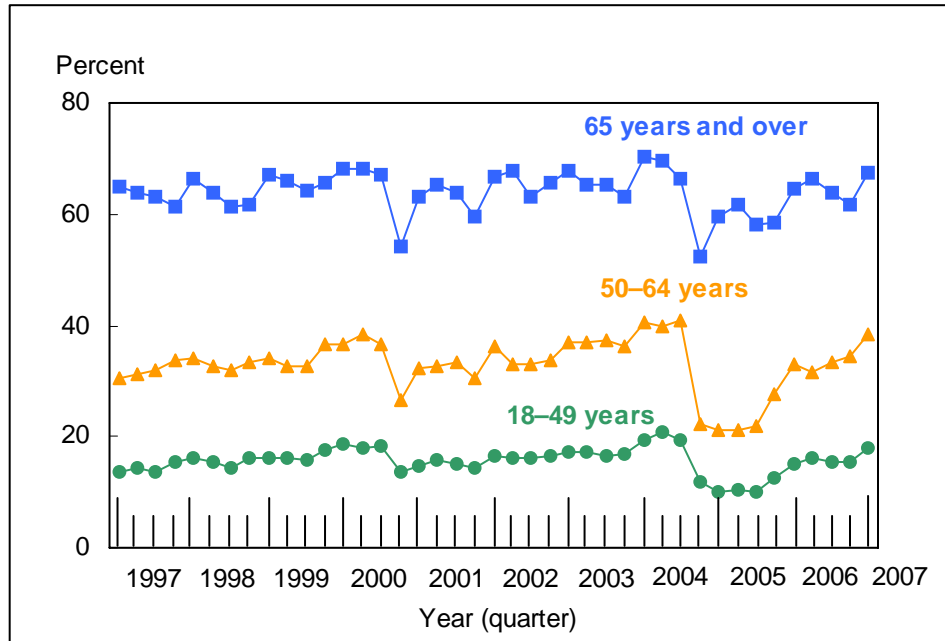


Figure 4.1. Percentage of adults aged 18 years and over who had received an influenza vaccination during the past 12 months, by age group and quarter: United States, 1997–March 2007



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 (9). 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 (10). 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 Early Release” and Table III in the Appendix for more details.

DATA SOURCE: Sample Adult Core component of the 1997–2007 NHIS. The estimate for 2007 was based on data collected from January through March. Data are based on household interviews of a sample of the civilian noninstitutionalized population.

■ In the first quarter of 2007, the percentage of adults who had received an influenza vaccination during the past 12 months was 67.3% for persons aged 65 years and over, 38.3% for persons aged 50–64 years, and 18.0% for persons aged 18–49 years.

■ For the age groups 18–49 years and 50–64 years, first quarter estimates in 2007 were higher than first quarter estimates in 2006. For persons aged 65 years and over, the first quarter estimate in 2007 was higher than first quarter estimate in 2006, but the difference was not significant. An influenza vaccination shortage occurred during the 2004–2005 flu season (9). 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 (10,11).



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, 1997–2006 This table was corrected October 9, 2007. Only estimates for 2006 were affected.

Year	50-64 years			65 years and over			
	Total	Men	Women	Total		Men	Women
				Crude	Age-adjusted		
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)
2006	33.1 (31.55-34.69)	29.8 (27.52-32.02)	36.3 (34.12-38.39)	64.1 (62.25-65.90)	64.2 (62.38-66.01)	64.5 (61.91-67.14)	63.7 (61.34-66.12)

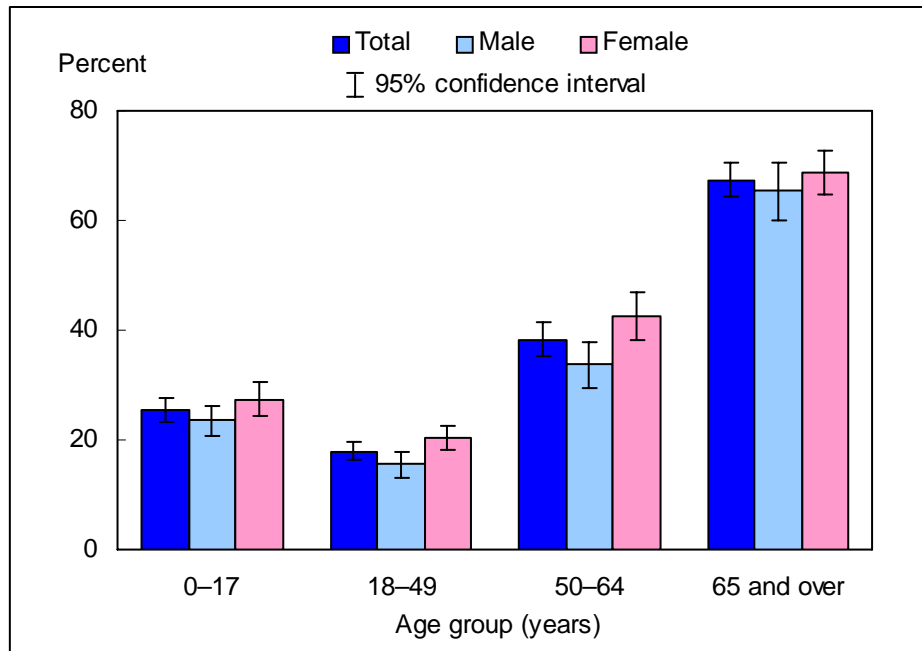
NOTES: From 1997 to August 2003, respondents were asked if they had received a flu shot during the past 12 months. Beginning in September 2003, respondents were asked about influenza vaccination by nasal spray (sometimes called by the brand name FluMist™) during the past 12 months in addition to the 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 (9). 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 (10). 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 Early Release” and Table III in the Appendix for more details.

DATA SOURCE: Sample Adult Core component of the 1997–2006 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 **33.1%** in 2006. This estimate was higher than the estimate in 2005. This pattern was seen in men and women.

■ For adults aged 65 years and over, the annual percentage of persons who received an influenza vaccination during the past 12 months was **64.1%** in 2006. This estimate was higher than the estimate in 2005. This pattern was seen in men and women.

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 2007



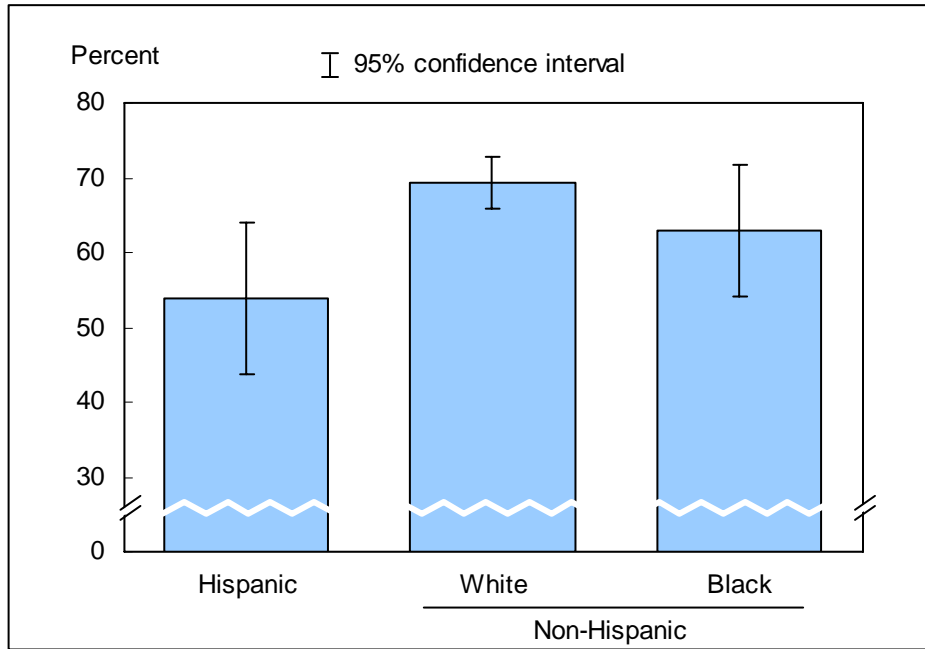
NOTES: Respondents were asked about receipt of influenza vaccination by nasal spray (sometimes called by the brand name FluMist™) during the past 12 months in addition to a question regarding receipt of a flu shot during the past 12 months. Responses to these questions cannot be used to determine when 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 (9). 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 (10). The recommendations were again expanded for the 2003–2004 flu season to include children aged 6–23 months (12) and again for the 2006–2007 flu season to include children 6–59 months (13). Persons aged 2–49 years are recommended to receive an influenza vaccination only if they have existing high-risk conditions. The analyses excluded 179 persons (2.2%) with unknown flu vaccination status.

DATA SOURCE: Based on data collected from January through March in the Sample Adult and Sample Child Core components of the 2007 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 (67.3%), followed by persons aged 50–64 years (38.3%), 0–17 years (25.4%), and 18–49 years (18.0%).

■ 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. For children aged 0–17 years, girls were more likely than boys 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–March 2007



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 31 adults (2.6%) aged 65 years and over with unknown flu vaccination status.

DATA SOURCE: Based on data collected from January through March in the Sample Adult Core component of the 2007 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 53.8% for Hispanic persons, 69.4% for non-Hispanic white persons, and 62.9% for non-Hispanic black persons.
- Hispanic persons were less likely than non-Hispanic white persons to have received a flu vaccination during the past 12 months. Non-Hispanic black persons were less likely than non-Hispanic white persons to have received a flu vaccination during the past 12 months, but the difference was not significant.

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–March 2007

Year and quarter	Percent (95% confidence interval)		
	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)

See footnotes at end of table.

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–March 2007

Year and quarter	Percent (95% confidence interval)		
	18–49 years	50–64 years	65 years and over
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 (13.56-16.43)	33.0 (30.04-36.01)	64.6 (61.31-67.84)
Quarter 2	16.2 (14.79-17.63)	31.7 (28.97-34.49)	66.3 (63.46-69.23)
Quarter 3	15.5 (13.55-17.38)	33.4 (29.64-37.11)	63.8 (58.97-68.56)
Quarter 4	15.4 (14.11-16.71)	34.3 (31.67-37.01)	61.6 (58.49-64.77)
2007			
Quarter 1	18.0 (16.34-19.58)	38.3 (35.27-41.35)	67.3 (64.22-70.39)

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 Early Release” and Table III in the Appendix for more details.

DATA SOURCE: NHIS, 1997–March 2007. 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–March 2007

Age and sex	Percent	95% confidence interval
0–2 years		
Total	37.7	31.49-43.86
Male	30.7	22.83-38.49
Female	44.5	35.01-53.96
3–4 years		
Total	35.4	28.90-41.95
Male	34.1	24.45-43.66
Female	36.9	27.62-46.25
5–11 years		
Total	24.7	21.03-28.30
Male	24.0	18.40-29.55
Female	25.4	20.39-30.37
12–17 years		
Total	16.9	13.82-19.96
Male	16.4	12.34-20.36
Female	17.5	13.06-21.90
18–49 years		
Total	18.0	16.34-19.58
Male	15.5	13.26-17.74
Female	20.4	18.32-22.46
50–64 years		
Total	38.3	35.27-41.35
Male	33.7	29.57-37.82
Female	42.6	38.33-46.85
65 years and over		
Total	67.3	64.22-70.39
Male	65.3	60.13-70.54
Female	68.8	64.89-72.69
0–17 years		
Total	25.4	23.33-27.55
Male	23.6	20.85-26.35
Female	27.4	24.20-30.52
18 years and over: crude¹		
Total	30.8	29.04-32.51
Male	27.0	24.87-29.12
Female	34.3	32.11-36.47
65 years and over: age-adjusted²		
Total	67.3	64.24-70.29
Male	65.8	60.82-70.83
Female	68.6	64.70-72.41

¹Crude estimates are presented in the figure.

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

DATA SOURCE: National Health Interview Survey, January–March 2007. 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–March 2007

Race/ethnicity	Percent (95% confidence interval)	
	Crude ¹	Age-adjusted ²
Hispanic or Latino	53.8 (43.69-64.01)	54.0 (43.96-63.97)
Not Hispanic or Latino:		
White, single race	69.4 (65.98-72.85)	69.2 (65.88-72.55)
Black, single race	62.9 (54.04-71.84)	63.6 (54.85-72.44)

¹Crude estimates are presented in the figure.

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

DATA SOURCE: National Health Interview Survey, January–March 2007. Data are based on household interviews of a sample of the civilian noninstitutionalized population.