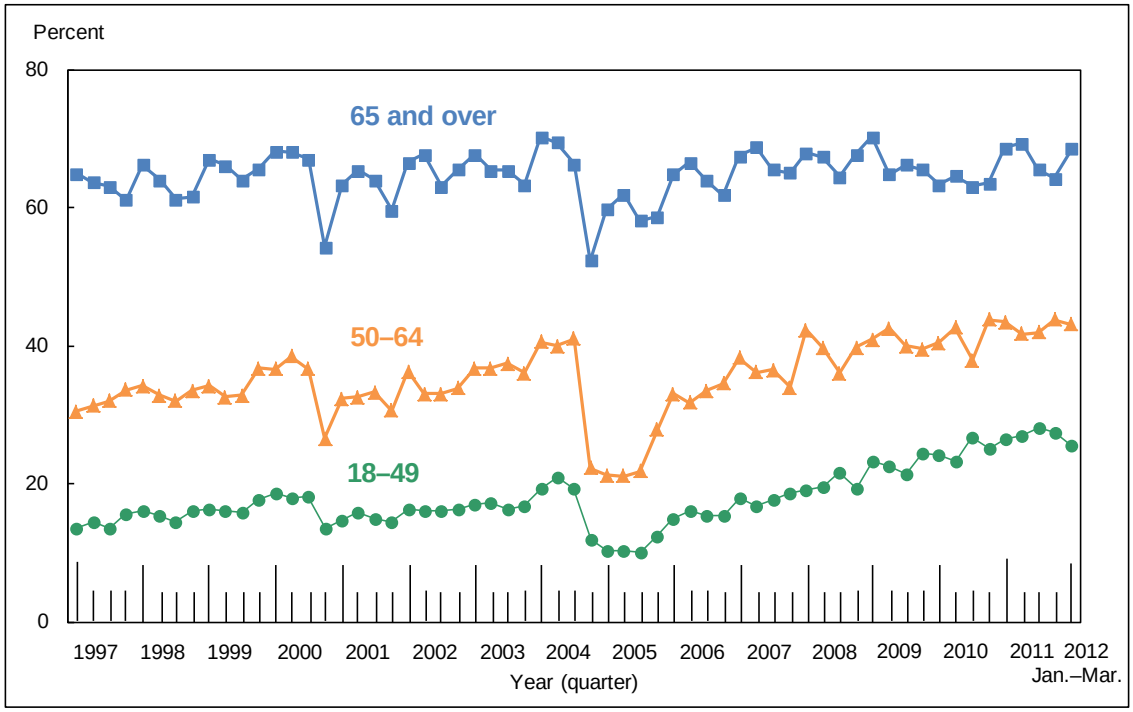
Figure 4.1. Percentage of adults aged 18 and over who had received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–March 2012



DATA SOURCE: CDC/NCHS, National Health Interview Survey, 1997–March 2012, Sample Adult Core component.

- In the first quarter of 2012, the percentage of adults who had received an influenza vaccination during the past 12 months was 68.6% for persons aged 65 and over, 43.1% for persons aged 50–64, and 25.5% for persons aged 18–49.
- For all three age groups, first-quarter estimates in 2012 were lower than, but not significantly different from, first-quarter estimates in 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 is different from season-specific coverage (estimates available from: http://www.cdc.gov/flu/fluvaxview). • 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 who had received an influenza vaccination during the past 12 months, by sex: United States, 1997–March 2012

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)
2011	42.7 (41.31-44.08)	39.0 (36.95-41.00)	46.2 (44.23-48.16)
January–March 2012	43.1 (40.29-46.00)	38.3 (34.24-42.36)	47.9 (44.18-51.55)

Table 4.1b. Percentage of adults aged 65 and over who had received an influenza vaccination during the past 12 months, by sex: United States, 1997–March 2012

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)
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)
Jan.–March 2012	68.6 (65.63-71.61)	68.9 (65.94-71.91)	69.5 (65.16-73.83)	67.9 (63.98-71.88)

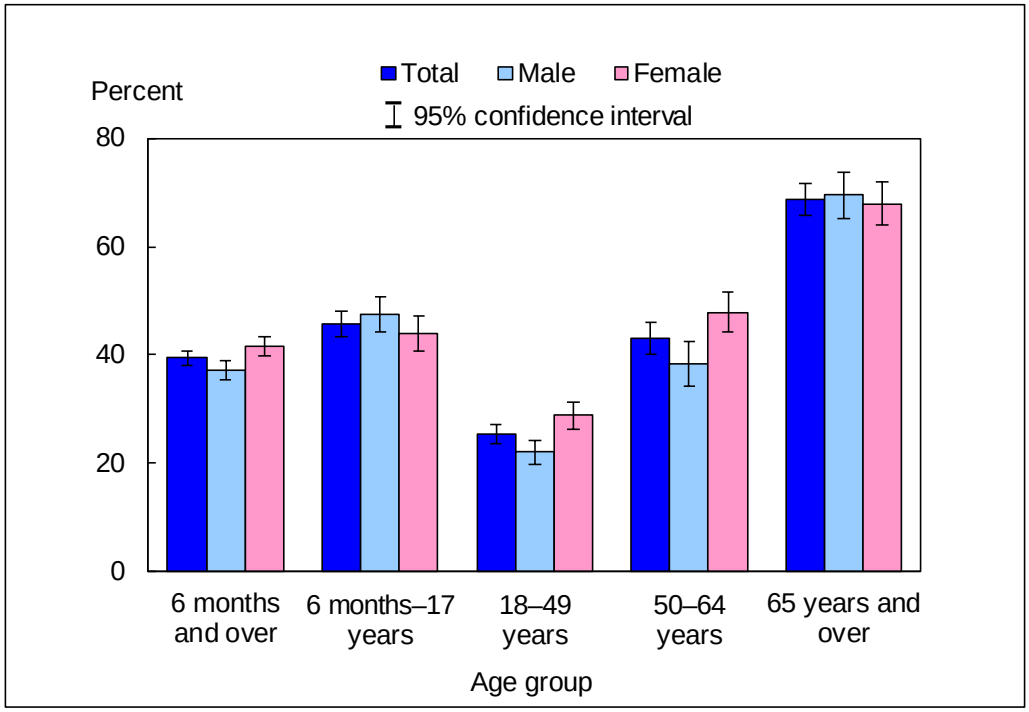
DATA SOURCE: CDC/NCHS, National Health Interview Survey, 1997–March 2012, Sample Adult Core component.

- In early 2012, the percentage of adults who had received an influenza vaccination during the past 12 months was 43.1% for persons aged 50–64 (Table 4.1a). This estimate was not significantly different from the 2011 estimate of 42.7%.
- In early 2012, the percentage of adults who had received an influenza vaccination during the past 12 months was 68.6% for persons aged 65 and over (Table 4.1b). This estimate was higher than, but not significantly different from, the 2011 estimate of 67.0%.
- For age groups 50–64 and 65 and over, the percentage of adults who had received an influenza vaccination during the past 12 months increased from 2005 to early 2012.

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 is different from season-specific coverage (estimates available from:

http://www.cdc.gov/flu/fluvaxview). • 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–March 2012

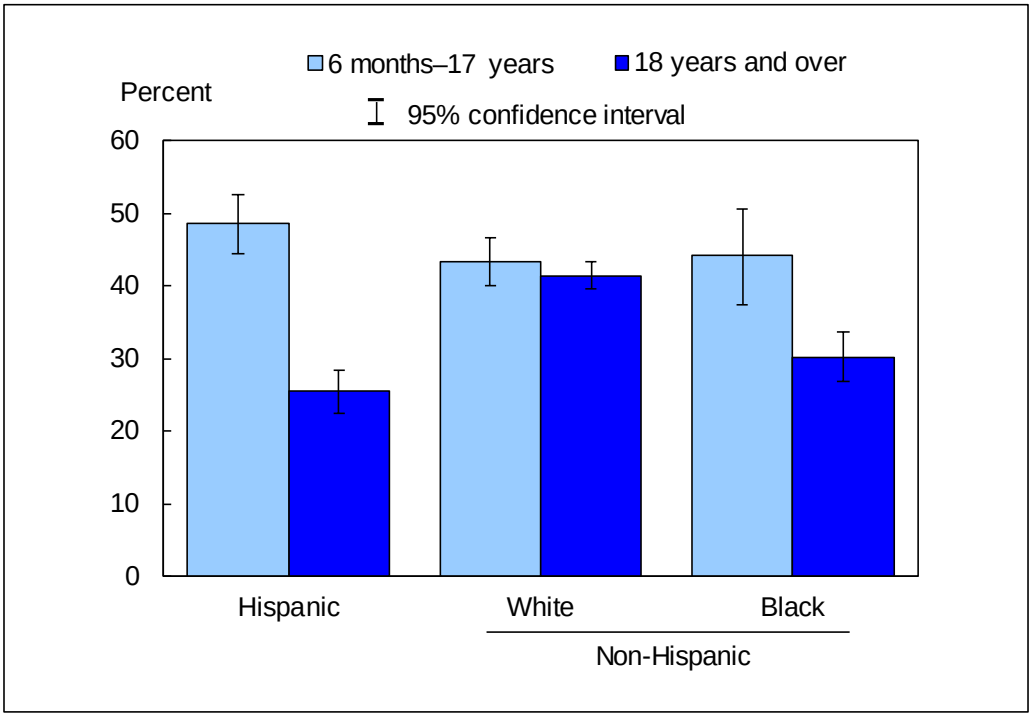


DATA SOURCE: CDC/NCHS, National Health Interview Survey, January–March 2012, combined Sample Adult and Sample Child Core components.

- For both sexes combined, the percentage of persons who had received an influenza vaccination during the past 12 months was highest among persons aged 65 and over (68.6%), followed by persons aged 6 months–17 years (45.7%), 50–64 years (43.1%), and 18–49 years (25.5%).
- 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 is different from season-specific coverage (estimates available from: http://www.cdc.gov/flu/fluvaxview). • 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 2.7% of persons with unknown influenza vaccination status. • See Technical Notes for more details.

Figure 4.3. Percentage of persons aged 6 months and over who had received an influenza vaccination during the past 12 months, by age group and race/ethnicity: United States, January–March 2012



DATA SOURCE: CDC/NCHS, National Health Interview Survey, January–March 2012, Sample Adult Core component.

- For children aged 6 months–17 years, the percentage who had received an influenza vaccination during the past 12 months was 48.5% for Hispanic children, 43.3% for non-Hispanic white children, and 44.1% for non-Hispanic black children.
- For adults aged 18 and over, the percentage who had received an influenza vaccination during the past 12 months was lower among Hispanic adults (25.5%) and non-Hispanic black adults (30.2%) compared with non-Hispanic white adults (41.4%).

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 is different from season-specific coverage (estimates available from: http://www.cdc.gov/flu/fluvaxview). • 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 2.7% 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 and over who had received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–March 2012

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, Q1	13.6 (12.5-14.6)	30.5 (27.8-33.2)	65.0 (62.3-67.6)
1997, Q2	14.5 (13.4-15.5)	31.3 (28.7-34.0)	63.7 (61.1-66.2)
1997, Q3	13.6 (12.6-14.6)	32.0 (29.3-34.6)	63.1 (60.3-65.9)
1997, Q4	15.6 (14.5-16.7)	33.6 (31.1-36.2)	61.2 (58.7-63.8)
1998, Q1	16.1 (14.8-17.3)	34.2 (31.3-37.1)	66.3 (63.2-69.4)
1998, Q2	15.3 (14.1-16.5)	32.8 (30.1-35.5)	64.0 (61.3-66.8)
1998, Q3	14.5 (13.3-15.6)	32.0 (29.3-34.6)	61.3 (58.5-64.0)
1998, Q4	16.0 (14.8-17.2)	33.5 (30.8-36.1)	61.6 (58.7-64.5)
1999, Q1	16.3 (14.8-17.7)	34.2 (31.1-37.3)	67.0 (64.0-70.1)
1999, Q2	16.0 (14.7-17.3)	32.6 (29.8-35.4)	66.1 (63.4-68.8)
1999, Q3	15.8 (14.5-17.1)	32.8 (30.1-35.5)	64.1 (61.2-67.0)
1999, Q4	17.6 (16.2-18.9)	36.7 (34.2-39.2)	65.7 (62.7-68.6)
2000, Q1	18.6 (17.2-19.9)	36.6 (33.7-39.4)	68.2 (65.3-71.0)
2000, Q2	18.0 (16.7-19.4)	38.5 (35.7-41.4)	68.1 (65.6-70.7)
2000, Q3	18.2 (16.9-19.4)	36.6 (33.7-39.5)	67.1 (64.4-69.8)
2000, Q4	13.6 (12.4-14.8)	26.6 (24.2-29.0)	54.3 (51.6-57.1)
2001, Q1	14.7 (13.4-16.0)	32.3 (29.6-35.0)	63.3 (60.2-66.3)
2001, Q2	15.9 (14.7-17.1)	32.6 (30.1-35.1)	65.4 (62.8-68.0)
2001, Q3	14.9 (13.9-15.9)	33.3 (30.7-35.8)	64.0 (61.1-66.8)
2001, Q4	14.5 (13.6-15.9)	30.6 (28.0-33.1)	59.6 (56.7-62.4)
2002, Q1	16.4 (15.2-17.7)	36.3 (33.6-38.9)	66.6 (63.8-69.4)
2002, Q2	16.0 (14.8-17.2)	33.0 (30.5-35.5)	67.8 (65.3-70.3)
2002, Q3	16.2 (14.9-17.5)	33.1 (30.6-35.6)	63.1 (60.5-65.8)
2002, Q4	16.4 (15.1-17.8)	33.8 (31.0-36.6)	65.5 (62.4-68.6)
2003, Q1	17.1 (15.7-18.4)	36.8 (34.2-39.4)	67.8 (65.0-70.6)
2003, Q2	17.2 (15.8-18.6)	36.8 (33.9-39.7)	65.4 (62.6-68.3)
2003, Q3	16.4 (15.2-17.6)	37.4 (34.9-39.9)	65.4 (62.8-67.9)
2003, Q4	16.7 (15.2-18.1)	36.1 (33.3-39.0)	63.3 (60.1-66.5)
2004, Q1	19.3 (17.9-20.8)	40.6 (38.0-43.3)	70.3 (67.5-73.0)
2004, Q2	20.9 (19.1-22.6)	40.0 (37.1-43.0)	69.5 (66.7-72.3)
2004, Q3	19.4 (18.2-20.7)	41.0 (38.4-43.6)	66.4 (63.6-69.2)
2004, Q4	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, Q1	10.2 (9.03-11.41)	21.2 (19.05-23.42)	59.8 (56.66-62.90)
2005, Q2	10.3 (9.25-11.37)	21.1 (19.05-23.19)	62.0 (59.02-64.91)
2005, Q3	10.0 (9.03-11.03)	21.8 (19.64-24.01)	58.2 (55.42-60.97)
2005, Q4	12.4 (11.28-13.51)	27.8 (25.47-30.19)	58.7 (55.68-61.71)
2006, Q1	15.0 (13.69-16.36)	33.1 (29.95-36.20)	64.9 (61.65-68.15)
2006, Q2	16.2 (14.78-17.68)	31.8 (29.05-34.50)	66.6 (63.60-69.51)
2006, Q3	15.5 (13.56-17.47)	33.5 (29.45-37.51)	63.9 (58.90-68.84)
2006, Q4	15.4 (14.07-16.82)	34.5 (31.81-37.11)	61.9 (58.72-65.00)
2007, Q1	18.0 (16.36-19.63)	38.3 (35.28-41.39)	67.5 (64.47-70.62)
2007, Q2	16.7 (15.07-18.31)	36.2 (33.37-39.03)	68.8 (65.62-71.91)
2007, Q3	17.6 (15.47-19.74)	36.5 (32.10-40.95)	65.6 (60.90-70.39)
2007, Q4	18.7 (17.11-20.38)	34.0 (31.14-36.79)	65.1 (62.17-68.02)
2008, Q1	19.0 (17.41-20.56)	42.3 (39.12-45.57)	68.0 (64.78-71.21)
2008, Q2	19.5 (17.87-21.08)	39.8 (37.01-42.57)	67.4 (64.60-70.20)
2008, Q3	21.6 (19.95-23.26)	36.0 (33.10-38.86)	64.5 (61.09-68.00)
2008, Q4	19.4 (17.29-21.60)	39.7 (35.45-43.92)	67.8 (63.70-71.91)
2009, Q1	23.3 (20.81-25.78)	40.9 (37.05-44.67)	70.3 (66.08-74.59)
2009, Q2	22.5 (20.92-24.06)	42.5 (40.09-44.93)	64.8 (62.04-67.55)
2009, Q3	21.4 (19.81-22.98)	40.0 (37.13-42.82)	66.3 (63.03-69.47)
2009, Q4	24.5 (23.06-25.93)	39.5 (37.24-41.75)	65.5 (62.96-68.03)
2010, Q1	24.3 (22.45-26.17)	40.4 (37.81-43.05)	63.3 (60.51-66.04)
2010, Q2	23.3 (21.56-25.02)	42.7 (39.65-45.74)	64.6 (61.74-67.39)
2010, Q3	26.7 (24.81-28.64)	37.9 (35.02-40.69)	63.1 (59.87-66.39)
2010, Q4	25.1 (23.24-27.04)	43.8 (40.80-46.82)	63.6 (60.19-66.99)
2011, Q1	26.4 (24.86-27.93)	43.4 (40.61-46.17)	68.7 (66.01-71.37)
2011, Q2	26.9 (25.32-28.46)	41.7 (38.97-44.39)	69.4 (67.00-71.78)
2011, Q3	28.2 (26.47-29.87)	41.9 (39.23-44.57)	65.5 (62.59-68.50)
2011, Q4	27.5 (25.48-29.47)	43.8 (41.26-46.32)	64.3 (61.52-67.14)
2012, Q1	25.5 (23.78-27.25)	43.1 (40.29-46.00)	68.6 (65.63-71.61)

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–March 2012, 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–March 2012

Age and sex	Percent	95% confidence interval
6 months-4 years, total	58.4	53.82-63.03
6 months-4 years, male	62.2	56.30-68.18
6 months-4 years, female	54.6	48.17-61.01
5-11 years, total	46.0	42.40-49.65
5-11 years, male	47.0	41.91-52.13
5-11 years, female	45.0	39.83-50.14
12-17 years, total	36.0	32.14-39.87
12-17 years, male	37.6	32.01-43.23
12-17 years, female	34.2	29.46-38.95
6 months-17 years, total	45.7	43.33-48.05
6 months-17 years, male	47.4	44.29-50.60
6 months-17 years, female	43.8	40.60-47.08
18-49 years, total	25.5	23.78-27.25
18-49 years, male	22.1	19.97-24.18
18-49 years, female	28.9	26.42-31.30
50-64 years, total	43.1	40.29-46.00
50-64 years, male	38.3	34.24-42.36
50-64 years, female	47.9	44.18-51.55
65 years and over, total	68.6	65.63-71.61
65 years and over, male	69.5	65.16-73.83
65 years and over, female	67.9	63.98-71.88
6 months and over (crude[1]), total	39.5	38.11-40.86
6 months and over (crude[1]), male	37.2	35.47-38.95
6 months and over (crude[1]), female	41.7	39.88-43.47
18 years and over (crude[1]), total	37.6	36.10-39.11
18 years and over (crude[1]), male	33.9	31.99-35.88
18 years and over (crude[1]), female	41.1	39.12-42.99
65 years and over (age-adjusted[2]), total	68.9	65.94-71.91
65 years and over (age-adjusted[2]), male	70.3	66.03-74.61
65 years and over (age-adjusted[2]), female	68.0	64.06-71.92

[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–March 2012, combined Sample Adult and Sample Child Core components.

Data table for Figure 4.3. Percentage of persons aged 6 months and over who had received an influenza vaccination during the past 12 months, by age group and race/ethnicity: United States, January–March 2012

Age and race/ethnicity	Percent	95% confidence interval
6 months–17 years, Hispanic or Latino	48.5	44.50-52.54
6 months–17 years, not Hispanic or Latino, single race, white	43.3	39.97-46.62
6 months–17 years, not Hispanic or Latino, single race, black	44.1	37.44-50.68
18 years and over, Hispanic or Latino	25.5	22.53-28.48
18 years and over, not Hispanic or Latino, single race, white	41.4	39.53-43.29
18 years and over, not Hispanic or Latino, single race, black	30.2	26.77-33.71

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

DATA SOURCE: CDC/NCHS, National Health Interview Survey, January–March 2012, Sample Adult Core component.