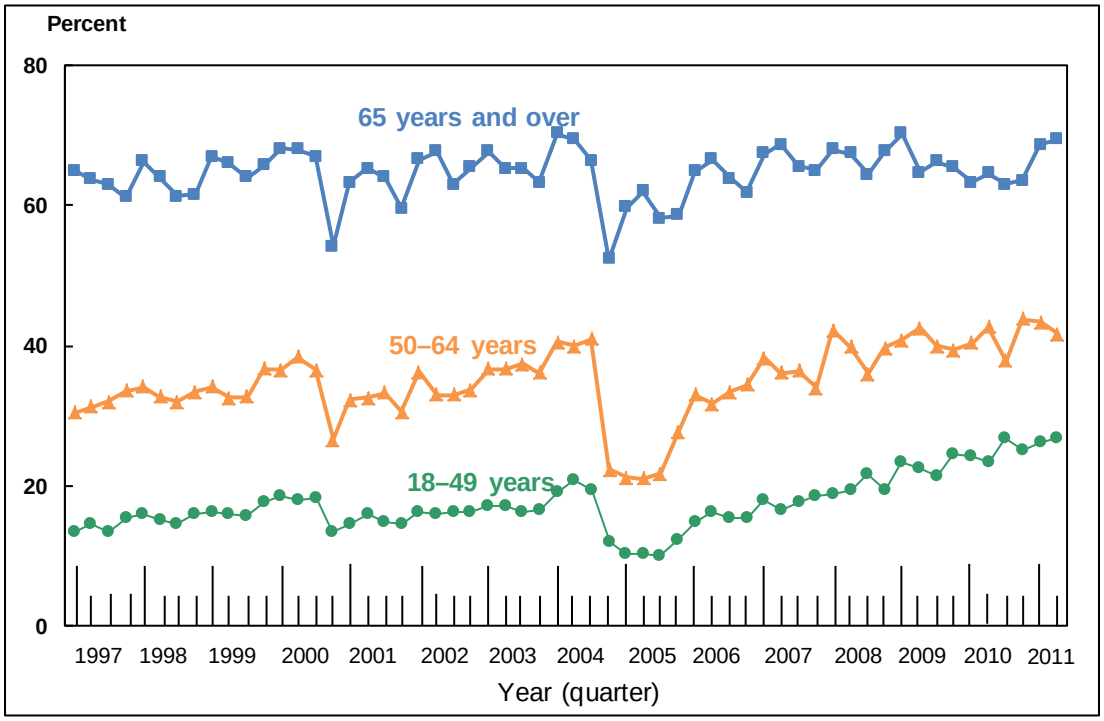
Figure 4.1. Percentage of adults aged 18 years and over who had received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–June 2011



DATA SOURCE: CDC/NCHS, National Health Interview Survey, 1997–June 2011, Sample Adult Core component.

- In the second quarter of 2011, the percentage of adults who had received an influenza vaccination during the past 12 months was 69.4% for persons aged 65 and over, 41.7% for persons aged 50–64, and 26.9% for persons aged 18–49.
- For the age group 50–64, the second-quarter estimate in 2011 was lower than, but not significantly different from, the second-quarter estimate in 2010. For the age groups 18-49 and 65 and over, the second-quarter estimate in 2011 was higher than the second-quarter estimate in 2010. For the age group 18–49, second-quarter estimates increased from 2005 to 2011.

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 had received a flu shot during the past 12 months. Beginning in 2003, respondents were also asked if they had received a flu vaccine sprayed in their nose during the past 12 months. In August 2010, NHIS 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. • 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 and/or seasonal intranasal influenza vaccination. • Estimates based on data collected in quarters three and four of 2010 and 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 may differ from season-specific coverage (estimates available from: http://www.cdc.gov/flu/professionals/vaccination/vaccinecoverage.htm). • The recommendations of the Advisory Committee on Immunization Practices 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 excluded those with unknown influenza vaccination status (about 3% of respondents each year). • See "Technical Notes" for more details.

Table 4.1a. Percentage of adults aged 50–64 years who had received an influenza vaccination during the past 12 months, by sex: United States, 1997–June 2011

Year	Percent (95% confidence interval): Total	Percent (95% confidence interval): Men	Percent (95% confidence interval): Women
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)
Jan.-June 2011	42.5 (40.52-44.55)	39.2 (36.55-41.76)	45.7 (43.03-48.38)

Table 4.1b. Percentage of adults aged 65 years and over who had received an influenza vaccination during the past 12 months, by sex: United States, 1997–June 2011

Year	Crude percent (95% confidence interval): Total	Age-adjusted percent (95% confidence interval): Total	Percent (95% confidence interval): Men	Percent (95% confidence interval): Women
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)
Jan.–June 2011	69.0 (67.13-70.95)	69.3 (67.41-71.18)	69.3 (66.43-72.09)	68.9 (66.50-71.24)

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 1997–June 2011, Sample Adult Core component.

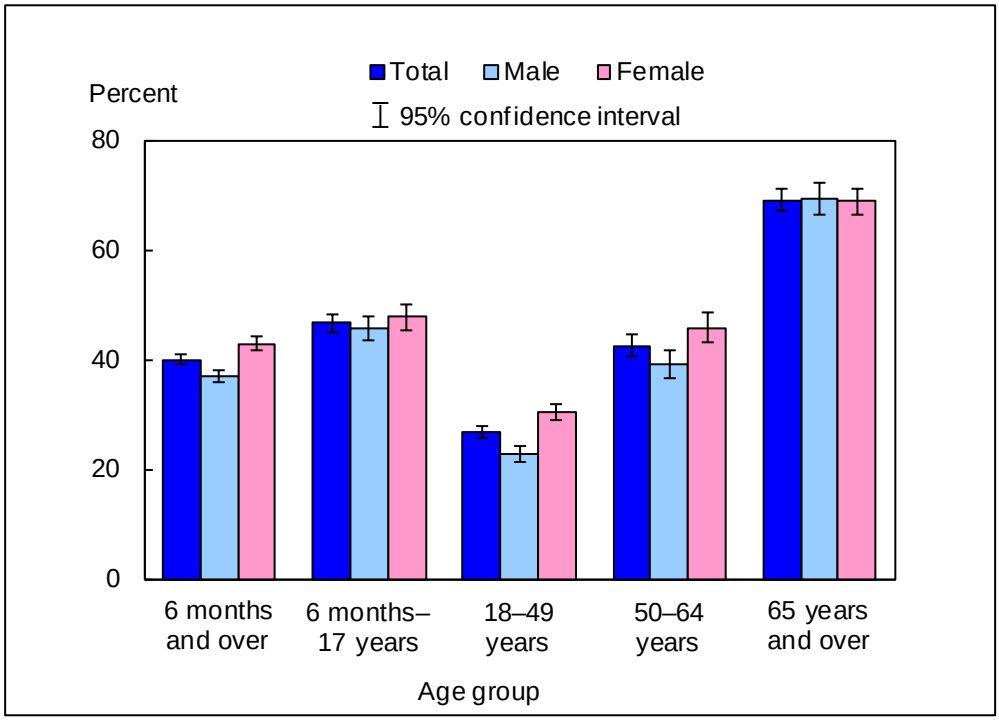
- For January–June 2011, the percentage of adults who received an influenza vaccination was 42.5% for persons aged 50–64 (Figure 4.1a). This estimate was higher than, but not significantly different from, the 2010 estimate of 41.2%. Following the influenza vaccine shortage during the 2004–2005 influenza season, estimates for this age group increased from 2005 to 2008, with the 2007 estimates being similar to the estimates in 2004 (4).

- For January–June 2011, the percentage of adults who received an influenza vaccination was 69.0% for persons aged 65 and over (Figure 4.1b). This estimate was higher than the 2010 estimate of 63.6%. This pattern was seen in both men and women. Following the influenza vaccine shortage during the 2004–2005 influenza season, estimates for this age group increased from 2005 to 2008, with the 2006 estimates being similar to the estimates in 2004 (4).

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 had received a flu shot during the past 12 months. Beginning in 2003, respondents were also asked if they had received a flu vaccine sprayed in their nose during the past 12 months. In August 2010, NHIS 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. • 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 and/or seasonal intranasal influenza vaccination. • Estimates based on data collected in quarters three and four of 2010 and 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 may differ from season-specific coverage (estimates available from: http://www.cdc.gov/flu/professionals/vaccination/vaccinecoverage.htm). • The recommendations of the Advisory Committee on

Immunization Practices 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 excluded those with unknown influenza vaccination status (about 3% of respondents each year). • See "Technical Notes" for more details.

Figure 4.2. Percentage of persons who had received an influenza vaccination during the past 12 months, by age group and sex: United States, January–June 2011



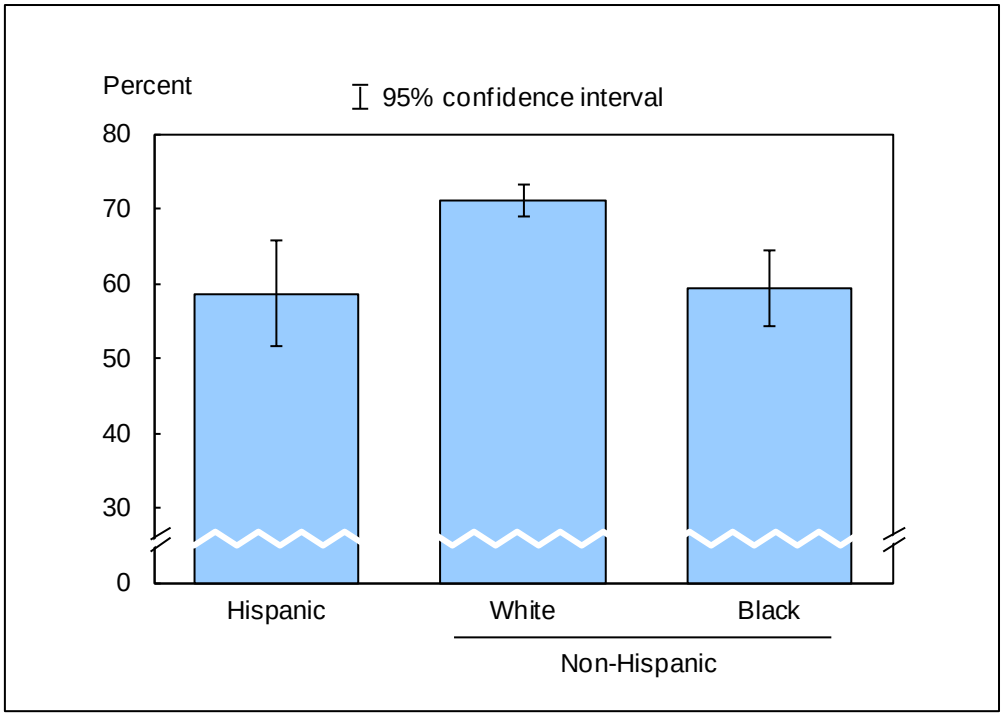
DATA SOURCE: CDC/NCHS, National Health Interview Survey, January–June 2011, combined Sample Adult and Sample Child Core components.

- For both sexes combined, the percentage of persons who had an influenza vaccination during the past 12 months was highest among persons aged 65 and over (69.0%), followed by persons aged 6 months–17 years (46.5%), 50–64 years (42.5%), and 18–49 years (26.6%).

- For adults aged 18–49 and 50-64, women were more likely than men to have received an influenza vaccination during the past 12 months.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. • Respondents were asked in separate questions if they had received a flu shot during the past 12 months or a flu vaccine sprayed in their nose during the past 12 months. 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, readers should take into account changes made to the influenza vaccination questions noted above. • Estimates based on data collected in 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 may differ from season-specific coverage (estimates available from: http://www.cdc.gov/flu/professionals/vaccination/vaccinecoverage.htm). • The recommendations of the Advisory Committee on Immunization Practices 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 excluded 1.7% of persons with unknown influenza vaccination status. • See "Technical Notes" for more details.

Figure 4.3. Percentage of adults aged 65 years and over who had received an influenza vaccination during the past 12 months, by race/ethnicity: United States, January–June 2011



DATA SOURCE: CDC/NCHS, National Health Interview Survey, January–June 2011, Sample Adult Core component.

- For adults aged 65 and over, the percentage of persons receiving an influenza vaccination during the past 12 months was 58.6% for Hispanic persons, 71.1% for non-Hispanic white persons, and 59.3% for non-Hispanic black persons.
- Hispanic persons and non-Hispanic black persons were less likely than non-Hispanic white persons to have received an influenza vaccination during the past 12 months.

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. • Respondents were asked in separate questions if they had received a flu shot during the past 12 months or a flu vaccine sprayed in their nose during the past 12 months. 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, readers should take into account changes made to the influenza vaccination questions noted above. • Estimates based on data collected in 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 may differ from season-specific coverage (estimates available from: http://www.cdc.gov/flu/professionals/vaccination/vaccinecoverage.htm). • The recommendations of the Advisory Committee on Immunization Practices 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 excluded 1.6% of adults aged 65 and over with unknown influenza vaccination status. • See "Technical Notes" for more details.

Data tables for Figures 4.1–4.3:

Data table for Figure 4.1. Percentage of adults aged 18 years and over who had received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–June 2011

Year and quarter	Percent (95% confidence interval): 18-49 years	Percent (95% confidence interval): 50-64 years	Percent (95% confidence interval): 65 years and over
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)

See notes at end of table.

Year and quarter	Percent (95% confidence interval): 18-49 years	Percent (95% confidence interval): 50-64 years	Percent (95% confidence interval): 65 years and over
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)
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 (63.03-69.47)
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)

NOTES: Data are based on household interviews of a sample of the civilian noninstitutionalized population. Beginning with the 2003 data, the National Health Interview Survey transitioned to weights derived from the 2000 census. In this Early Release, estimates for 2000–2002 were recalculated using weights derived from the 2000 census. See "Technical Notes" for more details.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, 1997–June 2011, Sample Adult Core component.

Data table for Figure 4.2. Percentage of persons who had received an influenza vaccination during the past 12 months, by age group and sex: United States, January–June 2011

Age and sex	Percent	95% confidence interval
6 months-4 years, total	58.0	55.01-60.89
6 months-4 years, male	58.5	54.56-62.39
6 months-4 years, female	57.4	52.90-61.89
5-11 years, total	46.9	44.43-49.29
5-11 years, male	44.8	41.56-47.99
5-11 years, female	49.1	45.51-52.66
12-17 years, total	37.0	34.22-39.70
12-17 years, male	35.7	31.99-39.37
12-17 years, female	38.3	34.42-42.12
6 months-17 years, total	46.5	44.84-48.25
6 months-17 years, male	45.5	43.28-47.66
6 months-17 years, female	47.7	45.28-50.08
18-49 years, total	26.6	25.56-27.72
18-49 years, male	22.8	21.34-24.28
18-49 years, female	30.4	28.94-31.92
50-64 years, total	42.5	40.52-44.55
50-64 years, male	39.2	36.55-41.76
50-64 years, female	45.7	43.03-48.38
65 years and over, total	69.0	67.13-70.95
65 years and over, male	69.3	66.43-72.09
65 years and over, female	68.9	66.50-71.24
6 months and over (crude[1]), total	40.0	38.99-40.92
6 months and over (crude[1]), male	37.0	35.79-38.13
6 months and over (crude[1]), female	42.8	41.62-44.07
18 years and over (crude[1]), total	37.9	36.89-38.95
18 years and over (crude[1]), male	34.2	32.87-35.48
18 years and over (crude[1]), female	41.4	40.15-42.73
65 years and over (age-adjusted[2]), total	69.3	67.41-71.18
65 years and over (age-adjusted[2]), male	69.7	66.94-72.50
65 years and over (age-adjusted[2]), female	68.9	66.56-71.26

[1]Crude estimates are presented in the figure.
[2]Estimates are age adjusted using the projected 2000 U.S. population as the standard population and using 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: CDC/NCHS, National Health Interview Survey, January–June 2011, combined Sample Adult and Sample Child Core components.

Data table for Figure 4.3. Percentage of adults aged 65 years and over who had received an influenza vaccination during the past 12 months, by race/ethnicity: United States, January–June 2011

Race/ethnicity	Crude[1] percent (95% confidence interval)	Age-adjusted[2] percent (95% confidence interval)
Hispanic or Latino	58.6 (51.54-65.75)	58.7 (51.45-66.00)
Not Hispanic or Latino, single race, white	71.1 (69.03-73.20)	71.3 (69.21-73.33)
Not Hispanic or Latino, single race, black	59.3 (54.36-64.34)	60.0 (55.25-64.69)

[1]Crude estimates are presented in the figure.
[2]Estimates are age adjusted using the projected 2000 U.S. population as the standard population and using 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: CDC/NCHS, National Health Interview Survey, January–June 2011, Sample Adult Core component.