

**Table 68. Influenza vaccination among adults aged 18 and over, by selected characteristics: United States, selected years 1989–2016**

Excel version (with more data years and standard errors when available): <https://www.cdc.gov/nchs/hus/contents2017.htm#068>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	1989	1995	2000	2005	2010	2013	2014	2015	2016
	Percent receiving influenza vaccination during past 12 months <sup>1</sup>								
18 years and over, age-adjusted <sup>2,3</sup>	9.6	23.7	28.7	21.6	35.3	39.9	41.0	41.7	40.9
18 years and over, crude <sup>3</sup>	9.1	23.0	28.4	21.4	35.8	41.0	42.2	43.2	42.2
Age									
18–44 years	3.3	12.0	15.6	10.1	24.6	28.5	30.2	30.9	31.1
45–64 years	8.8	24.5	31.6	20.2	37.8	43.7	43.3	45.1	42.8
65 years and over	30.4	58.2	64.4	59.7	63.9	67.9	70.1	69.1	67.5
65–74 years	28.0	54.9	61.1	53.7	60.5	64.4	67.1	67.0	64.2
75 years and over	34.2	63.0	68.4	66.3	68.2	72.8	74.3	72.1	72.3
Sex									
Male	8.5	21.5	26.7	18.4	31.3	37.0	37.9	39.2	38.7
Female	9.7	24.4	30.0	24.2	40.0	44.7	46.1	46.8	45.4
Race <sup>4</sup>									
White only	9.6	23.7	30.1	22.5	36.9	42.2	43.4	44.2	43.1
Black or African American only	6.4	19.0	19.8	15.5	28.1	33.0	34.1	35.7	35.6
American Indian or Alaska Native only	10.9	*16.5	31.1	16.2	36.3	37.9	42.6	39.3	43.8
Asian only	4.3	20.0	27.0	16.9	38.6	43.9	45.0	47.0	46.4
Native Hawaiian or Other Pacific Islander only	---	---	*	*	*	*	*	*	31.8
2 or more races	---	---	25.3	15.9	28.9	34.7	34.3	40.8	36.2
Hispanic origin and race <sup>4</sup>									
Hispanic or Latino	5.9	16.1	17.7	12.0	26.5	28.9	31.0	31.2	32.6
Mexican	5.2	16.0	16.6	10.9	25.1	29.2	31.2	30.4	33.2
Not Hispanic or Latino	9.4	23.7	29.8	22.8	37.3	43.1	44.2	45.4	44.0
White only	9.9	24.6	31.4	24.3	38.8	44.9	46.0	46.9	45.5
Black or African American only	6.4	19.2	19.9	15.6	28.0	33.2	34.4	36.0	35.6
Percent of poverty level <sup>5</sup>									
Below 100%	8.9	20.6	23.1	16.9	25.0	30.1	32.0	33.6	34.4
100%–199%	11.5	23.4	28.1	22.0	31.3	35.5	36.7	37.0	36.4
200%–399%	8.0	22.8	29.6	22.9	34.8	40.1	40.8	41.2	42.2
400% or more	9.0	24.3	29.2	21.3	42.7	48.6	49.7	50.4	47.1
Hispanic origin and race and percent of poverty level <sup>4,5</sup>									
Hispanic or Latino:									
Below 100%	5.1	13.3	14.5	9.5	21.9	25.8	26.8	29.9	35.1
100%–199%	7.5	17.8	15.8	11.9	23.3	25.4	29.6	27.7	28.0
200%–399%	6.3	15.7	19.3	11.8	27.5	29.4	30.8	30.0	33.8
400% or more	6.0	19.8	22.2	15.5	36.4	37.6	39.8	40.0	34.5
Not Hispanic or Latino:									
White only:									
Below 100%	10.6	23.9	27.8	20.6	26.5	32.4	35.1	34.9	35.2
100%–199%	13.2	25.6	33.1	27.4	35.0	40.7	41.2	41.7	40.6
200%–399%	8.3	23.8	32.5	26.3	37.5	42.9	44.0	44.4	45.1
400% or more	9.4	25.5	30.5	22.4	43.8	50.4	51.3	52.2	49.1
Black or African American only:									
Below 100%	7.5	19.8	20.0	17.0	24.0	28.3	29.4	30.2	32.1
100%–199%	6.4	18.8	21.3	15.4	28.6	30.9	33.0	33.9	34.1
200%–399%	6.9	20.4	19.5	15.1	27.4	35.2	34.6	36.1	37.9
400% or more	5.6	15.6	19.2	15.3	32.9	38.2	41.6	43.3	37.1

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Excel version (with more data years and standard errors when available): <https://www.cdc.gov/nchs/hus/contents2017.htm#068>.

[Data are based on household interviews of a sample of the civilian noninstitutionalized population]

Characteristic	1989	1995	2000	2005	2010	2013	2014	2015	2016
Level of difficulty <sup>6</sup>									
Percent receiving influenza vaccination during past 12 months <sup>1</sup>									
A lot of difficulty or cannot do at all	---	---	---	---	52.8	54.9	53.7	54.3	55.3
Some difficulty	---	---	---	---	38.6	44.8	48.2	48.1	45.7
No difficulty	---	---	---	---	31.7	36.2	38.1	39.1	38.7
Geographic region									
Northeast	8.6	21.2	28.0	23.2	39.1	44.5	45.0	46.6	46.4
Midwest	8.8	22.7	28.5	22.6	37.6	41.4	43.6	43.1	43.8
South	9.5	24.7	28.7	20.3	35.1	40.1	41.5	42.4	39.7
West	9.4	22.3	28.1	20.2	32.6	39.4	39.7	41.8	41.2
Location of residence <sup>7</sup>									
Within MSA	8.5	22.3	27.5	20.4	35.7	40.8	41.9	43.4	42.2
Outside MSA	11.4	25.7	31.8	25.1	36.1	42.2	44.1	41.9	42.4

\* Estimates are considered unreliable. Starting with 2016 data, the reliability of survey percentage estimates was assessed using new multistep National Center for Health Statistics data presentation standards for proportions. Prior to 2016 data, the reliability of estimates for earlier years was evaluated based on relative standard errors (RSE). Data preceded by an asterisk have an RSE of 20%–30%. Data not shown have an RSE greater than 30%. For more information, see Appendix II, Data presentation standards for proportions; Relative standard error (RSE).  
 --- Data not available.

<sup>1</sup>Questions concerning use of influenza vaccination differed slightly on the National Health Interview Survey across the years. See Appendix II, Vaccination. Data prior to 1997 are not strictly comparable with data for later years due to the 1997 questionnaire redesign. See Appendix I, National Health Interview Survey (NHIS).

<sup>2</sup>Estimates are age-adjusted to the year 2000 standard population using four age groups: 18–44 years, 45–64 years, 65–74 years, and 75 years and over. See Appendix II, Age adjustment.

<sup>3</sup>Includes all other races not shown separately and unknown disability status for all data years, and unknown poverty level in 1989.

<sup>4</sup>The race groups white, black, American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and 2 or more races include persons of Hispanic and non-Hispanic origin. Persons of Hispanic origin may be of any race. Starting with 1999 data, race-specific estimates are tabulated according to the 1997 *Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity* and are not strictly comparable with estimates for earlier years. The five single-race categories and multiple-race categories shown in the table conform to the 1997 Standards. Starting with 1999 data, race-specific estimates are for persons who reported only one racial group; the category 2 or more races includes persons who reported more than one racial group. Prior to 1999, data were tabulated according to the 1977 Standards with four racial groups, and the Asian only category included Native Hawaiian or Other Pacific Islander. Estimates for single-race categories prior to 1999 included persons who reported one race, or if they reported more than one race, identified one race as best representing their race. Starting with 2003 data, race responses of other race and unspecified multiple race were treated as missing, and then race was imputed if these were the only race responses. Almost all persons with a race response of other race were of Hispanic origin. See Appendix II, Hispanic origin; Race.

<sup>5</sup>Percent of poverty level is based on family income and family size and composition using U.S. Census Bureau poverty thresholds. Poverty level was unknown for 11% of persons aged 18 and over in 1989. Missing family income data were imputed for 1991 and beyond. See Appendix II, Family income; Poverty; Table VII.

<sup>6</sup>Functional limitation is defined by the reported level of difficulty in six functioning domains: seeing (even if wearing glasses), hearing (even if wearing hearing aids), mobility (walking or climbing stairs), communication (understanding or being understood by others), cognition (remembering or concentrating), and self-care (such as washing all over or dressing). Respondents with answers to one or more of the six questions were included in one of three mutually exclusive categories. Those responding "A lot of difficulty" or "Cannot do at all/unable to do" to at least one question were classified in the "A lot of difficulty/cannot do" category. Of the remaining, those responding "Some difficulty" to at least one question were classified in the "Some difficulty" category, and those responding "No difficulty" to at least one question were classified in the "No difficulty" category. Those responding "Don't know" or "Refused" to all six questions were excluded. During 2010–2016, 1%–8% of respondents were missing data and excluded. See Appendix II, Functional limitation. Different questions about vision and hearing limitations were used in separate tables on trends in vision limitations (Table 43) and hearing limitations (Table 44), respectively.

<sup>7</sup>MSA is metropolitan statistical area. Starting with 2016 data, MSA status is determined using 2010 Census data and the 2010 standards for defining MSAs. For more information, including the definition prior to 2016, see Appendix II, Metropolitan statistical area (MSA) for the applicable standards.

NOTES: Interpretation of vaccination data needs to take into account when universal recommendations were issued. Medicare payment for the costs of the vaccine and its administration began in 1993. In 2000, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP) recommended universal influenza vaccination, with rare exceptions, for persons aged 50 and over. See, *Health, United States, 2014*, Table 74 for historical data for adults aged 50 and over. In 2010, ACIP recommended universal influenza vaccination, with rare exceptions, for persons aged 6 months and over. For current ACIP vaccination recommendations, see: <https://www.cdc.gov/flu/professionals/acip/index.htm>. Standard errors for selected years are available in the spreadsheet version of this table. Data for additional years are available. See the Excel spreadsheet on the *Health, United States* website at: <https://www.cdc.gov/nchs/hus.htm>.

SOURCE: NCHS, National Health Interview Survey. Data are from the following questionnaire supplements: immunization (1989) and the year 2000 objectives (1995). Starting in 1997, data are from the sample adult questionnaire. See Appendix I, National Health Interview Survey (NHIS).