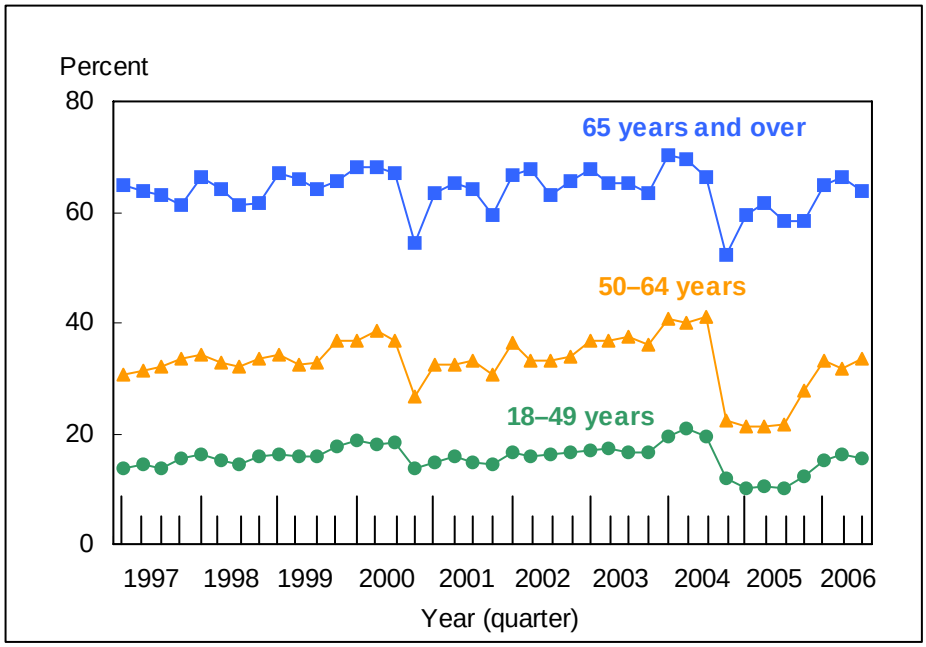
Figure 4.1. Percentage of adults aged 18 years and over who had received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–September 2006



NOTES: From 1997 to August 2003, respondents were asked if they had received a flu shot during the past 12 months. Beginning in September 2003, respondents were asked about influenza vaccination by nasal spray (sometimes called by the brand name FluMist™) during the past 12 months in addition to the question regarding the flu shot. Beginning in 2005, receipt of nasal spray flu vaccinations was included in the calculation of flu vaccination estimates. The impact of this change on the estimates was minimal (typically 0.5 percentage points or less). Responses to the flu vaccination questions cannot be used to determine when during the preceding 12 months the subject received the flu vaccination. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. According to the recommendations of the Advisory Committee on Immunization Practices, all adults aged 65 years and over should receive an influenza vaccination (8). In the 2000–2001 flu season (but not issued until the 2001–2002 flu season), these recommendations for influenza vaccination were expanded to include persons 50-64 years of age, a group for which influenza vaccination was formerly recommended only if they had existing high-risk conditions (9). Adults aged 18–49 years are recommended to receive influenza vaccination only if they have existing high-risk conditions. The analyses excluded those with unknown flu vaccination status (about 1% of respondents each year). Beginning with the 2003 data, the National Health Interview Survey (NHIS) 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 "About This Release" and Table III in the Appendix for more details.

DATA SOURCE: Sample Adult Core component of the 1997–2006 NHIS. The estimate for 2006 was based on data collected from January through September. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- In the third quarter of 2006, the percentage of adults who had received an influenza vaccination during the past 12 months was 63.8% for persons aged 65 years and over, 33.4% for persons aged 50–64 years, and 15.5% for persons aged 18–49 years.

- For all three age groups, third quarter estimates in 2006 were higher than third quarter estimates in 2005. For age groups 18–49 years and 50–64 years, third quarter estimates in 2006 were still lower than third quarter estimates in 2004. An influenza vaccination shortage occurred during the 2004–2005 flu season (8). Previous delays in availability of the flu shots also occurred in the fall of 2000 and, to a lesser extent, in the fall of 2001 (9,10).

Table 4.1. Annual percentage of adults aged 50 years and over who had received an influenza vaccination during the past 12 months, by age group and sex: United States, 1997–2005

Year	50-64 years			65 years and over			
				Total			
	Total	Men	Women	Crude	Age-adjusted	Men	Women
1997	31.9 (30.5-33.3)	28.0 (26.1-29.9)	35.5 (33.6-37.4)	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	33.1 (31.7-34.5)	29.0 (27.0-31.0)	37.0 (35.1-38.9)	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	34.1 (32.8-35.4)	30.5 (28.6-32.4)	37.4 (35.5-39.3)	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	34.6 (33.1-36.1)	31.9 (29.9-33.9)	37.2 (35.2-39.1)	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	32.2 (30.9-33.5)	30.3 (28.3-32.2)	34.0 (32.2-35.8)	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	34.0 (32.7-35.3)	30.7 (28.8-32.5)	37.2 (35.4-38.9)	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	36.8 (35.4-38.2)	34.5 (32.6-36.3)	38.9 (37.0-40.9)	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	35.9 (34.6-37.3)	33.3 (31.3-35.3)	38.5 (36.7-40.3)	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	23.0 (21.89-24.05)	19.7 (18.09-21.33)	26.0 (24.54-27.44)	59.5 (57.98-60.96)	59.5 (58.05-61.03)	58.8 (56.54-61.03)	60.0 (58.00-61.97)

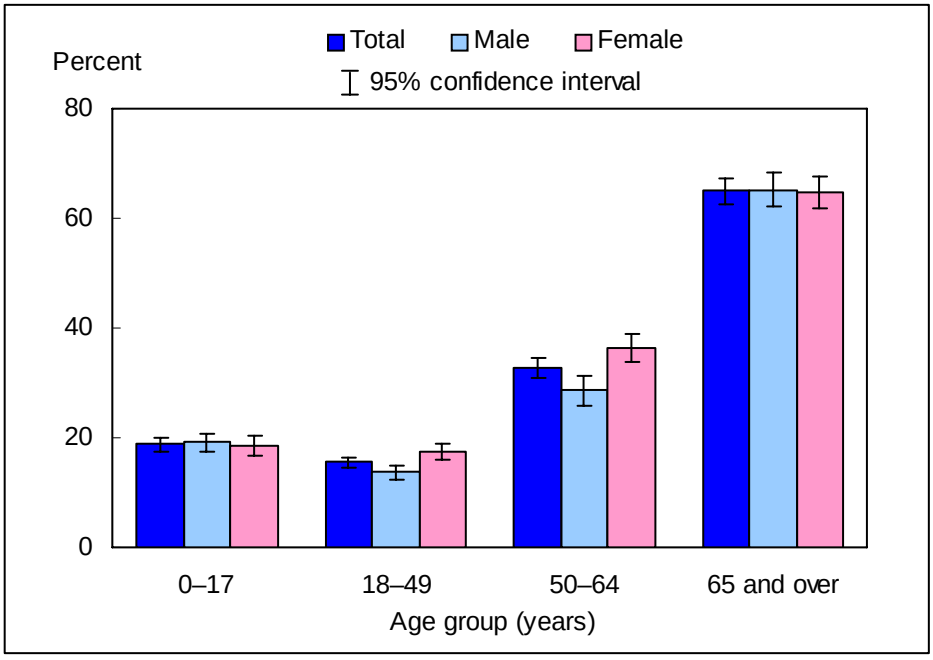
NOTES: From 1997 to August 2003, respondents were asked if they had received a flu shot during the past 12 months. Beginning in September 2003, respondents were asked about influenza vaccination by nasal spray (sometimes called by the brand name FluMist™) during the past 12 months in addition to the question regarding the flu shot. Beginning in 2005, receipt of nasal spray flu vaccinations was included in the calculation of flu vaccination estimates. The impact of this change on the estimates was minimal (typically 0.5 percentage points or less). Responses to the flu vaccination questions cannot be used to determine when during the preceding 12 months the subject received the flu vaccination. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. According to the recommendations of the Advisory Committee on Immunization Practices, all adults aged 65 years and over should receive an influenza vaccination (8). In the 2000–2001 flu season (but not issued until the 2001–2002 flu season), these recommendations for influenza vaccination were expanded to include persons aged 50-64 years, a group for which influenza vaccination was formerly recommended only if they had existing high-risk conditions (9). Adults aged 18–49 years are recommended to receive influenza vaccination only if they have existing high-risk conditions. The analyses excluded those with unknown flu vaccination status (about 1% of respondents each year). Age-adjusted estimates for persons aged 65 years and over for this Healthy People 2010 Leading Health Indicator are based on the 2000 projected U.S. standard population using two age groups: 65–74 years and 75 years and over. Beginning with the 2003 data, the National Health Interview Survey (NHIS) 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 "About This Release" and Table III in the Appendix for more details.

DATA SOURCE: Sample Adult Core component of the 1997–2005 NHIS. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- For adults aged 50–64 years, the annual percentage of persons who received an influenza vaccination during the past 12 months was 23.0% in 2005. This estimate was lower than the estimate in 2004. This pattern was seen in men and women. Annual percentages of influenza vaccination in 2005 were the lowest since 1997.

- For adults aged 65 years and over, the annual percentage of persons who received an influenza vaccination during the past 12 months was 59.5% in 2005. This estimate was lower than the estimate in 2004. This pattern was seen in men and women. Annual percentages of influenza vaccination in 2005 were the lowest since 1997.

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–September 2006

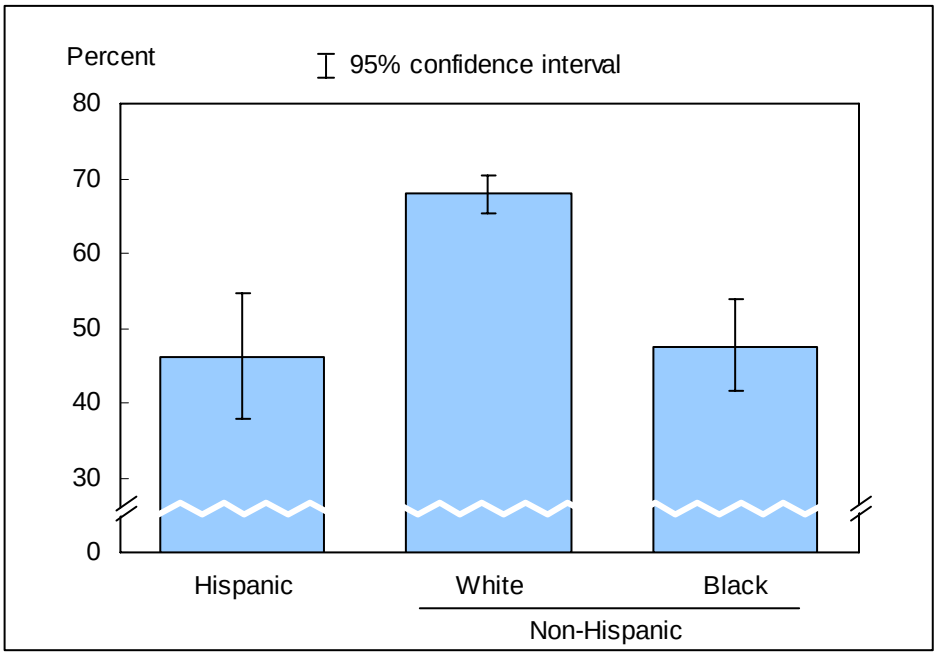


NOTES: Respondents were asked about receipt of influenza vaccination by nasal spray (sometimes called by the brand name FluMist™) during the past 12 months in addition to a question regarding receipt of a flu shot during the past 12 months. Responses to these questions cannot be used to determine when during the preceding 12 months the subject received the flu vaccination. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. According to the recommendations of the Advisory Committee on Immunization Practices, all adults aged 65 years and over should receive an influenza vaccination (8). In the 2000–2001 flu season (but not issued until the 2001–2002 flu season), these recommendations for influenza vaccination were expanded to include persons 50-64 years of age, a group for which influenza vaccination was formerly recommended only if they had existing high-risk conditions (9). The recommendations were again expanded for the 2003–2004 flu season to include children aged 6–23 months (11). Persons aged 2–49 years are recommended to receive an influenza vaccination only if they have existing high-risk conditions. The analyses excluded 436 persons (1.8%) with unknown flu vaccination status.

DATA SOURCE: Based on data collected from January through September in the Sample Adult and Sample Child Core components of the 2006 National Health Interview Survey. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- For both sexes combined, the percentage of persons who had a flu vaccination during the past 12 months was highest among persons aged 65 years and over (64.9%), followed by persons aged 50–64 years (32.7%), 0–17 years (18.9%), and 18–49 years (15.6%).
- For adults aged 18–49 years and 50–64 years, women were more likely than men to have received a flu vaccination during the past 12 months.

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–September 2006



NOTES: Respondents were asked about receipt of influenza vaccination by nasal spray (sometimes called by the brand name FluMist™) during the past 12 months in addition to a question regarding receipt of a flu shot during the past 12 months. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. The analyses excluded 49 adults (1.5%) aged 65 years and over with unknown flu vaccination status.

DATA SOURCE: Based on data collected from January through September in the Sample Adult Core component of the 2006 National Health Interview Survey. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

- For adults aged 65 years and over, the percentage of persons receiving a flu vaccination during the past 12 months was 46.2% for Hispanic persons, 67.9% for non-Hispanic white persons, and 47.6% for non-Hispanic black persons.
- Hispanic persons and non-Hispanic black persons were less likely than non-Hispanic white persons to have received a flu vaccination during the past 12 months.

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–September 2006

	Percent (95% confidence interval)		
Year and quarter	18–49 years	50–64 years	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)
Quarter 2	14.5 (13.4-15.5)	31.3 (28.7-34.0)	63.7 (61.1-66.2)
Quarter 3	13.6 (12.6-14.6)	32.0 (29.3-34.6)	63.1 (60.3-65.9)
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)
Quarter 2	15.3 (14.1-16.5)	32.8 (30.1-35.5)	64.0 (61.3-66.8)
Quarter 3	14.5 (13.3-15.6)	32.0 (29.3-34.6)	61.3 (58.5-64.0)
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)
Quarter 2	16.0 (14.7-17.3)	32.6 (29.8-35.4)	66.1 (63.4-68.8)
Quarter 3	15.8 (14.5-17.1)	32.8 (30.1-35.5)	64.1 (61.2-67.0)
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)
Quarter 2	18.0 (16.7-19.4)	38.5 (35.7-41.4)	68.1 (65.6-70.7)
Quarter 3	18.2 (16.9-19.4)	36.6 (33.7-39.5)	67.1 (64.4-69.8)
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)
Quarter 2	15.9 (14.7-17.1)	32.6 (30.1-35.1)	65.4 (62.8-68.0)
Quarter 3	14.9 (13.9-15.9)	33.3 (30.7-35.8)	64.0 (61.1-66.8)
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)
Quarter 2	16.0 (14.8-17.2)	33.0 (30.5-35.5)	67.8 (65.3-70.3)
Quarter 3	16.2 (14.9-17.5)	33.1 (30.6-35.6)	63.1 (60.5-65.8)
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)
Quarter 2	17.2 (15.8-18.6)	36.8 (33.9-39.7)	65.4 (62.6-68.3)
Quarter 3	16.4 (15.2-17.6)	37.4 (34.9-39.9)	65.4 (62.8-67.9)
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)
Quarter 2	20.9 (19.1-22.6)	40.0 (37.1-43.0)	69.5 (66.7-72.3)
Quarter 3	19.4 (18.2-20.7)	41.0 (38.4-43.6)	66.4 (63.6-69.2)
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 (9.02-11.39)	21.2 (19.01-23.34)	59.6 (56.50-62.70)
Quarter 2	10.3 (9.23-11.35)	21.1 (19.01-23.14)	61.7 (58.72-64.61)
Quarter 3	10.0 (9.01-11.00)	21.8 (19.61-23.98)	58.2 (55.39-60.94)
Quarter 4	12.4 (11.26-13.49)	27.8 (25.40-30.11)	58.5 (55.45-61.48)
2006			
Quarter 1	15.0 (13.66-16.33)	33.0 (29.91-36.15)	64.7 (61.43-67.90)
Quarter 2	16.2 (14.76-17.66)	31.7 (29.00-34.45)	66.3 (63.39-69.30)
Quarter 3	15.5 (13.51-17.41)	33.4 (29.33-37.42)	63.8 (58.80-68.73)

NOTES: Beginning with the 2003 data, the National Health Interview Survey (NHIS) 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 "About This Release" and Table III in the Appendix for more details.

DATA SOURCE: NHIS, 1997–September 2006. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

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–September 2006

Age and sex	Percent	95% confidence interval
0–2 years		
Total	27.8	24.86-30.82
Male	29.1	24.53-33.58
Female	26.6	22.29-30.96
3–4 years		
Total	26.3	22.39-30.13
Male	24.9	19.30-30.59
Female	27.8	21.90-33.71
5–11 years		
Total	18.6	16.60-20.60
Male	18.8	16.05-21.55
Female	18.4	15.56-21.23
12–17 years		
Total	12.5	10.76-14.20
Male	12.9	10.70-15.18
Female	12.0	9.65-14.33
18–49 years		
Total	15.6	14.63-16.48
Male	13.7	12.47-14.85
Female	17.4	16.01-18.84
50–64 years		
Total	32.7	30.74-34.67
Male	28.7	25.99-31.41
Female	36.5	33.99-38.95
65 years and over		
Total	64.9	62.58-67.26
Male	65.3	62.02-68.52
Female	64.7	61.68-67.62
0–17 years		
Total	18.9	17.60-20.10
Male	19.1	17.49-20.79
Female	18.5	16.79-20.30
18 years and over: crude[1]		
Total	27.5	26.50-28.58
Male	24.6	23.36-25.88
Female	30.3	28.90-31.63
65 years and over: age-adjusted[2]		
Total	65.1	62.73-67.41
Male	66.1	62.94-69.25
Female	64.6	61.59-67.56

[1]Crude estimates are presented in the figure.
[2]Estimates for this Healthy People 2010 Leading Health Indicator are age adjusted using the projected 2000 U.S. population as the standard population using two age groups: 65–74 years and 75 years and over.

DATA SOURCE: National Health Interview Survey, January–September 2006. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

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–September 2006

	Percent (95% confidence interval)	
Race/ethnicity	Crude[1]	Age-adjusted[2]
Hispanic or Latino	46.2 (37.74-54.75)	46.5 (38.23-54.84)
Not Hispanic or Latino:		
White, single race	67.9 (65.34-70.44)	67.8 (65.24-70.39)
Black, single race	47.6 (41.53-53.75)	50.7 (45.08-56.32)

[1]Crude estimates are presented in the figure.
[2]Estimates for this Healthy People 2010 Leading Health Indicator are age adjusted using the projected 2000 U.S. population as the standard population using two age groups: 65–74 years and 75 years and over.

DATA SOURCE: National Health Interview Survey, January–September 2006. Data are based on household interviews of a sample of the civilian noninstitutionalized population.