group and sex: United States, 2016**

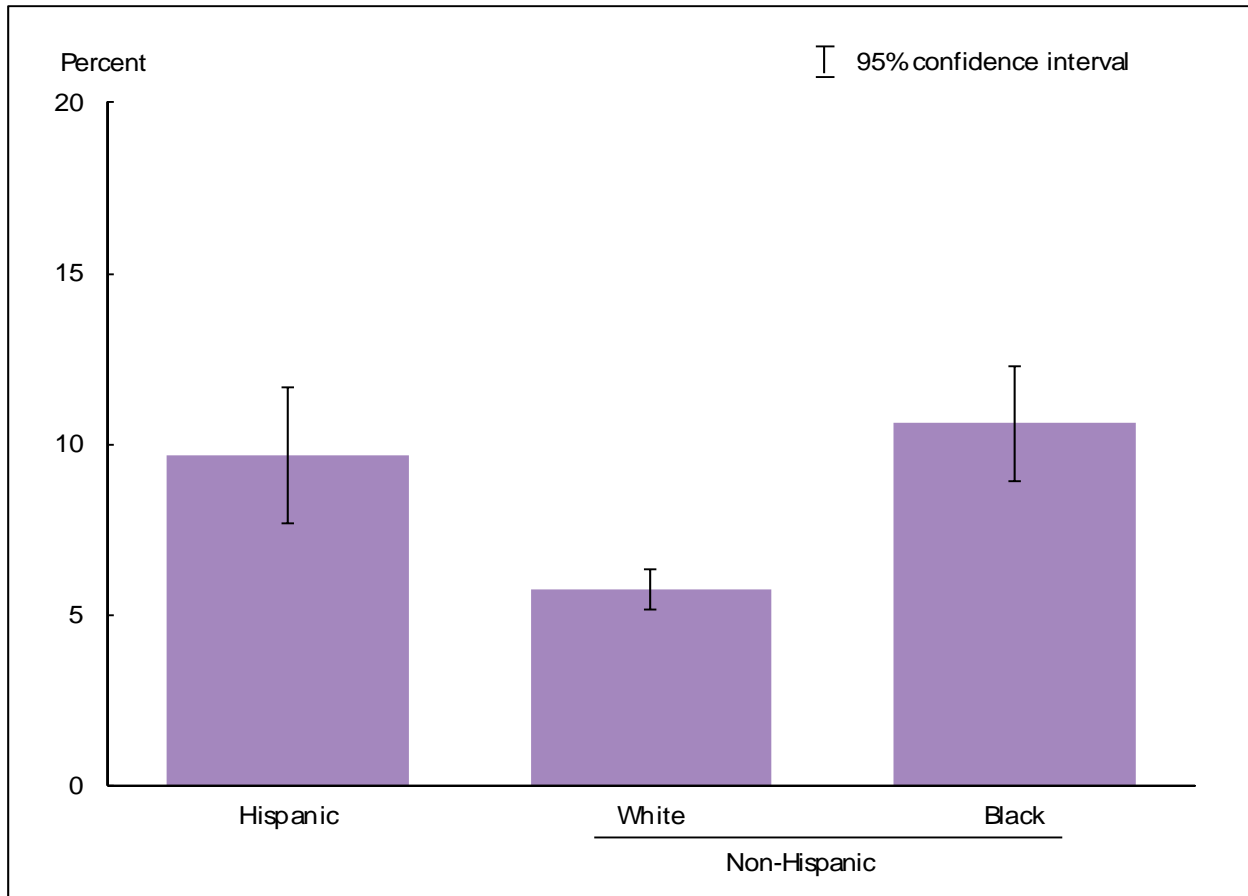


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Personal care needs, or activities of daily living, include eating, bathing, dressing, and getting around inside the person's home. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- For both sexes combined, adults aged 85 and over (20.7%) were almost three times as likely as adults aged 75-84 (7.0%) to need help with personal care from other persons, and adults aged 85 and over were more than six times as likely as adults aged 65-74 (3.4%) to need help with personal care from other persons.
- Among males and females aged 65 and over, the need for help with personal care from other persons increased with age.
- For adults aged 65 and over, and age groups 75-84 and 85 and over, women were more likely than men to need help with personal care from other persons.

**Figure 12.3. Age-sex-adjusted percentage of adults aged 65 and over who needed help with personal care from other persons, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Personal care needs, or activities of daily living, include eating, bathing, dressing, and getting around inside the person's home. Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 65–74, 75–84, and 85 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

- The age-sex-adjusted percentage of adults aged 65 and over by race and ethnicity who needed help with personal care from other persons was 9.7% for Hispanic adults, 5.8% for non-Hispanic white adults, and 10.6% for non-Hispanic black adults.
- Non-Hispanic white adults were less likely to need help with personal care from other persons compared with Hispanic adults and non-Hispanic black adults.

## Data tables for Figures 12.1–12.3:

**Data table for Figure 12.1. Percentage of adults aged 65 and over who needed help with personal care from other persons: United States, 1997–2016**

Year	Percent	95% confidence interval
1997	6.6	6.1–7.1
1998	6.3	5.9–6.8
1999	6.4	5.8–6.9
2000	6.4	5.9–6.9
2001	6.5	6.0–7.0
2002	6.2	5.7–6.7
2003	6.5	6.0–7.1
2004	6.3	5.8–6.8
2005	6.3	5.83–6.76
2006	6.1	5.44–6.69
2007	6.9	6.21–7.58
2008	6.4	5.84–7.03
2009	6.4	5.80–6.92
2010	7.0	6.43–7.62
2011	7.3	6.83–7.84
2012	6.4	5.91–6.82
2013	7.2	6.67–7.76
2014	6.5	5.98–6.93
2015	6.9	6.39–7.46
2016	6.4	5.90–6.91

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Family Core component.

**Data table for Figure 12.2. Percentage of adults aged 65 and over who needed help with personal care from other persons, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
65–74 , total	3.4	2.92–3.80
65–74 , male	2.9	2.25–3.55
65–74 , female	3.8	3.19–4.32
75–84 , total	7.0	6.22–7.84
75–84 , male	6.0	4.76–7.26
75–84 , female	7.8	6.60–9.01
85 and over, total	20.7	18.40–22.97
85 and over, male	15.2	12.84–17.60
85 and over, female	23.9	20.68–27.19
65 and over (crude <sup>1</sup> ), total	6.4	5.90–6.91
65 and over (crude <sup>1</sup> ), male	5.0	4.31–5.60
65 and over (crude <sup>1</sup> ), female	7.6	6.87–8.27
65 and over (age-adjusted <sup>2</sup> ), total	6.8	6.29–7.28
65 and over (age-adjusted <sup>2</sup> ), male	5.5	4.83–6.20
65 and over (age-adjusted <sup>2</sup> ), female	7.7	7.01–8.33

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 65–74, 75–84, and 85 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

**Data table for Figure 12.3. Age-sex-adjusted percentage of adults aged 65 and over who needed help with personal care from other persons, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	9.7	7.70–11.66
Not Hispanic or Latino, single race, white	5.8	5.19–6.38
Not Hispanic or Latino, single race, black	10.6	8.95–12.32

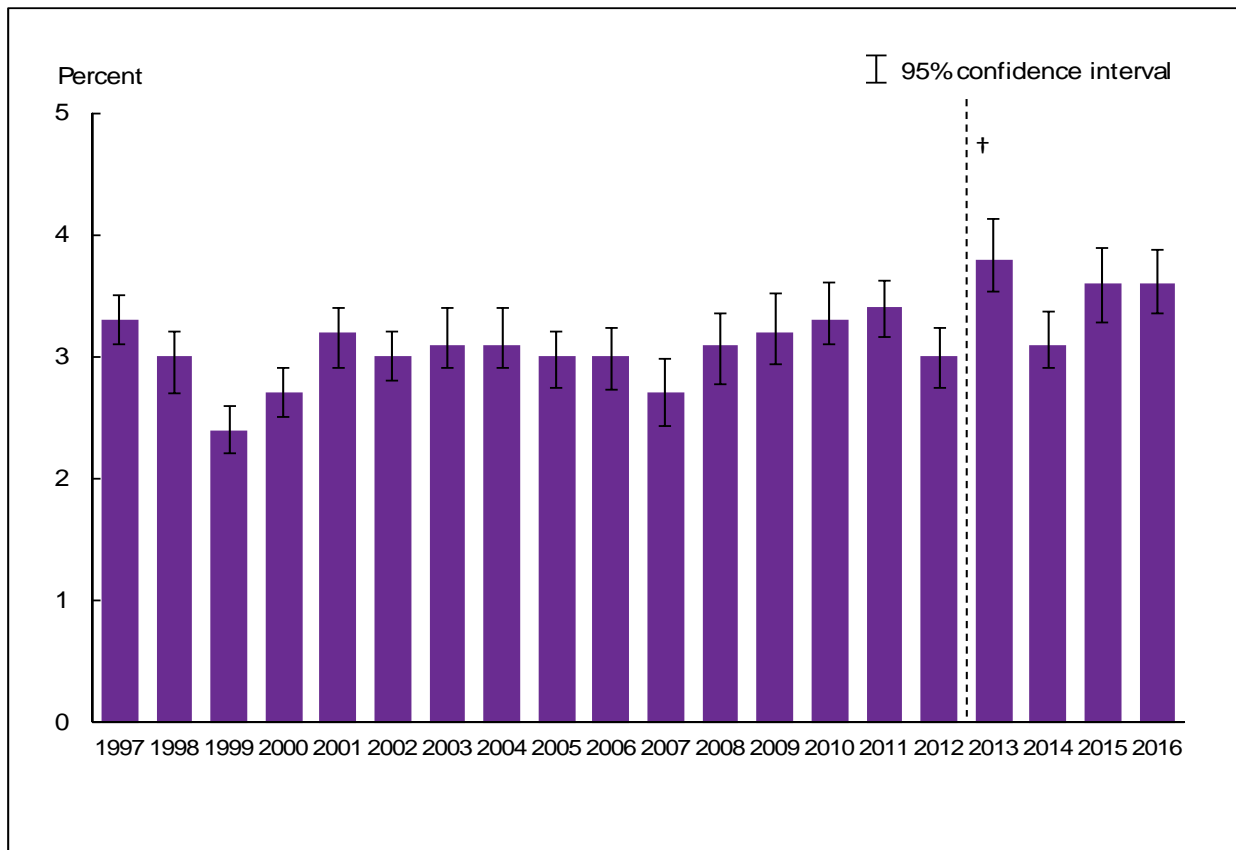
<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 65–74, 75–84, and 85 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Family Core component.

## Serious psychological distress

**Figure 13.1. Percentage of adults aged 18 and over who experienced serious psychological distress during the past 30 days: United States, 1997–2016**



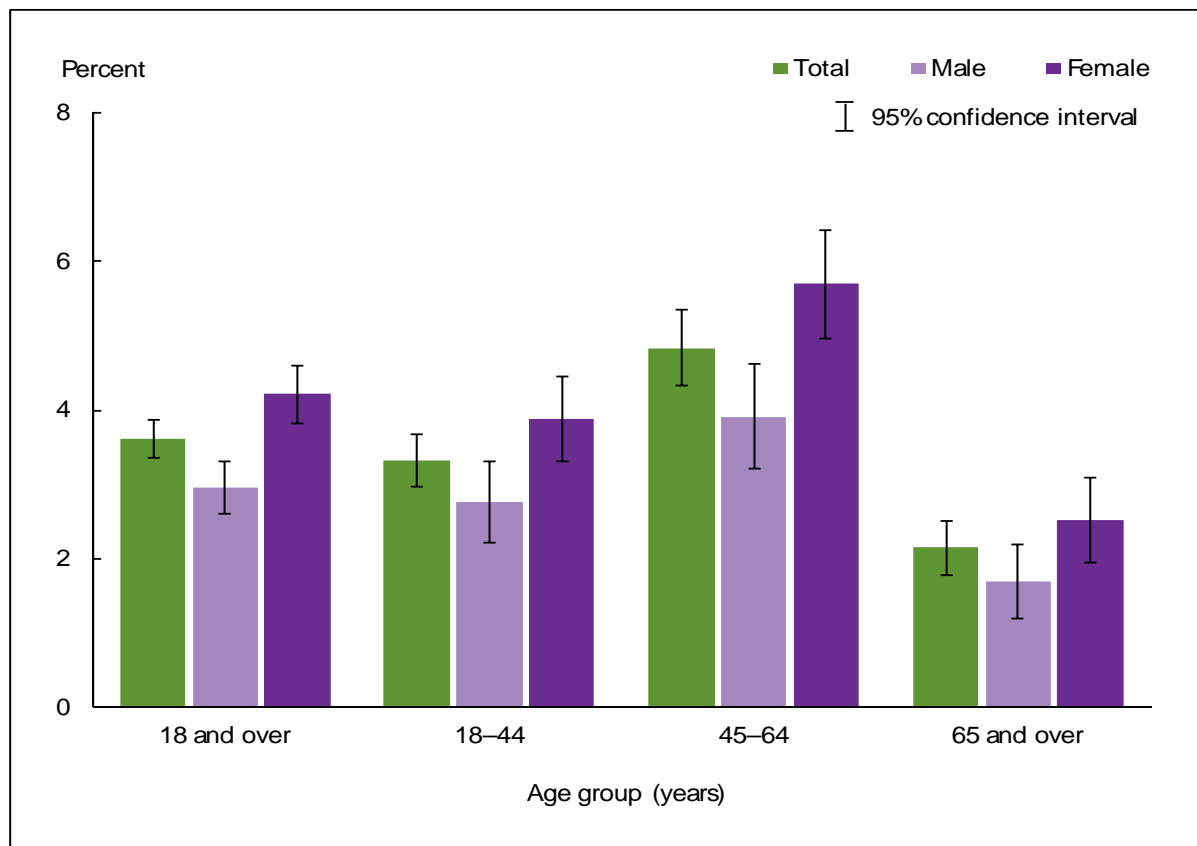
† In 2013, the six psychological distress questions were moved to the Adult Selected Items section of the Sample Adult questionnaire (dashed line). Differences observed in estimates based on 2012 and earlier National Health Interview Surveys (NHIS) and 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions in the NHIS questionnaire. Due to the higher-than-usual amount of missing data in the Adult Selected Items section, adults with missing data for any of the six psychological distress questions are excluded from the calculation of the serious psychological distress indicator for 2013 and later.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Six psychological distress questions are included in the Sample Adult Core component of NHIS. These questions ask how often a respondent experienced certain symptoms of psychological distress during the past 30 days. The response codes (0–4) of the six items for each person are summed to yield a scale with a 0–24 range. A value of 13 or more for this scale is used here to define serious psychological distress (12). The analyses exclude those with unknown serious psychological distress status (about 4% of respondents in 2013 and later). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, 3.6% (95% confidence interval = 3.35%–3.88%) of adults aged 18 and over had experienced serious psychological distress during the past 30 days. This estimate was the same as the 2015 estimate of 3.6%.
- The percentage of adults who had experienced serious psychological distress during the past 30 days increased, from 2.7% in 2007 to 3.4% in 2011, then decreased to 3.0% in 2012.
- From 2014 through 2016, the percentage of adults who had experienced serious psychological distress during the past 30 days increased from 3.1% to 3.6%.

**Figure 13.2. Percentage of adults aged 18 and over who experienced serious psychological distress during the past 30 days, by age group and sex: United States, 2016**

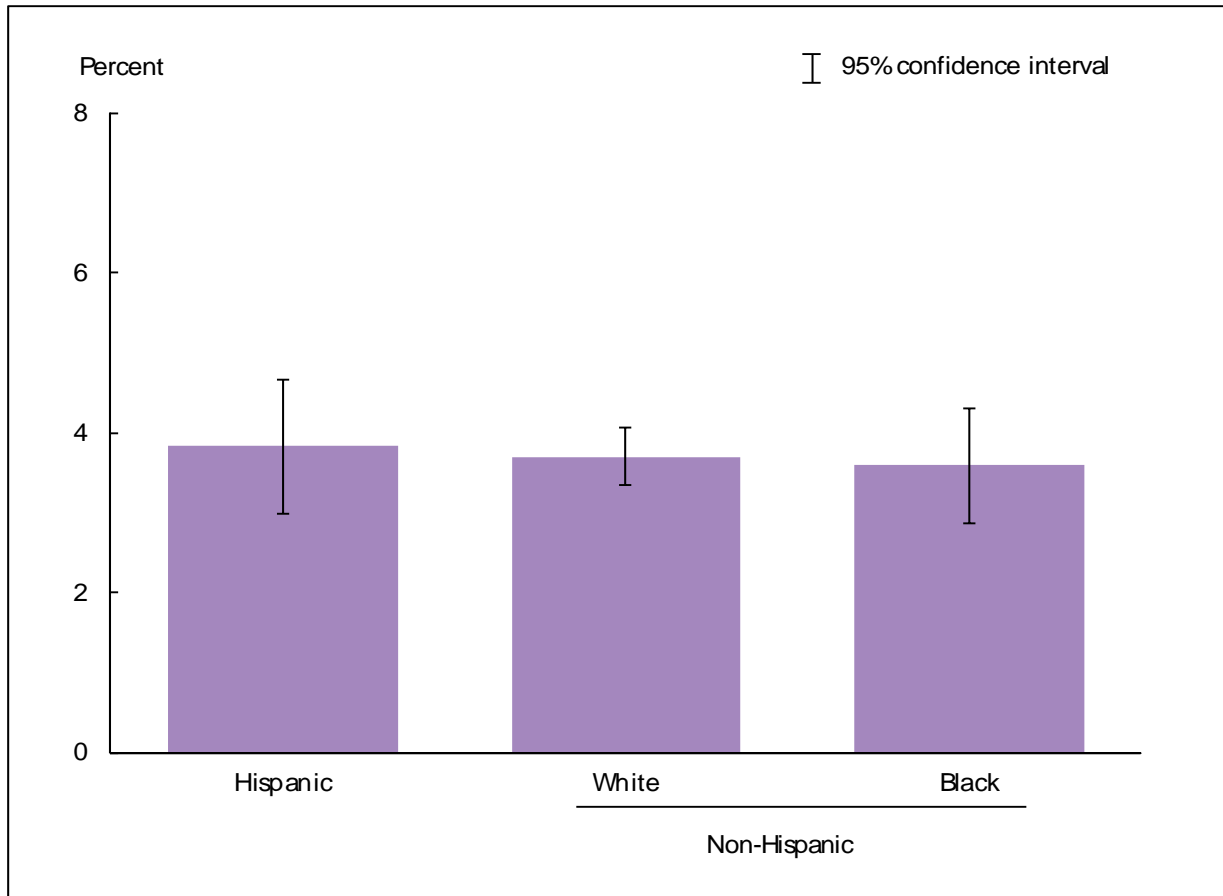


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Six psychological distress questions are included in the Sample Adult Core component of the National Health Interview Survey (NHIS). These questions ask how often a respondent experienced certain symptoms of psychological distress during the past 30 days. The response codes (0–4) of the six items for each person are summed to yield a scale with a 0–24 range. A value of 13 or more for this scale is used here to define serious psychological distress (12). In 2013, the six psychological distress questions were moved to the Adult Selected Items section of the Sample Adult questionnaire. Differences observed in estimates based on 2012 and earlier NHIS and 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions in the NHIS questionnaire. The analyses exclude the 3.5% of persons with unknown serious psychological distress status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, the percentage of persons by age group who had experienced serious psychological distress during the past 30 days was 3.3% for adults aged 18–44, 4.8% for adults aged 45–64, and 2.2% for adults aged 65 and over.
- For adults aged 18 and over, and age groups 18–44, 45–64 and 65 and over, women were more likely than men to have experienced serious psychological distress during the past 30 days.

**Figure 13.3. Age-sex-adjusted percentage of adults aged 18 and over who experienced serious psychological distress during the past 30 days, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Six psychological distress questions are included in the Sample Adult Core component of the National Health Interview Survey (NHIS). These questions ask how often a respondent experienced certain symptoms of psychological distress during the past 30 days. The response codes (0–4) of the six items for each person are summed to yield a scale with a 0–24 range. A value of 13 or more for this scale is used here to define serious psychological distress (12). In 2013, the six psychological distress questions were moved to the Adult Selected Items section of the Sample Adult questionnaire. Differences observed in estimates based on 2012 and earlier NHIS and 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions in the NHIS questionnaire. Estimates are Age-sex-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 18–44, 45–64, and 65 and over. The analyses exclude the 3.5% of persons with unknown serious psychological distress status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted prevalence of serious psychological distress was 3.8% for Hispanic persons, 3.7% for non-Hispanic white persons, and 3.6% for non-Hispanic black persons.
- No significant differences were observed in the prevalence of serious psychological distress among different race and ethnicity groups.



## Data tables for Figures 13.1–13.3:

**Data table for Figure 13.1. Percentage of adults aged 18 and over who experienced serious psychological distress during the past 30 days: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	3.3 (3.1–3.5)	3.3 (3.1–3.6)
1998	3.0 (2.7–3.2)	3.0 (2.8–3.2)
1999	2.4 (2.2–2.6)	2.4 (2.2–2.6)
2000	2.7 (2.5–2.9)	2.7 (2.5–2.9)
2001	3.2 (2.9–3.4)	3.2 (2.9–3.4)
2002	3.0 (2.8–3.2)	3.0 (2.8–3.2)
2003	3.1 (2.9–3.4)	3.1 (2.9–3.4)
2004	3.1 (2.9–3.4)	3.0 (2.8–3.3)
2005	3.0 (2.74–3.20)	2.9 (2.72–3.17)
2006	3.0 (2.73–3.23)	2.9 (2.68–3.17)
2007	2.7 (2.43–2.98)	2.7 (2.39–2.93)
2008	3.1 (2.78–3.36)	3.0 (2.74–3.32)
2009	3.2 (2.93–3.52)	3.2 (2.90–3.49)
2010	3.3 (3.10–3.60)	3.3 (3.02–3.51)
2011	3.4 (3.16–3.62)	3.3 (3.08–3.54)
2012	3.0 (2.74–3.24)	2.9 (2.69–3.19)
2013 <sup>3</sup>	3.8 (3.54–4.13)	3.8 (3.47–4.06)
2014	3.1 (2.91–3.37)	3.1 (2.88–3.32)
2015	3.6 (3.28–3.89)	3.6 (3.29–3.91)
2016	3.6 (3.35–3.88)	3.6 (3.31–3.85)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 18–44, 45–64, and 65 and over.

<sup>3</sup>In 2013, the six psychological distress questions were moved to the Adult Selected Items section of the Sample Adult questionnaire. Differences observed in estimates based on 2012 and earlier National Health Interview Surveys (NHIS) and 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions in the NHIS questionnaire. Due to the higher-than-usual amount of missing data in the Adult Selected Items section, adults with missing data for any of the six psychological distress questions are excluded from the calculation of the serious psychological distress indicator for 2013 and later.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, NHIS transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 13.2. Percentage of adults aged 18 and over who experienced serious psychological distress during the past 30 days, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–44, total	3.3	2.98–3.68
18–44, male	2.8	2.21–3.31
18–44, female	3.9	3.31–4.46
45–64, total	4.8	4.32–5.35
45–64, male	3.9	3.21–4.62
45–64, female	5.7	4.96–6.43
65 and over, total	2.2	1.78–2.52
65 and over, male	1.7	1.19–2.20
65 and over, female	2.5	1.96–3.09
18 and over (crude <sup>1</sup> ), total	3.6	3.35–3.88
18 and over (crude <sup>1</sup> ), male	3.0	2.61–3.32
18 and over (crude <sup>1</sup> ), female	4.2	3.82–4.61
18 and over (age-adjusted <sup>2</sup> ), total	3.6	3.31–3.85
18 and over (age-adjusted <sup>2</sup> ), male	2.9	2.57–3.28
18 and over (age-adjusted <sup>2</sup> ), female	4.2	3.79–4.60

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 18–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. In 2013, the six psychological distress questions were moved to the Adult Selected Items section of the Sample Adult questionnaire. Differences observed in estimates based on 2012 and earlier National Health Interview Surveys (NHIS) and 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions in the NHIS questionnaire.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 13.3. Age-sex-adjusted percentage of adults aged 18 and over who experienced serious psychological distress during the past 30 days, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	3.8	2.99–4.67
Not Hispanic or Latino, single race, white	3.7	3.34–4.07
Not Hispanic or Latino, single race, black	3.6	2.88–4.31

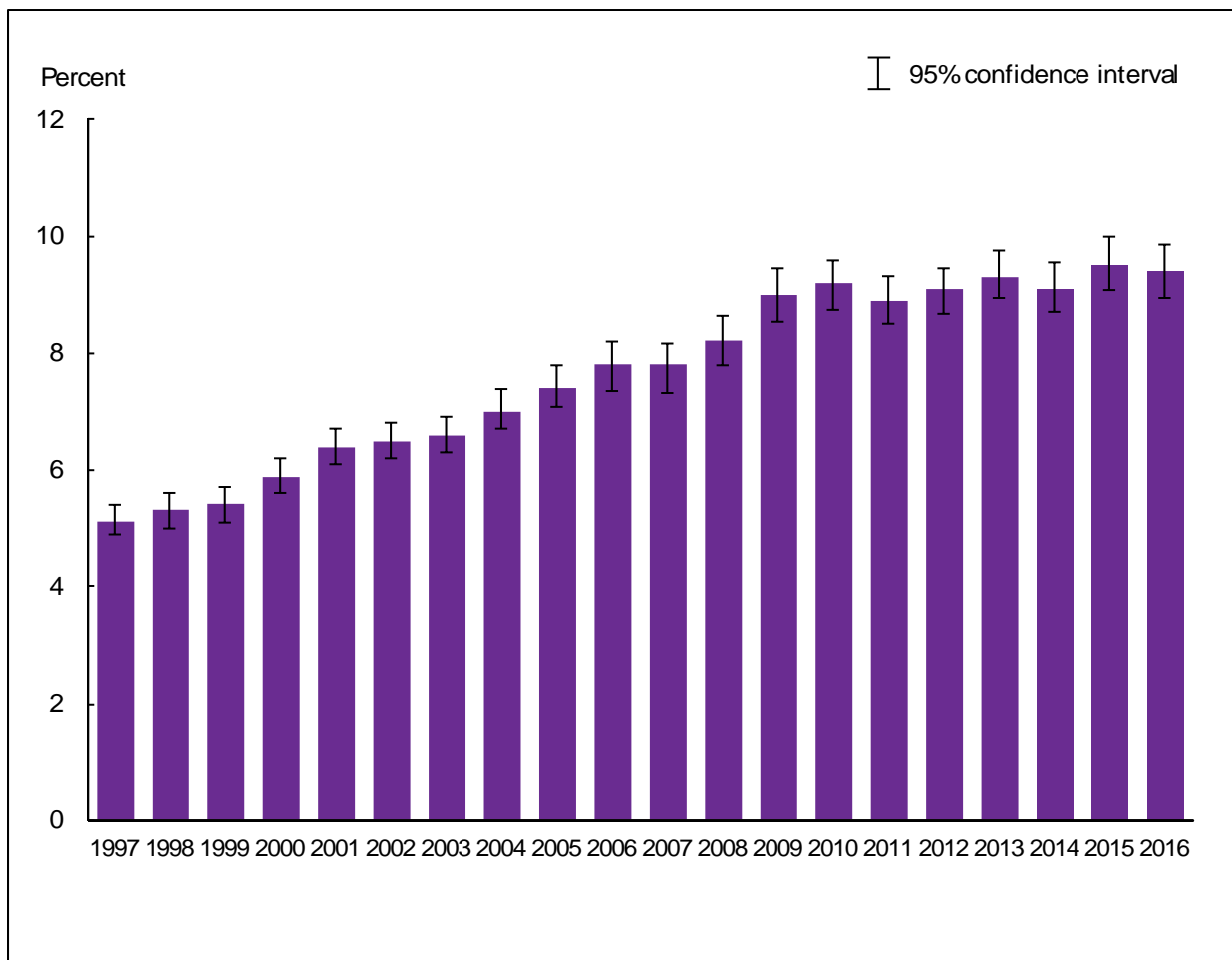
<sup>1</sup>Estimates are age-sex-adjusted using the projected 2000 U.S. population as the standard population and using five age groups: 18–24, 25–34, 35–44, 45–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. In 2013, the six psychological distress questions were moved to the Adult Selected Items section of the Sample Adult questionnaire. Differences observed in estimates based on 2012 and earlier National Health Interview Surveys (NHIS) and 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions in the NHIS questionnaire.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Diagnosed diabetes

**Figure 14.1. Prevalence of diagnosed diabetes among adults aged 18 and over: United States, 1997–2016**

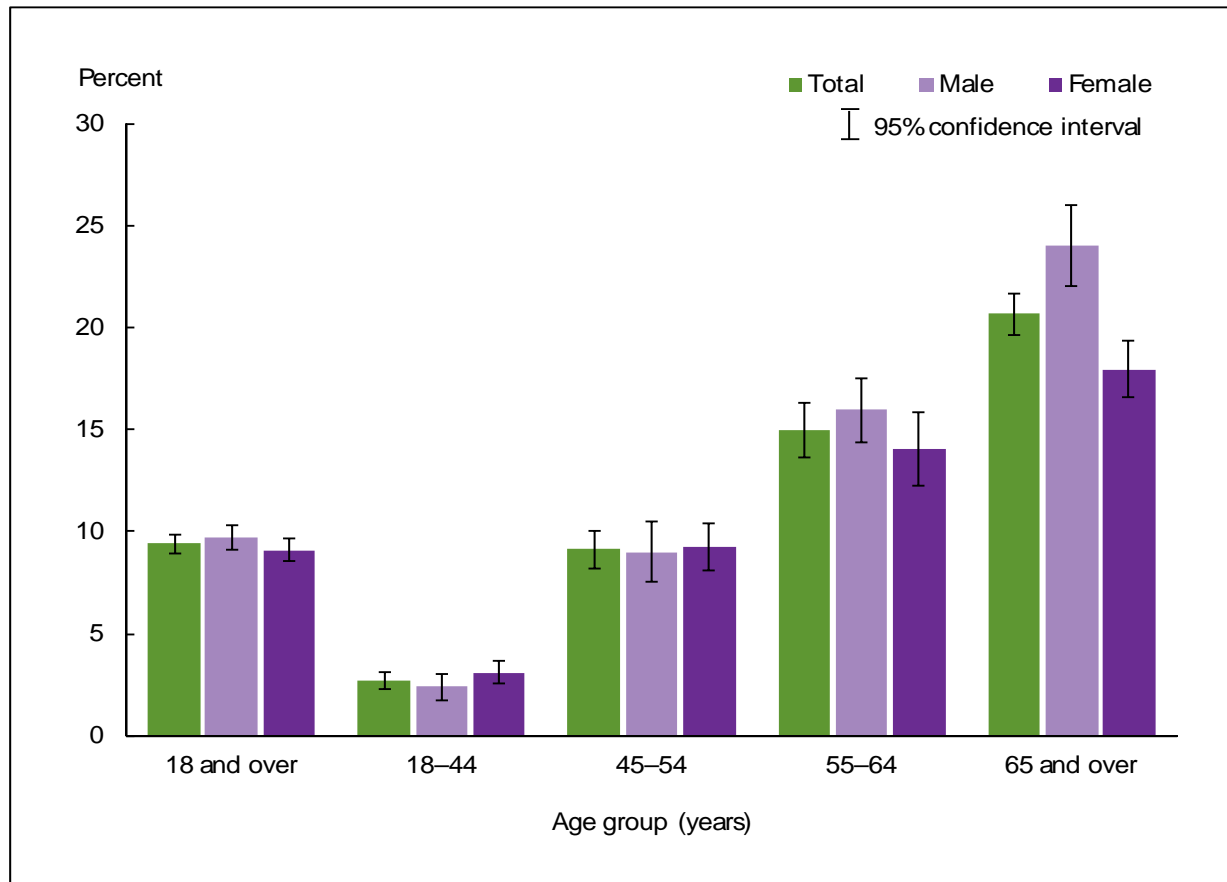


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Prevalence of diagnosed diabetes is based on self-report of ever having been diagnosed with diabetes by a doctor or other health professional. Persons reporting “borderline” diabetes status and women reporting diabetes only during pregnancy were not coded as having diabetes in the analyses. The analyses exclude persons with unknown diabetes status (about 0.1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

- For 2016, 9.4% (95% confidence interval = 8.95%–9.87%) of adults aged 18 and over have been diagnosed with diabetes. This percentage was not significantly different from the 2015 estimate of 9.5%.
- The prevalence of diagnosed diabetes among adults aged 18 and over increased, from 5.1% in 1997 to 9.2% in 2010, and has since remained stable through 2016.

**Figure 14.2. Prevalence of diagnosed diabetes among adults aged 18 and over, by age group and sex: United States, 2016**

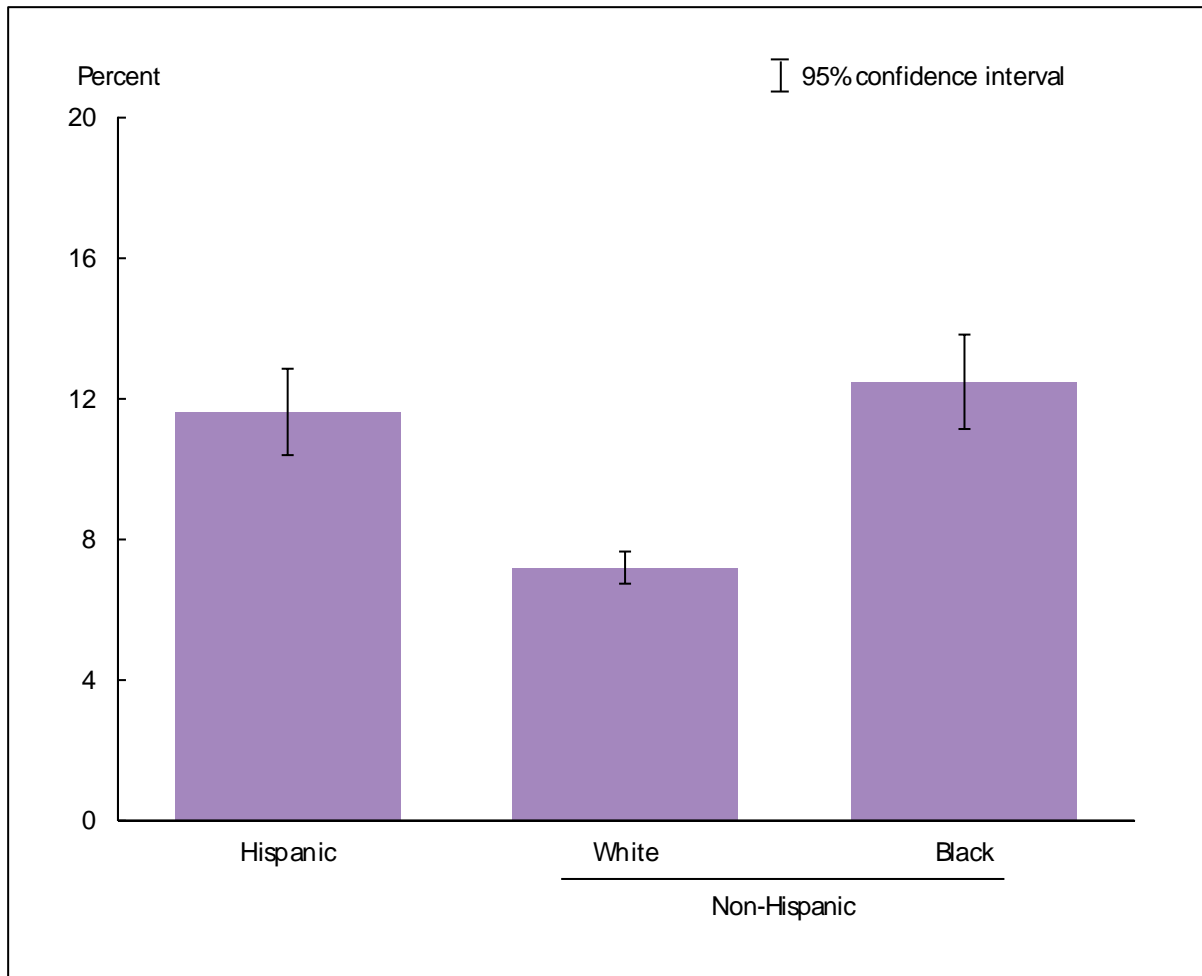


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Prevalence of diagnosed diabetes is based on self-report of ever having been diagnosed with diabetes by a doctor or other health professional. Persons reporting "borderline" diabetes status and women reporting diabetes only during pregnancy were not coded as having diabetes in the analyses. The analyses exclude the 0.1% of persons with unknown diabetes status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- For both sexes combined, the prevalence of diagnosed diabetes increased with age. Adults aged 65 and over (20.7%) were more than seven times as likely as those aged 18-44 (2.7%) to have been diagnosed with diabetes. Men aged 65 and over (24.0%) were ten times as likely as men aged 18-44 (2.4%) to have been diagnosed with diabetes, while women aged 65 and over (18.0%) were more than five times as likely as women aged 18-44 (3.1%) to have been diagnosed with diabetes.
- For adults aged 65 and over, women were less likely than men to have been diagnosed with diabetes.

**Figure 14.3. Age-sex-adjusted prevalence of diagnosed diabetes among adults aged 18 and over, by race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Prevalence of diagnosed diabetes is based on self-report of ever having been diagnosed with diabetes by a doctor or other health professional. Persons reporting “borderline” diabetes status and women reporting diabetes only during pregnancy were not coded as having diabetes in the analyses. The analyses exclude the 0.1% of persons with unknown diabetes status. Estimates are age-sex-adjusted, using the projected 2000 U.S. population as the standard population and using four age groups: 18–44, 45–54, 55–64, and 65 and over. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

- The age-sex-adjusted prevalence of diagnosed diabetes was 11.6% for Hispanic adults, 7.2% for non-Hispanic white adults, and 12.5% for non-Hispanic black adults.
- The prevalence of diagnosed diabetes was lower among non-Hispanic white adults compared with Hispanic adults and non-Hispanic black adults.

## Data tables for Figures 14.1–14.3:

**Data table for Figure 14.1. Prevalence of diagnosed diabetes among adults aged 18 and over: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	5.1 (4.9–5.4)	5.3 (5.1–5.6)
1998	5.3 (5.0–5.6)	5.4 (5.1–5.7)
1999	5.4 (5.1–5.7)	5.5 (5.2–5.8)
2000	5.9 (5.6–6.2)	6.0 (5.7–6.3)
2001	6.4 (6.1–6.7)	6.4 (6.1–6.7)
2002	6.5 (6.2–6.8)	6.5 (6.2–6.8)
2003	6.6 (6.3–6.9)	6.5 (6.2–6.9)
2004	7.0 (6.7–7.4)	6.9 (6.6–7.3)
2005	7.4 (7.10–7.78)	7.3 (6.95–7.57)
2006	7.8 (7.35–8.20)	7.6 (7.15–7.96)
2007	7.8 (7.33–8.18)	7.5 (7.08–7.87)
2008	8.2 (7.81–8.64)	7.8 (7.43–8.19)
2009	9.0 (8.54–9.45)	8.5 (8.09–8.93)
2010	9.2 (8.73–9.59)	8.6 (8.21–8.97)
2011	8.9 (8.51–9.30)	8.3 (7.90–8.61)
2012	9.1 (8.68–9.46)	8.3 (7.93–8.66)
2013	9.3 (8.95–9.75)	8.5 (8.14–8.87)
2014	9.1 (8.71–9.56)	8.2 (7.86–8.57)
2015	9.5 (9.07–10.02)	8.5 (8.10–8.89)
2016	9.4 (8.95–9.87)	8.4 (7.99–8.79)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–44, 45–54, 55–64, and 65 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, Sample Adult Core component.

**Data table for Figure 14.2. Prevalence of diagnosed diabetes among adults aged 18 and over, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
18–44, total	2.7	2.33–3.16
18–44, male	2.4	1.73–3.04
18–44, female	3.1	2.52–3.66
45–54, total	9.1	8.20–10.07
45–54, male	9.0	7.51–10.48
45–54, female	9.3	8.12–10.40
55–64, total	15.0	13.63–16.30
55–64, male	15.9	14.35–17.54
55–64, female	14.1	12.29–15.81
65 and over, total	20.7	19.66–21.67
65 and over, male	24.0	22.06–25.99
65 and over, female	18.0	16.55–19.35
18 and over (crude <sup>1</sup> ), total	9.4	8.95–9.87
18 and over (crude <sup>1</sup> ), male	9.7	9.13–10.36
18 and over (crude <sup>1</sup> ), female	9.1	8.55–9.66
18 and over (age-adjusted <sup>2</sup> ), total	8.4	7.99–8.79
18 and over (age-adjusted <sup>2</sup> ), male	8.9	8.31–9.42
18 and over (age-adjusted <sup>2</sup> ), female	8.0	7.55–8.51

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–44, 45–54, 55–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

**Data table for Figure 14.3. Age-sex-adjusted prevalence of diagnosed diabetes among adults aged 18 and over, by race and ethnicity: United States, 2016**

Race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Hispanic or Latino	11.6	10.40–12.89
Not Hispanic or Latino, single race, white	7.2	6.74–7.67
Not Hispanic or Latino, single race, black	12.5	11.14–13.85

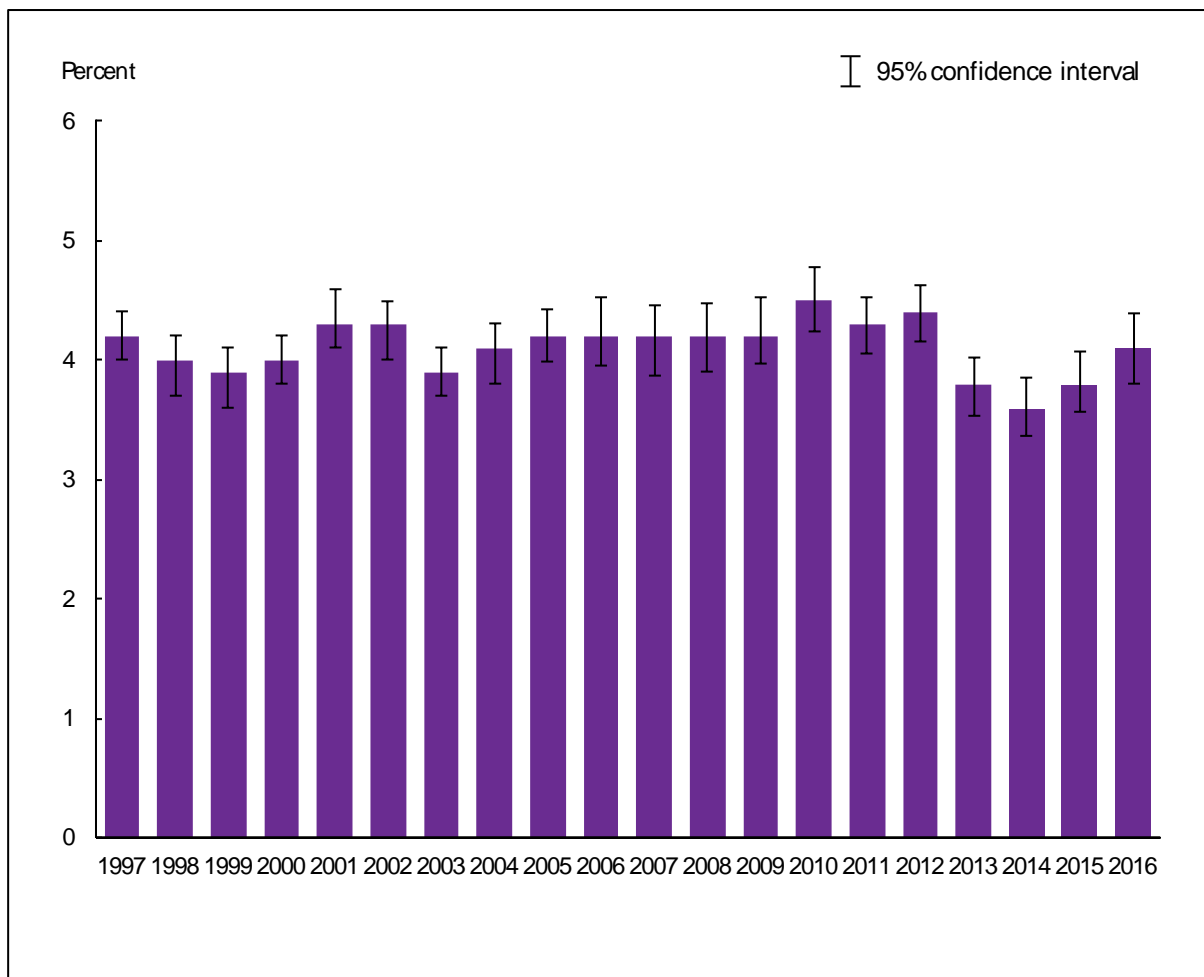
<sup>1</sup>Estimates are Age-sex-adjusted using the projected 2000 U.S. population as the standard population and four age groups: 18–44, 45–54, 55–64, and 65 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, Sample Adult Core component.

## Asthma

**Figure 15.1. Percentage of persons of all ages who experienced an asthma episode in the past 12 months: United States, 1997–2016**



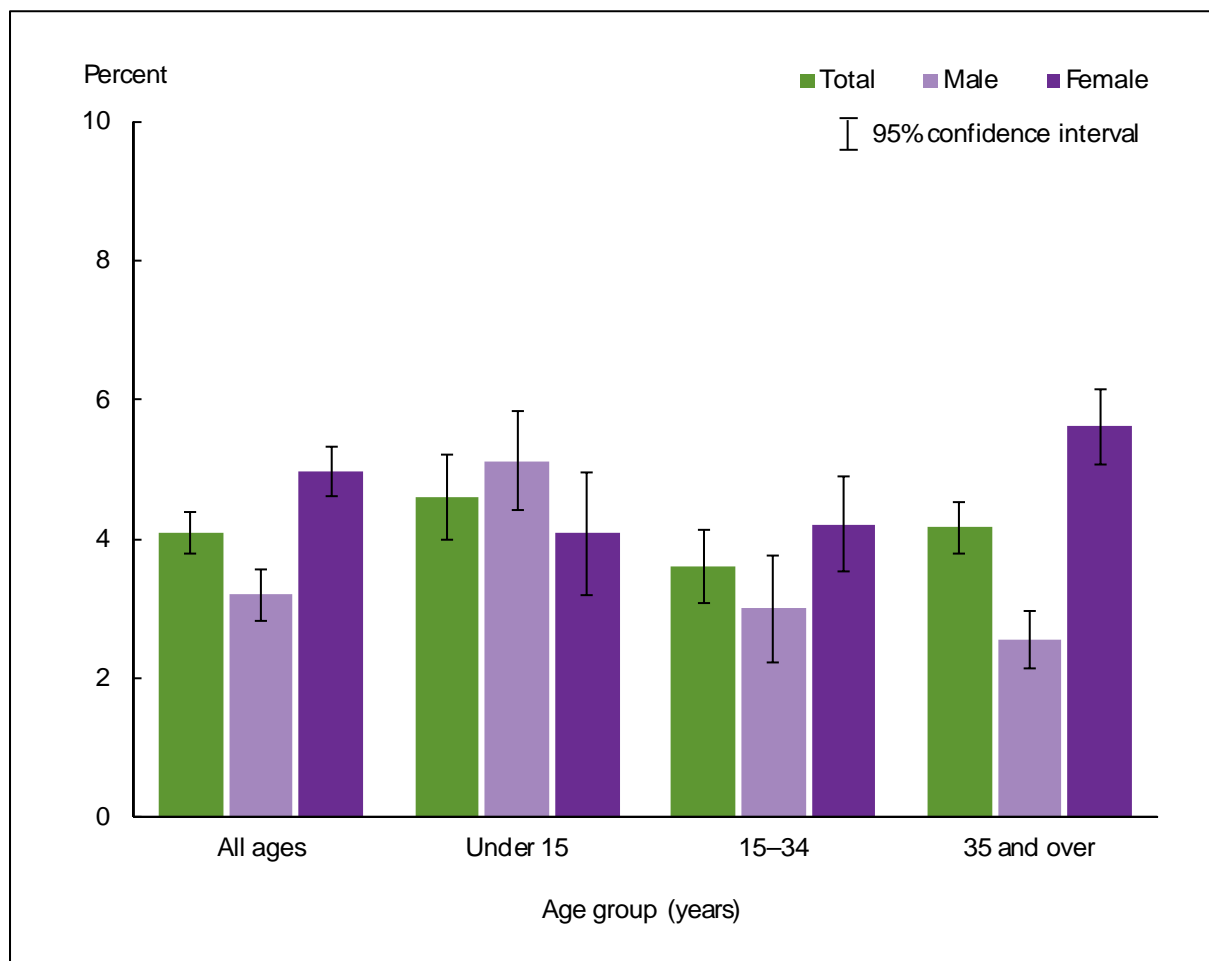
NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Information on an episode of asthma or asthma attack during the past 12 months is self-reported by adults aged 18 and over. For children under age 18 years, the information is collected from an adult family member, usually a parent, who is knowledgeable about the child's health. The analyses exclude people with unknown asthma episode status (about 0.1% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, combined Sample Adult and Sample Child Core components.

- For 2016, the percentage of persons of all ages who experienced an asthma episode in the past 12 months was 4.1% (95% confidence interval = 3.80%–4.39%), which was not significantly different from the 2015 estimate of 3.8%.
- From 1997–2016, no clear trend was observed in the percentage of persons of all ages who experienced an asthma episode in the past 12 months.



**Figure 15.2. Percentage of persons of all ages who experienced an asthma episode in the past 12 months, by age group and sex: United States, 2016**

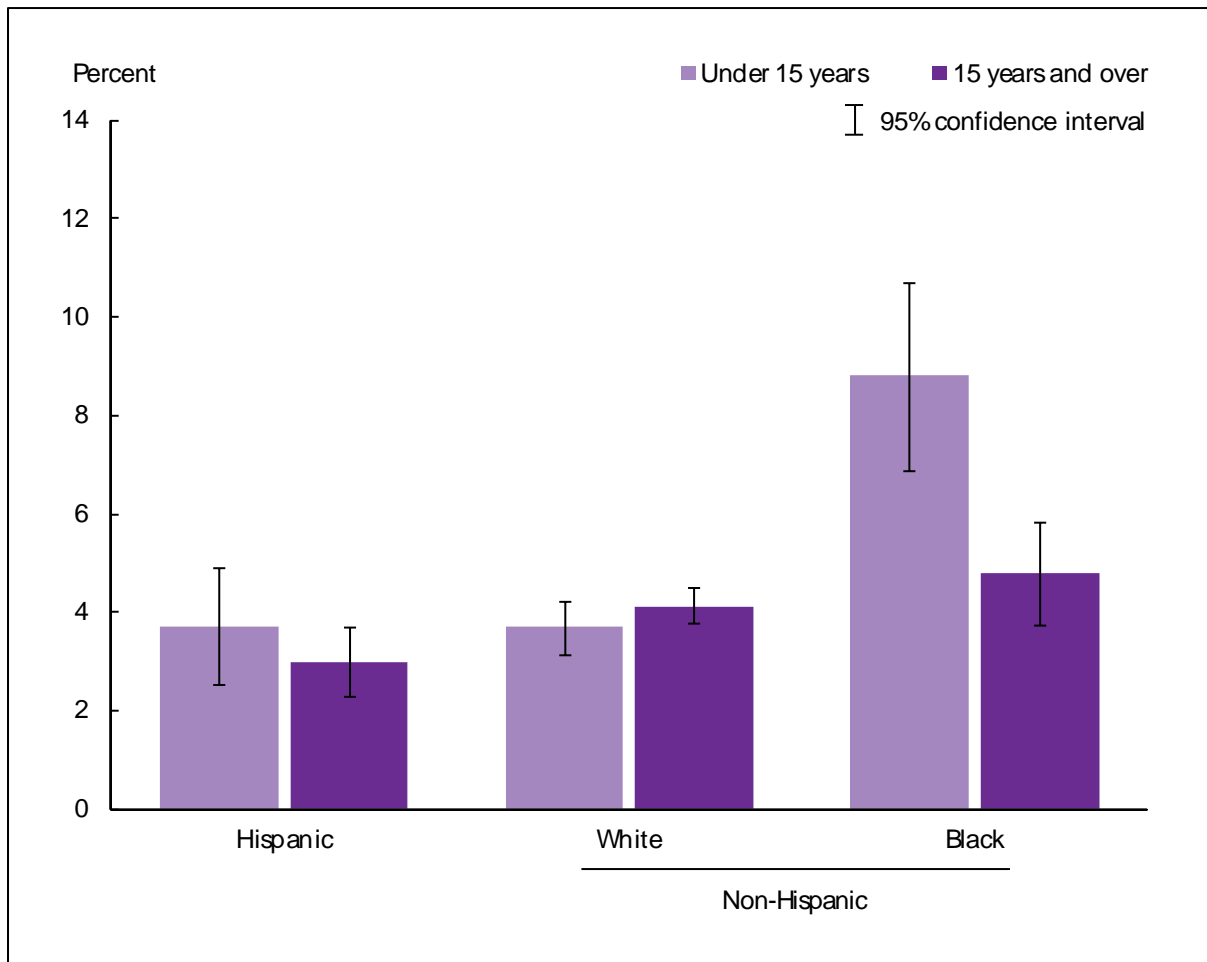


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Information on an episode of asthma or asthma attack during the past 12 months is self-reported by adults aged 18 and over. For children under age 18 years, the information is collected from an adult family member, usually a parent, who is knowledgeable about the child's health. The analyses exclude the 0.1% of persons with unknown asthma episode status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- For males, the percentage of persons who had an asthma episode in the past 12 months was higher among children under age 15 years (5.1%) than among persons aged 15-34 (3.0%) and 35 and over (2.6%).
- For females, the percentage of persons who had an asthma episode in the past 12 months was lower among children under age 15 years (4.1%) and those aged 15-34 (4.2%) than among persons aged 35 and over (5.6%).
- For persons of all ages and those 15-34, and 35 and over, the percentage of persons who had an asthma episode in the past 12 months was higher among females than among males. For children under age 15 years, the percentage of boys who had an asthma episode in the past 12 months was higher than, but not significantly different from, the percentage of girls who had an asthma episode in the past 12 months.

**Figure 15.3. Sex-adjusted percentage of persons of all ages who experienced an asthma episode in the past 12 months, by age group and race and ethnicity: United States, 2016**

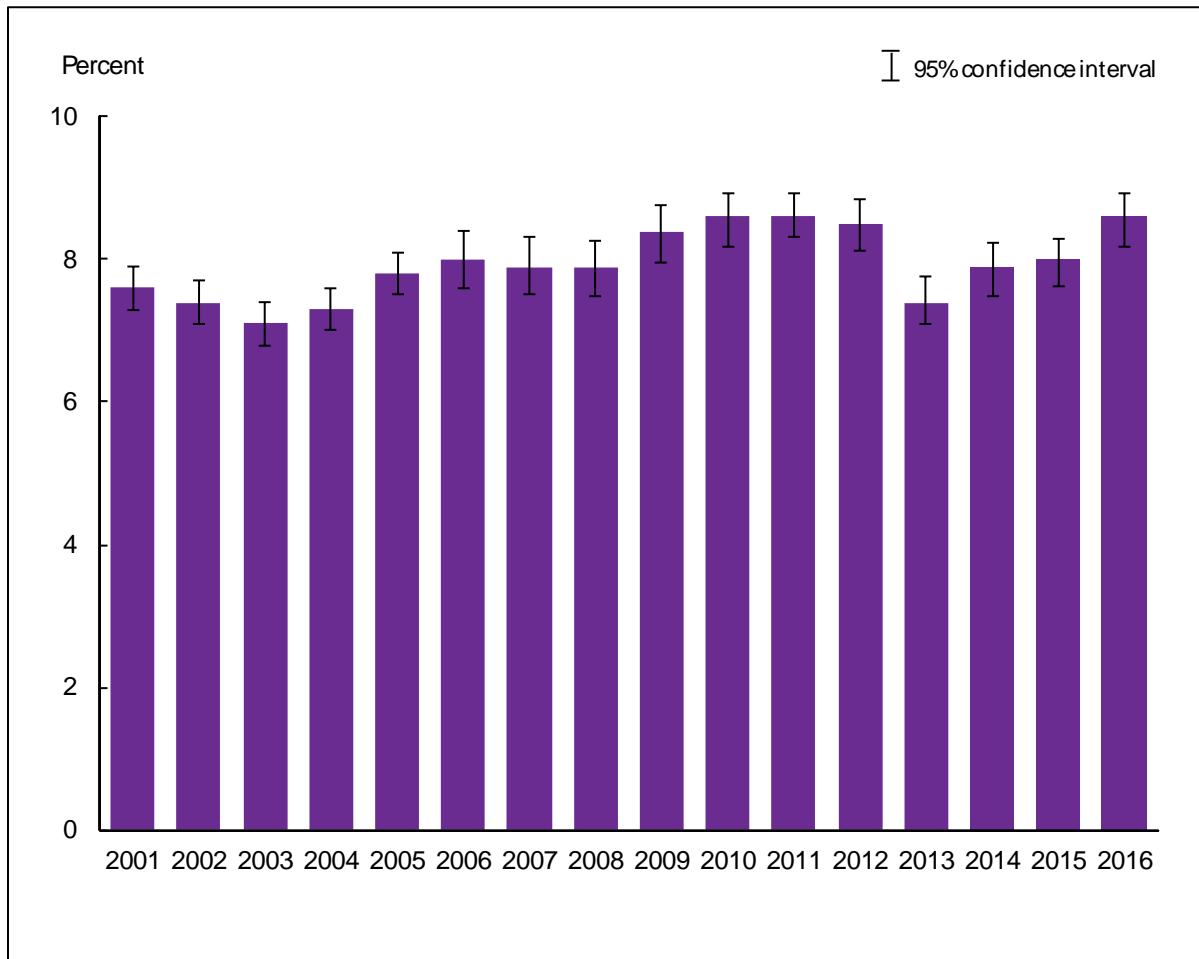


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Information on an episode of asthma or asthma attack during the past 12 months is self-reported by adults aged 18 and over. For children under age 18 years, the information is collected from an adult family member, usually a parent, who is knowledgeable about the child's health. The analyses exclude the less than 0.1% of persons with unknown asthma episode status. Additional estimates of asthma episodes in the past 12 months among persons with current asthma are provided in the Data table for Figure 15.3. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- For children under age 15 years, the sex-adjusted percentage by race and ethnicity who had an asthma episode in the past 12 months was 3.7% for Hispanic children, 3.7% for non-Hispanic white children, and 8.8% for non-Hispanic black children.
- For persons aged 15 and over, the sex-adjusted percentage who had an asthma episode in the past 12 months was 3.0% for Hispanic persons, 4.1% for non-Hispanic white persons, and 4.8% for non-Hispanic black persons.
- After adjustment for sex, non-Hispanic black children under age 15 were more than twice as likely as Hispanic children and non-Hispanic white children to have had an asthma episode in the past 12 months.
- After adjustment for sex, Hispanic persons aged 15 and over were less likely to have had an asthma episode in the past 12 months compared with non-Hispanic black persons and non-Hispanic white persons aged 15 and over.

**Figure 15.4. Prevalence of current asthma among persons of all ages: United States, 2001–2016**

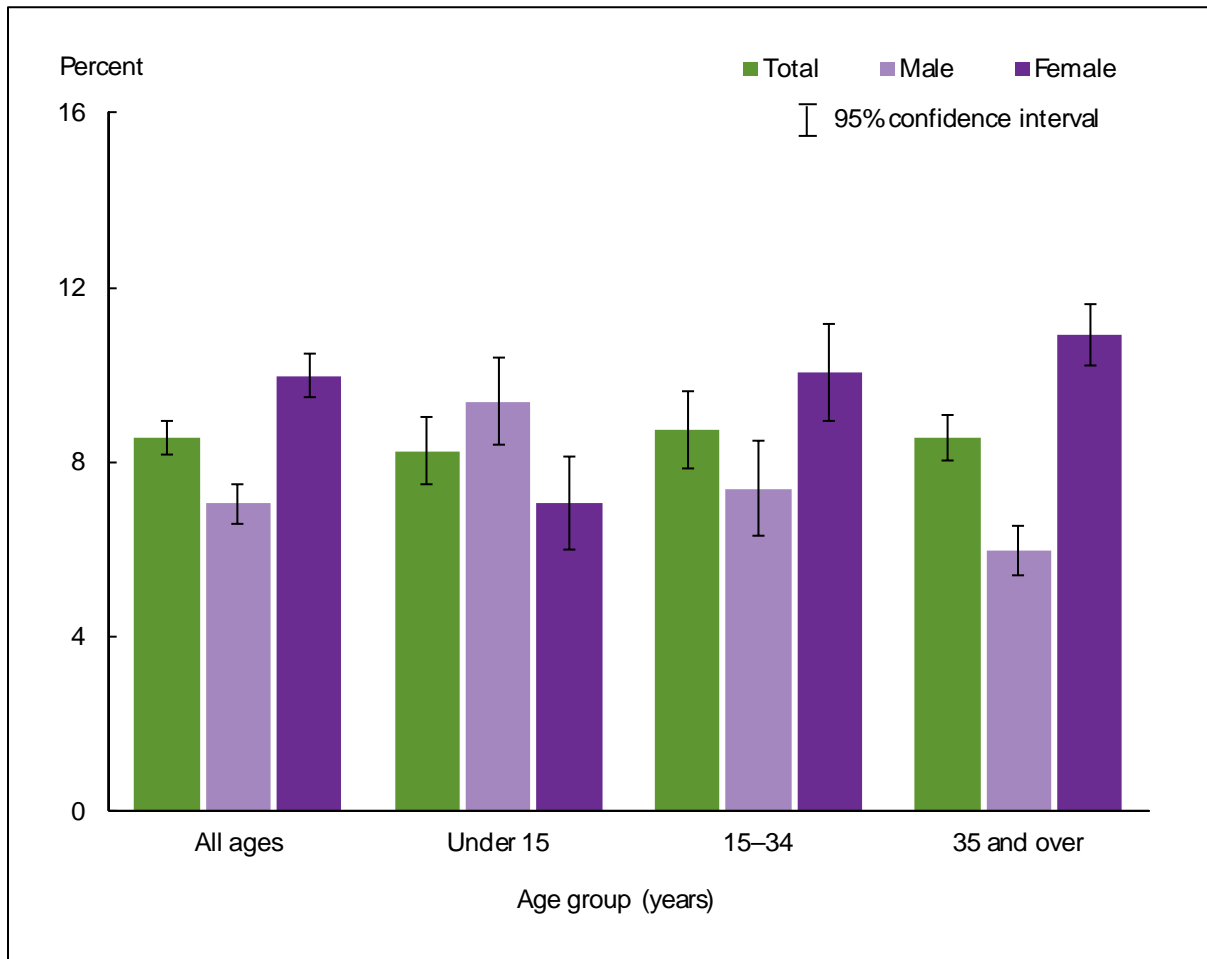


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning in 2001, respondents were asked about current asthma in addition to the question regarding asthma episodes. Information on current asthma is self-reported by adults aged 18 and over. For children under age 18 years, the information is collected from an adult family member, usually a parent, who is knowledgeable about the child's health. The analyses exclude persons with unknown current asthma status (about 0.2% of respondents each year). See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2001–2016, combined Sample Adult and Sample Child Core components.

- For 2016, 8.6% (95% confidence interval = 8.17%–8.94%) of persons of all ages currently had asthma. This was higher than the 2015 estimate of 8.0%.
- The prevalence of current asthma decreased, from 7.6% in 2001 to 7.1% in 2003, and then increased to 8.6% in 2010. There was no significant difference in the prevalence of current asthma from 2010 to 2012.
- The prevalence of current asthma decreased, from 8.5% in 2012 to 7.4% in 2013, and then increased to 8.6% in 2016.

**Figure 15.5. Prevalence of current asthma among persons of all ages, by age group and sex: United States, 2016**

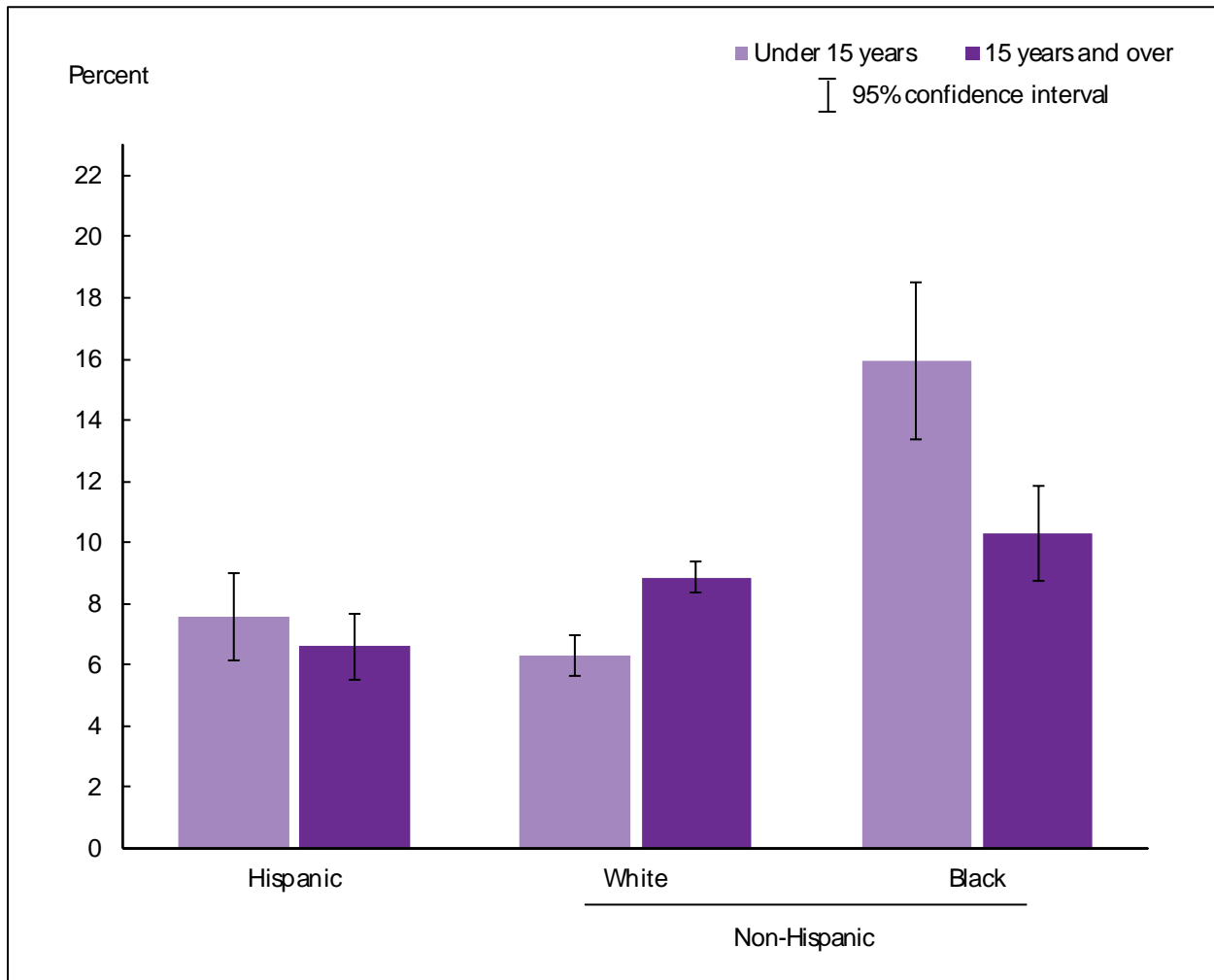


NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Information on current asthma is self-reported by adults aged 18 and over. For children under age 18 years, the information is collected from an adult family member, usually a parent, who is knowledgeable about the child's health. The analyses exclude the 0.2% of persons with unknown current asthma status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- For males, those under age 15 years (9.4%) were more likely to currently have asthma compared with males aged 15-34 (7.4%) and 35 and over (6.0%).
- For females, those under age 15 years (7.1%) were less likely to currently have asthma compared with females aged 15-34 (10.1%) and those 35 and over (10.9%).
- For persons of all ages, and for persons aged 15-34 and 35 and over, the prevalence of current asthma was higher among females than males. For children under age 15, the prevalence of current asthma was higher among boys than girls.

**Figure 15.6. Sex-adjusted prevalence of current asthma among persons of all ages, by age group and race and ethnicity: United States, 2016**



NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Information on current asthma is self-reported by adults aged 18 and over. For children under age 18 years, the information is collected from an adult family member, usually a parent, who is knowledgeable about the child's health. The analyses exclude the 0.2% of persons with unknown current asthma status. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

- For children under age 15 years, the sex-adjusted prevalence of current asthma was higher among non-Hispanic black children (15.9%) compared with Hispanic children (7.6%) and non-Hispanic white children (6.3%). For Hispanic children the sex-adjusted prevalence of current asthma was higher than, but not significantly different from, the sex-adjusted prevalence among non-Hispanic white children.
- For persons aged 15 and over, the sex-adjusted prevalence of current asthma was lower among Hispanic persons (6.6%) compared with non-Hispanic white persons (8.9%) and non-Hispanic black persons (10.3%).

## Data tables for Figures 15.1–15.6:

**Data table for Figure 15.1. Percentage of persons of all ages who experienced an asthma episode in the past 12 months: United States, 1997–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
1997	4.2 (4.0–4.4)	4.2 (3.9–4.4)
1998	4.0 (3.7–4.2)	3.9 (3.7–4.2)
1999	3.9 (3.6–4.1)	3.9 (3.6–4.1)
2000	4.0 (3.8–4.2)	4.0 (3.8–4.2)
2001	4.3 (4.1–4.6)	4.3 (4.1–4.5)
2002	4.3 (4.0–4.5)	4.3 (4.0–4.5)
2003	3.9 (3.7–4.1)	3.9 (3.7–4.1)
2004	4.1 (3.8–4.3)	4.1 (3.8–4.3)
2005	4.2 (3.99–4.43)	4.2 (4.00–4.44)
2006	4.2 (3.96–4.52)	4.3 (3.98–4.54)
2007	4.2 (3.87–4.46)	4.2 (3.88–4.47)
2008	4.2 (3.91–4.48)	4.2 (3.93–4.50)
2009	4.2 (3.97–4.52)	4.3 (3.99–4.54)
2010	4.5 (4.24–4.77)	4.5 (4.25–4.78)
2011	4.3 (4.06–4.52)	4.3 (4.08–4.54)
2012	4.4 (4.15–4.63)	4.4 (4.17–4.65)
2013	3.8 (3.53–4.02)	3.8 (3.55–4.04)
2014	3.6 (3.36–3.85)	3.6 (3.37–3.88)
2015	3.8 (3.57–4.07)	3.8 (3.58–4.08)
2016	4.1 (3.80–4.39)	4.1 (3.81–4.40)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 0–14, 15–34, and 35 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 1997–2016, combined Sample Adult and Sample Child Core components.

**Data table for Figure 15.2. Percentage of persons of all ages who experienced an asthma episode in the past 12 months, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
Under 15, total	4.6	3.99–5.22
Under 15, male	5.1	4.41–5.83
Under 15, female	4.1	3.19–4.96
15–34 , total	3.6	3.08–4.12
15–34 , male	3.0	2.21–3.77
15–34 , female	4.2	3.53–4.89
35 and over, total	4.2	3.80–4.53
35 and over, male	2.6	2.15–2.97
35 and over, female	5.6	5.08–6.16
All ages (crude <sup>1</sup> ), total	4.1	3.80–4.39
All ages (crude <sup>1</sup> ), male	3.2	2.82–3.57
All ages (crude <sup>1</sup> ), female	5.0	4.61–5.31
All ages (age-adjusted <sup>2</sup> ), total	4.1	3.81–4.40
All ages (age-adjusted <sup>2</sup> ), male	3.2	2.86–3.60
All ages (age-adjusted <sup>2</sup> ), female	4.9	4.55–5.25

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 0–14, 15–34, and 35 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

**Data table for Figure 15.3. Sex-adjusted percentage of persons of all ages who experienced an asthma episode in the past 12 months, by age group and race and ethnicity: United States, 2016**

Age (years) and race and ethnicity	All persons	All persons with current asthma
	Sex-adjusted percent <sup>1</sup> (95% confidence interval)	
Under 15, Hispanic or Latino	3.7 (2.50–4.91)	48.0 (35.24–60.66)
Under 15, not Hispanic or Latino, single race, white	3.7 (3.11–4.22)	58.4 (50.87–65.91)
Under 15, not Hispanic or Latino, single race, black	8.8 (6.86–10.77)	55.3 (47.67–62.93)
15 and over, Hispanic or Latino	3.0 (2.26–3.67)	44.1 (34.59–53.70)
15 and over, not Hispanic or Latino, single race, white	4.1 (3.77–4.50)	45.7 (42.42–49.07)
15 and over, not Hispanic or Latino, single race, black	4.8 (3.73–5.82)	46.0 (39.55–52.51)

<sup>1</sup>Estimates for all persons are presented. Estimates are sex-adjusted using the projected 2000 U.S. population as the standard population.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

**Data table for Figure 15.4. Prevalence of current asthma among persons of all ages: United States, 2001–2016**

Year	Crude <sup>1</sup> percent (95% confidence interval)	Age-adjusted <sup>2</sup> percent (95% confidence interval)
2001	7.6 (7.3–7.9)	7.6 (7.3–7.9)
2002	7.4 (7.1–7.7)	7.4 (7.1–7.7)
2003	7.1 (6.8–7.4)	7.1 (6.8–7.4)
2004	7.3 (7.0–7.6)	7.3 (7.1–7.7)
2005	7.8 (7.50–8.10)	7.8 (7.51–8.11)
2006	8.0 (7.61–8.41)	8.0 (7.62–8.43)
2007	7.9 (7.50–8.31)	7.9 (7.51–8.33)
2008	7.9 (7.48–8.27)	7.9 (7.51–8.30)
2009	8.4 (7.97–8.76)	8.4 (7.99–8.78)
2010	8.6 (8.19–8.94)	8.6 (8.20–8.95)
2011	8.6 (8.31–8.93)	8.6 (8.32–8.95)
2012	8.5 (8.12–8.86)	8.5 (8.15–8.88)
2013	7.4 (7.09–7.76)	7.4 (7.11–7.77)
2014	7.9 (7.49–8.24)	7.9 (7.52–8.27)
2015	8.0 (7.62–8.30)	8.0 (7.63–8.32)
2016	8.6 (8.17–8.94)	8.5 (8.17–8.93)

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 0–14, 15–34, and 35 and over.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with 2012 data, the National Health Interview Survey transitioned to weights derived from the 2010 census. For 2003–2011 data, weights were derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. For 1997–1999 data, weights were derived from the 1990 census. See [Technical Notes](#) for more details.

DATA SOURCE: NCHS, National Health Interview Survey, 2001–2016, combined Sample Adult and Sample Child Core components.



**Data table for Figure 15.5. Prevalence of current asthma among persons of all ages, by age group and sex: United States, 2016**

Age (years) and sex	Percent	95% confidence interval
Under 15, total	8.3	7.49–9.03
Under 15, male	9.4	8.39–10.40
Under 15, female	7.1	6.02–8.14
15–34 , total	8.7	7.86–9.61
15–34 , male	7.4	6.33–8.48
15–34 , female	10.1	8.97–11.18
35 and over, total	8.6	8.05–9.09
35 and over, male	6.0	5.40–6.56
35 and over, female	10.9	10.21–11.62
All ages (crude <sup>1</sup> ), total	8.6	8.17–8.94
All ages (crude <sup>1</sup> ), male	7.1	6.61–7.50
All ages (crude <sup>1</sup> ), female	10.0	9.50–10.47
All ages (age-adjusted <sup>2</sup> ), total	8.5	8.17–8.93
All ages (age-adjusted <sup>2</sup> ), male	7.1	6.66–7.55
All ages (age-adjusted <sup>2</sup> ), female	9.9	9.39–10.34

<sup>1</sup>Crude estimates are presented.

<sup>2</sup>Estimates are age-adjusted using the projected 2000 U.S. population as the standard population and three age groups: 0–14, 15–34, and 35 and over.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

**Data table for Figure 15.6. Sex-adjusted prevalence of current asthma among persons of all ages, by age group and race and ethnicity: United States, 2016**

Age (years) and race and ethnicity	Percent <sup>1</sup>	95% confidence interval
Under 15, Hispanic or Latino	7.6	6.12–9.00
Under 15, not Hispanic or Latino, single race, white	6.3	5.62–6.97
Under 15, not Hispanic or Latino, single race, black	15.9	13.37–18.48
15 and over, Hispanic or Latino	6.6	5.54–7.67
15 and over, not Hispanic or Latino, single race, white	8.9	8.36–9.37
15 and over, not Hispanic or Latino, single race, black	10.3	8.76–11.86

<sup>1</sup>Estimates are sex-adjusted using the projected 2000 U.S. population as the standard population.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: NCHS, National Health Interview Survey, 2016, combined Sample Adult and Sample Child Core components.

## References

1. Cohen RA, Zammiti EP, Martinez ME. Health insurance coverage: Early release of estimates from the National Health Interview Survey, 2016. National Center for Health Statistics. May 2017. Available from: <http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201702.pdf>.
2. Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, January–December 2016. National Center for Health Statistics. May 2017. Available from: <https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201705.pdf>.
3. U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Healthy People 2020. Washington, DC. Available from: <http://www.healthypeople.gov/2020/default.aspx>.
4. Centers for Disease Control and Prevention. Notice to readers: Delayed influenza vaccine availability for 2001–02 season and supplemental recommendations of the Advisory Committee on Immunization Practices. MMWR 50(27):582–5. 2001. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5027a3.htm>.
5. Centers for Disease Control and Prevention. Prevention and control of influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 54(RR-8):1–40. 2005. Available from: <http://www.cdc.gov/mmwr/PDF/rr/rr5408.pdf>.
6. Centers for Disease Control and Prevention. Notice to readers: Updated recommendations from the Advisory Committee on Immunization Practices in response to delays in supply of influenza vaccine for the 2000–01 season. MMWR 49(39):888–92. 2000. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4939a3.htm>.
7. Centers for Disease Control and Prevention. Prevention and control of influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 52(RR-8):1–36. 2003. Available from: <http://www.cdc.gov/mmwr/PDF/rr/rr5208.pdf>.
8. Centers for Disease Control and Prevention. Prevention and control of influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 55(RR-10):1–42. 2006. Available from: <http://www.cdc.gov/mmwr/PDF/rr/rr5510.pdf>.
9. Centers for Disease Control and Prevention. Prevention of pneumococcal disease: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 46(RR-08):1–24. 1997. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/00047135.htm>.
10. Centers for Disease Control and Prevention. Use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine for adults with immunocompromising conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 61(40):816–9. 2012. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6140a4.htm>.
11. Tomczyk S, Bennett NM, Stoecker C, Gierke R, Moore MR, Whitney CG, Hadler S, Pilishvili T. Use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine among adults aged  $\geq 65$  years: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 63(37):822–5. 2014. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a4.htm>.
12. Kessler RC, Barker PR, Colpe LJ, Epstein JF, Gfroerer JC, Hiripi E, et al. Screening for serious mental illness in the general population. Arch Gen Psychiatry 60(2):184–9. 2003.
13. Ni H, Schiller J, Hao C, et al. Early release of selected estimates based on data from the January–March 2003 National Health Interview Survey. National Center for Health Statistics. 2003. Available from: <http://www.cdc.gov/nchs/nhis.htm>.
14. National Cancer Institute, Statistical Research and Applications Branch. Joinpoint Regression Program, version 4.0.4 [computer software]. 2013.
15. Klein RJ, Schoenborn CA. Age adjustment using the 2000 projected U.S. population. Healthy People Statistical Notes, no. 20. Hyattsville, MD: National Center for Health Statistics. 2001. Available from: <http://www.cdc.gov/nchs/data/statnt/statnt20.pdf>.
16. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. Fed Regist 62(210):58782–90. 1997. Available from: [http://www.whitehouse.gov/omb/fedreg\\_1997standards](http://www.whitehouse.gov/omb/fedreg_1997standards).
17. National Center for Health Statistics. Health, United States, 2003. Hyattsville, MD. 2003. Available from: <http://www.cdc.gov/nchs/data/hus/03.pdf>.
18. Cohen RA, Martinez ME. Impact of Medicare and Medicaid probe questions on health insurance estimates from the National Health Interview Survey, 2004. Health E-Stat. National Center for Health Statistics. 2005. Available from: <http://www.cdc.gov/nchs/data/hestat/impact04/impact04.htm>.

19. Centers for Disease Control and Prevention. Surveillance of influenza vaccination coverage— United States, 2007–08 through 2011–12 influenza seasons. MMWR 62(SS-4):1–28. 2013. Available from: [http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s\\_cid=ss6204a1\\_w](http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6204a1.htm?s_cid=ss6204a1_w).
20. Clarke TC, Norris T, Schiller JS. Early release of selected estimates based on data from 2016 National Health Interview Survey. National Center for Health Statistics. May 2017. Available from: <http://www.cdc.gov/nchs/nhis/releases/released201702.htm>.

## Appendix. 2016 National Health Interview Survey Questions Used to Define Selected Health Measures

Alphanumeric codes refer directly to the question on the 2016 National Health Interview Survey that was used to define the health measure.

### Lack of health insurance and type of coverage

Information from follow-up questions such as plan name(s) was used to reassign insurance status and type of coverage to avoid misclassification.

- FHI.050      The next questions are about health insurance. Include health insurance obtained through employment or purchased directly as well as government programs like Medicare and Medicaid that provide Medical care or help pay medical bills.
- [Are you/Is anyone in the family] covered by any kind of health insurance or some other kind of health care plan?
- (1) Yes  
(2) No  
(7) Refused  
(9) Don't know
- FHI.070      What kind of health insurance or health care coverage [do you/does person] have? INCLUDE those that pay for only one type of service (nursing home care, accidents, or dental care). EXCLUDE private plans that only provide extra cash while hospitalized.
- (01) Private health insurance  
(02) Medicare  
(03) Medi-Gap  
(04) Medicaid  
(05) SCHIP/ CHIP ([State] Children's Health Insurance Program)  
(06) Military health care (TRICARE/VA/CHAMP-VA)  
(07) Indian Health Service  
(08) State-sponsored health plan  
(09) Other government program  
(10) Single service plan (e.g., dental, vision, prescriptions)  
(11) No coverage of any type  
(97) Refused  
(99) Don't know
- FHI.072      People covered by Medicare have a card that looks like this. [Are you/Is person] covered by Medicare?
- (1) Yes  
(2) No  
(7) Refused  
(9) Don't know
- FHI.073      There is a program called Medicaid that pays for health care for persons in need. In this State it is also called [State name]. [Are you/Is person] covered by Medicaid?
- (1) Yes  
(2) No  
(7) Refused  
(9) Don't know

**Usual place to go for medical care**

AAU.020 Is there a place that you USUALLY go to when you are sick or need advice about your health?

AND

CAU.020 Is there a place that [child] USUALLY goes when [he/she] is sick or you need advice about [his/her] health?

- (1) Yes
- (2) There is NO place
- (3) There is MORE THAN ONE place
- (7) Refused
- (9) Don't know

AAU.030 [If only one place] What kind of place is it – a clinic, doctor's office, emergency room, or some other place? [If more than one place] What kind of place do you go to most often – a clinic, doctor's office, emergency room, or some other place?

AND

CAU.030 [If only one place] What kind of place is it—a clinic, doctor's office, emergency room, or some other place? [If more than one place] What kind of place does [child] go to most often—a clinic, doctor's office, emergency room, or some other place?

- (1) Clinic or health center
- (2) Doctor's office or HMO
- (3) Hospital emergency room
- (4) Hospital outpatient department
- (5) Some other place
- (6) Doesn't go to one place most often
- (7) Refused
- (9) Don't know

**Failure to obtain needed medical care**

FAU.030 DURING THE PAST 12 MONTHS, was there any time when [you/someone in the family] needed medical care, but did not get it because [you/the family] couldn't afford it?

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

**Receipt of influenza vaccination**

AAU.310 DURING THE PAST 12 MONTHS, have you had a flu vaccination? A flu vaccination is usually given in the fall and protects against influenza for the flu season.

CFI.005 DURING THE PAST 12 MONTHS, has [child] had a flu vaccination? A flu vaccination is usually given in the fall and protects against influenza for the flu season.

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

**Receipt of pneumococcal vaccination**

AAU.320 Have you EVER had a pneumonia shot? This shot is usually given only once or twice in a person's lifetime and is different from the flu shot. It is also called the pneumococcal vaccine.

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

**Obesity**

AHB.190 How tall are you without shoes?

- (02-07) 2-7 feet
- (97) Refused
- (99) Don't know
- (M) Metric

AND

- (00-11) 0-11 inches
- (97) Refused
- (99) Don't know

OR

- (0-2) 0-2 meters
- (7) Refused
- (9) Don't know

AND

- (000-241) 0-241 centimeters
- (997) Refused
- (999) Don't know

AHB.200 How much do you weigh without shoes?

- (050-500) 50-500 pounds
- (997) Refused
- (999) Don't know
- (M) Metric

OR

- (022-226) 22-226 kilograms
- (997) Refused
- (999) Don't know

## Leisure–time physical activity

The next questions are about physical activities (exercise, sports, physically active hobbies...) that you may do in your LEISURE time.

AHB.090 How often do you do VIGOROUS leisure–time physical activities for AT LEAST 10 MINUTES that cause HEAVY sweating or LARGE increases in breathing or heart rate?

Field Representative: Read if necessary: How many times per day, per week, per month, or per year do you do these activities?

Number of vigorous leisure–time physical activities

- (000) Never
- (001–995) 1–995 time(s)
- (996) Unable to do this type activity
- (997) Refused
- (999) Don't know

Time period for vigorous leisure–time physical activities

- (0) Never
- (1) Per day
- (2) Per week
- (3) Per month
- (4) Per year
- (6) Unable to do this activity
- (7) Refused
- (9) Don't know

AHB.100 About how long do you do these vigorous leisure–time physical activities each time?

Number for length of vigorous leisure–time physical activities

- (001–995) 1–995
- (997) Refused
- (999) Don't know

Time period for length of vigorous leisure–time physical activities

- (1) Minutes
- (2) Hours
- (7) Refused
- (9) Don't know

AHB.110 How often do you do LIGHT OR MODERATE LEISURE-TIME physical activities for AT LEAST 10 MINUTES that cause ONLY LIGHT sweating or a SLIGHT to MODERATE increase in breathing or heart rate?

Field Representative: If necessary, prompt with: How many times per day, per week, per month, or per year do you do these activities?

Number of light or moderate leisure-time physical activities

- (000) Never
- (001-995) 1-995 time(s)
- (996) Unable to do this type activity
- (997) Refused
- (999) Don't know

Time period for light or moderate leisure-time physical activities

- (0) Never
- (1) Per day
- (2) Per week
- (3) Per month
- (4) Per year
- (6) Unable to do this activity
- (7) Refused
- (9) Don't know

AHB.120 About how long do you do these light or moderate leisure-time physical activities each time?

Number for length of light or moderate leisure-time physical activities

- (001-995) 1-995
- (997) Refused
- (999) Don't know

Time period for length of light or moderate leisure-time physical activities

- (1) Minutes
- (2) Hours
- (7) Refused
- (9) Don't know



AHB.130 How often do you do LEISURE-TIME physical activities specifically designed to STRENGTHEN your muscles such as lifting weights or doing calisthenics? (Include all such activities even if you have mentioned them before.)

Number of times

- (000) Never
- (001-995) 1-995 time(s)
- (996) Unable to do this type activity
- (997) Refused
- (999) Don't know

Time period for times per day, per week, per month, or per year

- (0) Never
- (1) Per day
- (2) Per week
- (3) Per month
- (4) Per year
- (6) Unable to do this activity
- (7) Refused
- (9) Don't know

### **Current cigarette smoking**

AHB.010 Have you smoked at least 100 cigarettes in your ENTIRE LIFE?

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

AHB.030 Do you NOW smoke cigarettes every day, some days or not at all?

- (1) Every day
- (2) Some days
- (3) Not at all
- (7) Refused
- (9) Don't know

### **Alcohol consumption**

AHB.150 In your ENTIRE LIFE, have you had at least 12 drinks of any type of alcoholic beverage?

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

AHB.180 In the PAST YEAR, on how many DAYS did you have [5 or more/4 or more] drinks of any alcoholic beverage?

NOTE: From 1997–2013, both men and women were asked about days in which they had 5 or more drinks of any alcoholic beverage. Starting in 2014, this question was changed; men were still asked about days in which they had 5 or more drinks of any alcoholic beverage, but women were asked about days in which they had 4 or more drinks of any alcoholic beverage.

Number of days

- (000) Never/None
- (001–365) 1–365 days
- (997) Refused
- (999) Don't know

Time period for days per week, per month, or per year

- (0) Never/None
- (1) Per week
- (2) Per month
- (3) Per year
- (7) Refused
- (9) Don't know

### Human immunodeficiency virus testing

ASI.400 Except for tests you may have had as part of blood donations, have you ever been tested for HIV?

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

### General health status

FHS.500 Would you say [your/person's] health in general is excellent, very good, good, fair, or poor?

- (1) Excellent
- (2) Very good
- (3) Good
- (4) Fair
- (5) Poor
- (7) Refused
- (9) Don't know

### Personal care needs

FHS.070 Because of a physical, mental, or emotional problem, [do you/does anyone in the family] need the help of other persons with PERSONAL CARE NEEDS, such as eating, bathing, dressing, or getting around inside this home?

- (1) Yes
- (2) No
- (7) Refused
- (9) Don't know

### **Serious psychological distress**

ASI.390 During the PAST 30 DAYS, how often did you feel

...So sad that nothing could cheer you up?

...Nervous?

...Restless or fidgety?

...Hopeless?

...That everything was an effort?

...Worthless?

(1) ALL of the time

(2) MOST of the time

(3) SOME of the time

(4) A LITTLE of the time

(5) NONE of the time

(7) Refused

(9) Don't know

### **Diagnosed diabetes**

ACN.160 Other than during pregnancy, have you EVER been told by a doctor or health professional that you have diabetes or sugar diabetes?/Have you EVER been told by a doctor or health professional that you have diabetes or sugar diabetes?

(1) Yes

(2) No

(3) Borderline or prediabetes

(7) Refused

(9) Don't know

### **Asthma**

ACN.080 Have you EVER been told by a doctor or other health professional that you had asthma?

AND

CHS.080 Has a doctor or other health professional EVER told you that [child] has asthma?

(1) Yes

(2) No

(7) Refused

(9) Don't know

ACN.085 Do you still have asthma?

AND

CHS.085 Does [child] still have asthma?

(1) Yes

(2) No

(7) Refused

(9) Don't know

ACN.090 DURING THE PAST 12 MONTHS, have you had an episode of asthma or an asthma attack?

AND

CHS.090 DURING THE PAST 12 MONTHS, has [child] had an episode of asthma or an asthma attack?

(1) Yes

(2) No

(7) Refused

(9) Don't know

## Technical Notes

### Data source

Data used to produce this Early Release are derived from the three main components of the National Health Interview Survey (NHIS) from 1997 through 2016: (a) the Family Core, which collects information on all family members in each household; (b) the Sample Child Core, which collects information on one randomly selected child (the “sample child”) in each family with a child; and (c) the Sample Adult Core, which collects information from one randomly selected adult (the “sample adult”) aged 18 or over in each family. Data analyses for 2016 NHIS were based on 97,459 persons in the Family Core, 33,154 adults in the Sample Adult Core, and 11,142 children in the Sample Child Core. Visit the NHIS website at <http://www.cdc.gov/nchs/nhis.htm> for more information on the design, content, and use of NHIS.

### Calibration of weights to independent population estimates

Estimates were calculated using the NHIS sample weights, which were calibrated to 2010 census-based population estimates for sex, age, and race and ethnicity of the U.S. civilian noninstitutionalized population beginning with 2012 NHIS data. NHIS weights were calibrated to 2000 census-based population estimates for NHIS data between 2003 and 2011. In Early Release reports prior to September 2003, the weights for 1997–2002 NHIS data were derived from 1990 census-based population estimates. The impact of the transition from 1990 census-based population estimates to 2000 census-based population estimates was assessed for data from the 2000–2002 NHIS by comparing estimates that used the 1990 census-based weights with those that used the 2000 census-based weights. The results were presented in Tables II and III in the Appendix of the September 2003 Early Release report on key health indicators (13). Although the changes for all selected measures were no more than 1 percentage point, the 2000–2002 estimates for all measures were recalculated beginning with the 2003 Early Release report on key health indicators, up through the present report, using weights derived from the 2000 census. The NHIS data weighting procedure is described in more detail at: [http://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_130.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_130.pdf) (1997–2005 NHIS) and [http://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_165.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_165.pdf) (2006–2015 NHIS).

### Implementation of a new sample design

A new sample design was implemented with the 2016 NHIS. Sample areas were reselected to take account of changes in the distribution of the U.S. population since 2006, when the previous sample design was first implemented; commercial address lists were used as the main source of addresses, rather than field listing; and the oversampling procedures for black, Hispanic, and Asian persons that were a feature of the previous sample design were not implemented in 2016. Some of the differences between estimates for 2016 and later and estimates for earlier years may be attributable to the new sample design. Visit the NCHS website at <http://www.cdc.gov/nchs/nhis.htm> for more information on the design, content, and use of NHIS.

### Estimation procedures

NCHS creates weights for each calendar quarter of the NHIS sample. The NHIS data weighting procedures are described in more detail at: [http://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_130.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_130.pdf) (1997–2005 NHIS) and [http://www.cdc.gov/nchs/data/series/sr\\_02/sr02\\_165.pdf](http://www.cdc.gov/nchs/data/series/sr_02/sr02_165.pdf) (2006–2015 NHIS). Because the estimates for 2016 are being released prior to final data editing and final weighting, they should be considered preliminary and may differ slightly from estimates that will be made later using the final 2016 data files. Estimates from the 1997–2015 NHIS are based on previous reports and are therefore also based on preliminary data files and not final data files. Differences between estimates calculated using preliminary data files and final data files are typically less than 0.1 percentage point. For 2008, differences may be as high as 1.5 percentage points because a larger-than-usual number of records were removed for insufficient quality in the final data files. As mentioned previously, estimates for 2000–2002 were recalculated in this report using the 2000 census-based weights that were not included in the final files. See “Lack of Health Insurance Coverage and Type of Coverage” (Section 1 in this report) for details on special data editing for health insurance variables. For NHIS announcements and more detailed information, visit the NHIS website at: <http://www.cdc.gov/nchs/nhis.htm>.

Point estimates, and estimates of their variances, were calculated using the SUDAAN software package (RTI International, Research Triangle Park, NC) to account for the complex sample design of NHIS. The Taylor series linearization method was chosen for variance estimation. All estimates shown meet the NCHS standard of having less than or equal to 30% relative standard error, unless otherwise noted. Point estimates in some

figures and tables are accompanied by 95% confidence intervals. Beginning with the June 2006 release, confidence intervals are shown to two decimal places to improve the precision of further calculations. The June 2007 Early Release report used final in-house design variables for estimating variance. Early Release reports other than the June 2007 report use Early Release interim design variables to estimate variance.

## Significance testing

Trends were assessed by using Joinpoint regression (14), which characterizes trends as joined linear segments. A joinpoint is the year at which two segments with different slopes meet. Joinpoint software uses statistical criteria to determine the fewest number of segments necessary to characterize a trend and the year(s) when segments begin and end.

Differences between percentages or rates for current estimates were evaluated by using two-sided significance tests at the 0.05 level. Terms such as “higher than,” “less than,” “more likely,” and “less likely” indicate a statistically significant difference, unless otherwise noted. Terms such as “similar” and “no difference” indicate that the statistics being compared were not significantly different. Lack of comment regarding the difference between any two statistics does not necessarily mean that the difference was tested and found to be not significant. Because of small sample sizes, estimates based on less than 1 year of data may have large variances, and caution should be used in analyzing these estimates. Patterns for such estimates may change as more data become available.

## Adjustment for age and sex

Age-sex-adjusted percentages were calculated for three race and ethnicity groups. For the prevalence of obesity, only age-adjusted sex-specific percentages are presented because the race and ethnicity patterns in obesity prevalence differ by sex. Similarly, only sex-adjusted age-specific prevalences are presented for the asthma measures because the race and ethnicity patterns in asthma episodes and current asthma differ by age. Direct standardization was used for adjustment, using the projected 2000 U.S. population as the standard population (15) and using age groups that varied depending on the impact of age on the specific measure. Rates presented are crude rates unless otherwise stated.

## Race and ethnicity categories

The race and ethnicity categories for data years beginning in 2003 are defined using the 1997 *Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity* (16) promulgated by the U.S. Office of Management and Budget (OMB). Subsequent to the Early Releases based on data through 2002, the categories “non-Hispanic white” and “non-Hispanic black” were changed to “not Hispanic white, single race” and “not Hispanic black, single race.” The term “Hispanic” was changed to “Hispanic or Latino,” and “black” was changed to “black or African American.” However, the text and figures in this report use shorter terms, for conciseness. For example, the category “not Hispanic or Latino, white, single race” in the tables is referred to as “non-Hispanic white” in the text. Race and ethnicity-specific estimates for years prior to 2003, released previously, were based on the 1977 OMB standards and therefore are not strictly comparable with estimates for 2003 and later. However, the changes in the OMB standards have little effect on the health estimates reported here. See Tables XI and XII in *Health, United States, 2003* (17) for a comparison of estimates for cigarette smoking and private health insurance coverage using both the 1977 and 1997 OMB standards. In addition, beginning with the 2003 NHIS (first incorporated in the September 2004 Early Release), NHIS editing procedures were changed to maintain consistency with U.S. Census Bureau procedures for collecting and editing data on race and ethnicity. These changes reflect the elimination of “other race” as a separate race response. This response category is treated as missing, and race is imputed if this was the only race response. In cases where “other race” was mentioned along with one or more OMB race groups, the “other race” response is dropped and the OMB race group information is retained. This change is not expected to have a substantial effect on the estimates.

## Health insurance

Additional estimates for health insurance can be found in the Early Release Program’s quarterly report, *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey, 2016* (1).

Data on health insurance status were edited using a system of logic checks. Information from follow-up questions, such as plan name(s), were used to reassign insurance status and type of coverage to avoid

misclassification. The resulting estimates of persons without health insurance coverage are generally 0.1–0.3 percentage point lower than those based on the editing procedures used for the final data files.

To reduce potential errors in reporting Medicare and Medicaid status, two questions were added to the health insurance section of NHIS beginning in the third quarter of 2004. Persons aged 65 and over not reporting Medicare coverage were asked explicitly about Medicare coverage. Persons under age 65 with no reported coverage were asked explicitly about Medicaid coverage. For the present report, estimates that exclude the two additional questions are labeled “Method 1,” and estimates that include the additional questions are labeled “Method 2.” Estimates for 1997–2003 in this report are generated using Method 1. Estimates for 2004 are presented using Method 2 in figures and both Method 1 and Method 2 in tables. Estimates for 2005 and beyond are calculated using Method 2. Statements about trends or comparisons for 1997–2003 are based on estimates calculated using Method 1. Statements about trends or comparisons for 2004–present are based on estimates calculated using Method 2. Statements about trends over groups of years from before 2004 to 2004 or later take both methodologies into account. Conclusions regarding trends are not made in cases where using one method yields a different result than the same trend analysis using the other method. Note that although both methods may yield the same conclusion, the extent of the increasing or decreasing trend may be larger using one method than with the other method.

Estimates for 2004 were calculated using both methods to assess the effect of adopting Method 2. From July through December 2004 (third and fourth quarters combined), with the use of Method 2, the estimates (weighted) for persons without health insurance coverage decreased, from 10.4% to 9.9% for persons under age 18, from 19.7% to 19.5% for adults aged 18–64, and from 1.7% to 1.2% for persons aged 65 and over. Also, with the use of Method 2, the estimates for public coverage increased, from 28.1% to 29.6% for children under age 18, from 11.3% to 11.4% for adults aged 18–64, and from 89.5% to 93.3% for persons aged 65 and over. The two additional questions had no impact on the estimates for private coverage. Additional information on the impact of these two questions on health insurance estimates can be found in “Impact of Medicare and Medicaid Probe Questions on Health Insurance Estimates from the National Health Interview Survey, 2004” (18).

## **Influenza vaccination**

An error in calculating influenza vaccination rates occurred from the first quarter of 2005 through the first quarter of 2007. The effect of this error on estimates was small. Compared with the original estimates, corrected estimates are slightly higher, usually by no more than 0.3 percentage point. The error has been corrected for all estimates in this Early Release and had no perceptible impact on the graphs.

Responses to the influenza vaccination questions used to calculate the influenza vaccination estimates presented in this report (see [Appendix](#)) cannot be used to determine when, during the preceding 12 months, the subject received the influenza vaccination. In addition, estimates are subject to recall error, which will vary depending on when the question is asked, because the receipt of an influenza vaccination is seasonal. The prevalence of influenza vaccination during the past 12 months may differ from season-specific coverage (19) (estimates available from: <http://www.cdc.gov/flu/fluview>).

## **Alcohol consumption**

From 1997–2013, the alcohol consumption estimates presented are for the percentage of adults aged 18 and over who had five or more drinks in 1 day at least once in the past year, regardless of sex. However, in 2014 the survey questions were changed; male and female respondents were asked about a different quantity of drinks consumed in a day in the past year. As a result, the estimates presented for 2014 and later are for men aged 18 and over who had five or more drinks in 1 day at least once in the past year and women aged 18 and over who had four or more drinks in 1 day at least once in the past year. Differences observed in estimates for women based on the 2014 and later NHIS and 2013 and earlier NHIS may be partially or fully attributable to these changes in the survey questions on alcohol consumption.

## **Human immunodeficiency virus (HIV) testing**

From 1997 to 2010, the question on HIV testing was located in the AIDS Knowledge and Attitudes (ADS) section of the NHIS questionnaire. The question was preceded by questions that asked respondents whether they had donated blood to a blood bank since March 1985 and, if they had, whether they had donated blood during the past 12 months. The wording of the HIV testing question depended on the respondent’s answers to the blood donation questions. Respondents who had donated blood were instructed to exclude tests they may have had as part of blood donations before they were asked if they had ever been tested for HIV. Respondents

who had not donated blood were only asked if they had ever been tested for HIV. The ADS section was the last section fielded in the Sample Adult Core questionnaire and was preceded by the Adult Access to Health Care and Utilization (AAU) section.

In 2011, the ADS section was dropped from NHIS, with only the HIV testing question retained. The question was added to the AAU section and is preceded by questions on health insurance. Because no questions were asked about blood donations prior to the HIV testing question, the wording of the question was the same for all respondents. They were instructed to exclude tests they may have had as part of blood donations before they were asked if they had ever been tested for HIV. The AAU section is the last section fielded in the Sample Adult Core questionnaire, and the HIV testing question is the last question in the AAU section. Differences observed in estimates based on the 2010 and earlier NHIS and the 2011 and later NHIS may be partially or fully attributable to this change in placement of the HIV testing question on the NHIS questionnaire.

In 2013, the HIV testing question was removed from the AAU section and was added to the Adult Selected Items (ASI) section, where it is preceded by questions on sexual orientation, worries related to financial matters, sleep, and psychological distress. Because no questions were asked about blood donations prior to the HIV testing question, the wording of the question was the same for all respondents. They were instructed to exclude tests they may have had as part of blood donations before they were asked if they had ever been tested for HIV. Beginning in 2013, the ASI section is the last section fielded in the Sample Adult Core questionnaire, and the HIV testing question is the second-to-last question in the ASI section (followed by a question asking adults who had not been tested why they had not been tested). Differences observed in estimates based on the 2012 and earlier NHIS and the 2013 and later NHIS may be partially or fully attributable to this change in placement of the HIV testing question on the NHIS questionnaire.

### **Serious psychological distress**

From 1997 to 2012, the six questions on psychological distress were located in the Adult Conditions (ACN) section of the Sample Adult Core questionnaire. The ACN section was preceded by the Adult Socio-Demographic (ASD) section. In 2013, the six psychological distress questions were moved from the ACN section and added to the Adult Selected Items (ASI) section, where they were preceded by questions on sexual orientation, worries related to financial matters, and sleep. Beginning in 2013, the ASI section is the last section fielded in the Sample Adult Core questionnaire. Due to the higher than usual amount of missing data in the ASI section, adults with missing data for any of the six psychological distress questions are excluded from the calculation of the serious psychological distress indicator for 2013 and later. Differences observed in estimates based on the 2012 and earlier NHIS and the 2013 and later NHIS may be partially or fully attributable to this change in placement of the six psychological distress questions on the NHIS questionnaire.

### **Early Release of NHIS Estimates**

The NCHS Early Release Program updates and releases timely estimates by means of three Early Release reports. This Early Release of Selected Estimates (20) and a separate health insurance report (1) are released approximately 5 to 6 months after National Health Interview Survey (NHIS) data collection has been completed for each quarter. A third report on wireless substitution (2) is released mid-year and again at the end of the year. New measures may be added as work continues and in response to changing data needs. Feedback on the Early Release mechanism and on the estimates is welcome ([e-mail](#)).

Announcements about Early Releases, other new data releases, publications, or corrections related to NHIS will be sent to members of the National Health Interview Survey (NHIS) researchers electronic mailing list. To join, visit: <http://www.cdc.gov/subscribe.html>.

A list of previous Early Release Program reports is available from: <http://www.cdc.gov/nchs/nhis/releases.htm>.

### **Suggested Citation**

Clarke TC, Norris T, Schiller JS. Early release of selected estimates based on data from 2016 National Health Interview Survey. National Center for Health Statistics. May 2017. Available from: <http://www.cdc.gov/nchs/nhis.htm>.