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State-Specific Influenza Vaccination Coverage Among Adults – United States, 2006–07 Influenza Season

Adult groups included in the 2008 Advisory Committee on Immunization Practices (ACIP) recommendation (1) for annual influenza vaccination include all persons aged ≥ 50 years, women who will be pregnant during the influenza season, persons aged 18–49 years with high-risk conditions,* and other persons at increased risk for complications from influenza. Health-care personnel and household contacts and caregivers of persons at high risk also should receive annual influenza vaccination, as should adults who want to reduce their risk for becoming ill with influenza or for transmitting it to others. *Healthy People 2010* influenza vaccination coverage targets are 90% among all persons aged ≥ 65 years and 60% among persons aged 18–64 years who have one or more high-risk conditions (2). Data from the 2006 and 2007 Behavioral Risk Factor Surveillance System (BRFSS) surveys indicate that influenza vaccination coverage among adults for the 2006–07 season increased significantly compared with the 2005–06 season, reaching 35.1% among persons aged 18–49 years with high-risk conditions, 42.0% among all persons aged 50–64 years, and 72.1% among all persons aged ≥ 65 years. However, vaccination coverage remained well below *Healthy People 2010* targets. Increasing influenza vaccination coverage among adults in the United States will require more cooperation among health-care providers, professional organizations, vaccine manufacturers, and public health departments to raise public awareness about influenza vaccination and to ensure continued distribution and administration of available vaccine throughout the vaccination season.

* High-risk conditions include chronic pulmonary, cardiovascular, renal, hepatic, hematologic, or metabolic disorders; immunosuppression; cognitive dysfunction; spinal cord injuries; seizure disorders; and other neuromuscular disorders.

BRFSS is an ongoing, annual state-based telephone survey that collects information from approximately 400,000 randomly selected noninstitutionalized U.S. civilian adults aged ≥ 18 years on health risk behaviors, preventive health practices, and health-care use. Data are collected monthly in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and Guam, and weighted by age, sex, and race/ethnicity to reflect each area's adult population. To determine influenza vaccination coverage, respondents were asked, "During the past 12 months, have you had a flu shot?" and "During the past 12 months, have you had a flu vaccine that was sprayed in your nose?" Each year, BRFSS also solicits information regarding identified high-risk conditions; influenza-related high-risk conditions in the 2006 and 2007 surveys were diabetes, asthma, myocardial infarction, and coronary heart disease. To better approximate vaccination coverage, analysis was restricted to respondents interviewed during February–August of each survey year, thereby excluding vaccinations received during previous and subsequent seasons. The median state response

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rate, based on guidelines set by the Council of American Survey and Research Organization (CASRO), was 50.6% (range: 26.9%–65.4%) in 2007 and 51.4% (range: 35.1%–66.0%) in 2006.[†] Unweighted sample sizes from the interviews conducted during February–August were 249,336 in 2007 and 210,335 in 2006. Respondents who reported unknown influenza vaccination status (0.42% in 2007 and 0.46% in 2006) were excluded from the analysis. T-tests were performed to test the percentage-point significant differences ($p < 0.05$) among racial/ethnic populations and between influenza seasons.

Among adults aged 18–49 years, influenza vaccination coverage for the 2006–07 season was 35.1% among persons with identified high-risk conditions and 23.4% among those without these conditions. Coverage among persons with identified high-risk conditions was significantly higher for non-Hispanic whites (37.1%, 95% confidence interval [CI] = ± 1.7) compared with the other racial/ethnic groups combined (31.6%, CI = ± 3.1). Among these other racial/ethnic groups, coverage was 34.0% (CI = ± 4.9) for non-Hispanic blacks, 36.5% (CI = ± 13.6) for Asians, 43.9% (CI = ± 10.0) for American Indians/Alaska Natives, and 28.2% (CI = ± 4.9) for Hispanics. Coverage among those with identified high-risk conditions ranged from 22.3% in Florida to 54.0% in Tennessee (median: 37.6%) (Table 1). The median change in vaccination coverage among states and areas from the 2005–06 to 2006–07 seasons among persons aged 18–49 years with identified high-risk conditions was 6.2 percentage points (range: -5.3 to 22.0) (Table 2). Vaccination coverage increased significantly in four of the nine regions[§] and 11 states or areas.

Among adults aged 50–64 years, influenza vaccination coverage during the 2006–07 season was 42.0%, ranging from 34.0% in Florida to 53.7% in Minnesota (median: 43.6%) (Table 1). Coverage among those with identified high-risk conditions was 54.2% (CI = ± 1.4) and 37.9% (CI = ± 0.8) among those without these conditions. Coverage was significantly higher for non-Hispanic whites (44.1%, CI = ± 0.6) compared with other racial/ethnic groups (35.8%, CI = ± 1.9). Among these other racial/ethnic groups, coverage was 35.2% (CI =

[†] 2006 and 2007 BRFSS summary data quality reports, available at http://www.cdc.gov/brfss/technical_infodata/quality.htm.

[§] The nine regions (which are identical to the nine divisions of the U.S. census) are New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont); Mid-Atlantic (New Jersey, New York, and Pennsylvania); East North Central (Illinois, Indiana, Michigan, Ohio, and Wisconsin); West North Central (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota); South Atlantic (Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia); East South Central (Alabama, Kentucky, Mississippi, and Tennessee); West South Central (Arkansas, Louisiana, Oklahoma, and Texas); Mountain (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming); and Pacific (Alaska, California, Hawaii, Oregon, and Washington).

TABLE 1. Estimated self-reported influenza vaccination coverage in the 2006–07 influenza season* among adults aged ≥18 years by region, state/area, and selected age, risk and racial/ethnic subgroups — United States, Behavioral Risk Factor Surveillance System (BRFSS), 2007†

Region and state/area	Age, risk, and racial/ethnic subgroup											
	Persons aged 18–49 yrs at high risk [§]		Other persons aged 18–49 yrs		All persons aged 50–64 yrs		All persons aged ≥65 yrs		Non-Hispanic whites aged ≥65 yrs		Persons of all other racial/ethnic groups aged ≥65 yrs	
	%	(95% CI) [¶]	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
All states combined**	35.1	(±1.6)	23.4	(±0.6)	42.0	(±0.7)	72.1	(±0.7)	74.2	(±0.6)	63.2	(±2.3)^{††}
New England	40.4	(±3.6)	24.9	(±1.3)	46.4	(±1.5)	78.2	(±1.2)	78.8	(±1.2)	72.6	(±4.9)^{††}
Connecticut	41.3	(±10.4)	22.7	(±3.0)	46.6	(±3.6)	76.8	(±2.8)	77.5	(±2.9)	70.1	(±10.1)
Maine	38.5	(±8.2)	22.9	(±3.0)	49.1	(±3.1)	77.6	(±2.9)	77.3	(±3.0)	80.9	(±11.7)
Massachusetts	38.6	(±5.3)	26.0	(±2.0)	45.6	(±2.4)	78.8	(±1.8)	79.4	(±1.8)	73.6	(±7.2)
New Hampshire	45.7	(±8.6)	24.7	(±3.0)	45.5	(±3.4)	78.0	(±3.0)	78.5	(±3.1)	70.0	(±15.4)
Rhode Island	42.0	(±10.5)	29.1	(±4.1)	49.7	(±4.2)	81.0	(±3.1)	82.0	(±3.1)	67.9	(±13.6) ^{††}
Vermont	43.4	(±8.2)	20.9	(±2.6)	43.1	(±2.9)	76.9	(±2.7)	77.3	(±2.8)	67.9	(±13.9)
Mid-Atlantic	39.3	(±5.1)	22.0	(±1.8)	41.3	(±2.1)	72.5	(±1.9)	74.3	(±1.8)	65.1	(±6.0)^{††}
New Jersey	38.2	(±8.6)	21.1	(±3.0)	40.6	(±4.0)	71.8	(±3.3)	73.2	(±3.4)	67.3	(±9.0)
New York	34.7	(±7.7)	20.8	(±2.8)	40.6	(±3.4)	71.7	(±3.3)	74.0	(±3.1)	64.6	(±9.1)
Pennsylvania	45.4	(±9.0)	24.5	(±3.0)	42.7	(±3.2)	74.1	(±2.6)	75.1	(±2.7)	64.0	(±9.9) ^{††}
East North Central	35.0	(±3.8)	22.6	(±1.3)	42.8	(±1.6)	72.3	(±1.4)	74.2	(±1.4)	60.8	(±5.0)^{††}
Illinois	31.9	(±9.2)	22.0	(±3.2)	41.0	(±3.7)	69.9	(±3.5)	74.1	(±3.3)	52.3	(±10.6) ^{††}
Indiana	35.7	(±8.4)	25.0	(±3.1)	46.4	(±3.7)	73.0	(±3.4)	73.9	(±3.6)	64.3	(±11.1)
Michigan	34.9	(±6.8)	22.4	(±2.6)	43.5	(±2.8)	71.1	(±2.6)	72.2	(±2.8)	64.6	(±7.7)
Ohio	33.4	(±7.5)	20.0	(±2.4)	40.6	(±2.9)	74.0	(±2.7)	75.3	(±2.8)	65.1	(±8.5) ^{††}
Wisconsin	43.7	(±11.0)	25.4	(±3.1)	45.2	(±3.8)	76.0	(±3.5)	76.1	(±3.7)	74.4	(±10.7)
West North Central	36.1	(±4.4)	27.3	(±1.5)	47.2	(±1.8)	75.5	(±1.6)	76.2	(±1.6)	63.8	(±8.0)^{††}
Iowa	43.4	(±11.5)	29.7	(±3.3)	52.6	(±3.6)	76.5	(±3.0)	76.8	(±3.0)	— ^{§§}	— ^{§§}
Kansas	37.6	(±7.3)	23.1	(±2.6)	42.0	(±2.7)	74.2	(±2.4)	74.6	(±2.5)	68.6	(±10.0)
Minnesota	38.3	(±12.1)	30.1	(±3.6)	53.7	(±3.9)	80.9	(±2.9)	81.3	(±2.9)	— ^{§§}	— ^{§§}
Missouri	30.0	(±8.7)	23.3	(±3.4)	39.5	(±4.5)	69.9	(±4.4)	71.1	(±4.6)	59.8	(±13.6)
Nebraska	35.2	(±10.8)	30.8	(±3.9)	52.6	(±4.0)	78.3	(±3.0)	78.3	(±3.1)	78.4	(±10.9)
North Dakota	33.3	(±10.4)	26.8	(±3.5)	43.3	(±3.7)	73.0	(±3.6)	73.6	(±3.6)	59.8	(±17.6)
South Dakota	45.3	(±10.6)	35.9	(±3.5)	52.3	(±3.2)	77.9	(±2.5)	78.0	(±2.6)	75.4	(±10.0)
South Atlantic	31.8	(±2.7)	22.9	(±1.1)	41.5	(±1.3)	68.8	(±1.2)	72.8	(±1.2)	53.9	(±3.4)^{††}
Delaware	37.4	(±10.4)	27.5	(±4.1)	44.8	(±5.0)	74.7	(±4.6)	76.7	(±4.7)	62.5	(±14.4)
District of Columbia	45.7	(±10.4)	32.8	(±3.9)	43.3	(±4.7)	62.8	(±5.4)	74.9	(±6.2)	58.1	(±6.9) ^{††}
Florida	22.3	(±5.1)	17.5	(±2.0)	34.0	(±2.5)	63.7	(±2.4)	68.3	(±2.3)	45.5	(±6.6) ^{††}
Georgia	30.6	(±6.6)	22.8	(±2.8)	40.1	(±3.1)	68.6	(±3.4)	73.5	(±3.1)	56.0	(±8.5) ^{††}
Maryland	40.1	(±7.3)	25.5	(±2.7)	45.3	(±3.5)	71.8	(±3.4)	75.2	(±3.3)	61.5	(±9.0) ^{††}
North Carolina	39.3	(±6.8)	25.1	(±2.2)	46.6	(±2.5)	72.6	(±2.3)	76.1	(±2.2)	59.5	(±6.6) ^{††}
South Carolina	29.3	(±6.9)	21.9	(±2.3)	42.1	(±2.7)	69.6	(±2.7)	74.5	(±2.8)	56.6	(±6.5) ^{††}
Virginia	35.4	(±9.5)	29.3	(±3.8)	50.2	(±4.3)	76.5	(±3.8)	78.6	(±4.0)	62.1	(±11.3)
West Virginia	34.2	(±8.8)	22.8	(±3.2)	43.7	(±3.6)	73.2	(±3.5)	73.7	(±3.5)	64.5	(±18.4)
East South Central	41.6	(±6.2)	25.5	(±1.9)	45.5	(±2.0)	71.8	(±1.8)	73.6	(±2.0)	61.7	(±4.9)^{††}
Alabama	34.4	(±9.2)	25.5	(±3.3)	43.4	(±3.5)	71.0	(±3.3)	72.8	(±3.6)	64.5	(±7.6)
Kentucky	33.4	(±8.6)	21.3	(±3.3)	46.7	(±3.9)	73.9	(±3.2)	76.0	(±3.1)	49.6	(±15.3) ^{††}
Mississippi	33.1	(±9.9)	25.5	(±3.1)	40.5	(±3.3)	71.4	(±2.9)	76.0	(±3.1)	59.3	(±6.6) ^{††}
Tennessee	54.0	(±11.9)	28.8	(±4.1)	47.4	(±4.1)	71.0	(±3.9)	71.4	(±4.1)	67.0	(±13.1)
West South Central	35.2	(±4.0)	26.6	(±1.5)	42.5	(±1.8)	70.8	(±1.7)	74.6	(±1.6)	61.8	(±4.1)^{††}
Arkansas	36.4	(±8.3)	27.3	(±3.5)	45.4	(±3.4)	75.0	(±2.9)	77.1	(±2.9)	58.6	(±9.8) ^{††}
Louisiana	36.9	(±8.5)	28.8	(±3.1)	43.3	(±3.2)	70.2	(±3.4)	71.2	(±3.8)	67.3	(±7.3)
Oklahoma	38.5	(±7.3)	27.5	(±2.7)	47.6	(±3.2)	77.1	(±2.6)	79.3	(±2.6)	69.0	(±7.4) ^{††}
Texas	34.1	(±5.6)	26.0	(±2.1)	40.9	(±2.5)	69.0	(±2.5)	73.8	(±2.4)	59.9	(±5.4) ^{††}

See Table 1 footnotes on next page.

TABLE 1. (Continued) Estimated self-reported influenza vaccination coverage in the 2006–07 influenza season among adults aged ≥18 years by region, state/area, and selected age, risk and racial/ethnic subgroups — United States, Behavioral Risk Factor Surveillance System (BRFSS), 2007

Region and state/area	Age, risk, and racial/ethnic subgroup											
	Persons aged 18–49 yrs at high risk		Other persons aged 18–49 yrs		All persons aged 50–64 yrs		All persons aged ≥65 yrs		Non-Hispanic whites aged ≥65 yrs		Persons of all other racial/ethnic groups aged ≥65 yrs	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Mountain	37.2	(±5.1)	24.3	(±1.6)	41.5	(±2.0)	71.6	(±1.9)	72.4	(±2.0)	67.5	(±5.3)
Arizona	32.7	(±13.0)	20.8	(±4.7)	37.5	(±5.6)	71.1	(±5.1)	72.1	(±5.3)	64.4	(±15.0)
Colorado	40.9	(±6.2)	28.6	(±2.1)	46.5	(±2.3)	77.4	(±2.3)	78.0	(±2.4)	74.6	(±7.2)
Idaho	38.0	(±10.7)	19.4	(±3.0)	39.2	(±3.8)	69.5	(±3.7)	70.1	(±3.7)	59.5	(±16.8)
Montana	39.7	(±11.0)	27.8	(±3.8)	45.0	(±3.5)	73.1	(±3.3)	73.0	(±3.5)	75.2	(±10.9)
Nevada	32.7	(±13.5)	22.5	(±4.3)	34.1	(±4.8)	60.8	(±5.5)	61.7	(±6.0)	57.1	(±13.5)
New Mexico	44.9	(±10.1)	22.4	(±2.8)	43.1	(±3.5)	70.8	(±3.3)	71.3	(±3.9)	69.7	(±6.1)
Utah	38.5	(±9.2)	27.9	(±3.2)	47.7	(±4.2)	75.6	(±3.9)	75.8	(±4.0)	72.6	(±17.1)
Wyoming	35.8	(±8.0)	25.3	(±3.0)	45.8	(±2.9)	77.0	(±2.8)	76.6	(±2.9)	82.0	(±9.1)
Pacific	28.2	(±5.8)	20.2	(±2.1)	37.1	(±2.9)	73.7	(±3.1)	73.9	(±2.7)	73.0	(±7.9)
Alaska	40.4	(±15.5)	25.7	(±4.7)	41.4	(±7.2)	62.8	(±10.5)	64.3	(±11.1)	58.4	(±24.5)
California	24.2	(±7.8)	18.6	(±2.8)	34.4	(±4.1)	73.3	(±4.4)	73.4	(±4.3)	73.0	(±9.3)
Hawaii	43.1	(±10.5)	31.4	(±3.3)	47.9	(±3.7)	78.6	(±3.5)	78.2	(±5.6)	78.8	(±4.3)
Oregon	42.8	(±11.1)	21.7	(±3.3)	40.4	(±3.5)	74.9	(±3.3)	75.8	(±3.3)	62.6	(±14.8)
Washington	33.6	(±4.3)	24.1	(±1.6)	43.6	(±1.7)	74.2	(±1.5)	74.5	(±1.6)	70.2	(±6.2)
U.S. territories	21.7	(±8.2)	12.0	(±2.4)	16.3	(±3.0)	33.1	(±3.7)	— §§	— §§	33.0	(±3.8)
Guam	— §§	— §§	32.4	(±7.7)	43.7	(±11.6)	69.6	(±15.2)	— §§	— §§	70.5	(±15.7)
Puerto Rico	21.5	(±8.7)	11.0	(±2.5)	15.1	(±3.1)	32.1	(±3.8)	— §§	— §§	32.2	(±3.8)
U.S. Virgin Islands	15.4	(±8.8)	16.8	(±3.5)	21.1	(±4.5)	41.9	(±7.6)	67.7	(±13.8)	34.2	(±8.5) ^{††}
Median**	37.6		25.1		43.6		73.3		75.1		64.6	
Range**	22.3–54.0		17.5–35.9		34.0–53.7		60.8–81.0		61.7–82.0		45.5–82.0	

* Coverage estimates are for persons interviewed during February–August.

† Percentages are weighted.

§ Each year BRFSS solicits information regarding identified high-risk conditions for serious complications after influenza infection. In the 2007 survey, those conditions were diabetes, asthma, myocardial infarction, and coronary heart disease.

¶ Confidence interval.

** Excludes U.S. territories.

†† $p < 0.05$. Percentage-point difference between non-Hispanic white persons and persons of all other racial/ethnic groups is statistically significant.

§§ Sample size is insufficient for analysis (sample size < 30 or relative standard error > 0.3).

±2.3) for non-Hispanic blacks, 39.5% (CI = ±8.4) for Asians, 43.6% (CI = ±6.8) for American Indians/Alaska Natives, and 34.0% (CI = ±3.4) for Hispanics. Among states and areas, the median percentage-point difference in vaccination coverage from 2005–06 to 2006–07 among persons aged 50–64 years with identified high-risk conditions was 4.8 (range: -11.4 to 18.4) and among those without these conditions was 4.9 (range: -3.8 to 10.8) (Table 2).

Among adults aged ≥65 years, influenza vaccination coverage was 72.1% for the 2006–07 season, ranging from 60.8% (Nevada) to 81.0% (Rhode Island) (median: 73.3%) (Table 1). Coverage was significantly higher for non-Hispanic whites (74.2%) compared with other racial/ethnic groups (63.2%) as a whole. Coverage was 57.1% (CI = ±2.9) for non-Hispanic blacks, 83.3% (CI = ±8.8) for Asians, 63.1% (CI = ±7.4) for American Indians/Alaska Natives, and 61.4% (CI = ±4.9) for Hispanics. Compared with the 2005–06 season, the greatest racial/ethnic percentage-point increase was seen among Asians (19.3), with a smaller increase (2.3) among whites (3). Overall,

among states and areas, the median percentage-point difference in vaccination coverage from 2005–06 to 2006–07 among persons aged ≥65 years was 2.7 (range: -2.8–9.2). Increases in coverage were statistically significant in four regions and 13 states (Table 2).

Influenza vaccination coverage has trended upward since the 1992–93 season, except for a drop in 2004–05 caused by an influenza vaccine shortage (4). By the 2006–07 season, coverage had nearly returned to 2003–04 levels (Figure). Among adults aged 50–64 years without identified high-risk conditions, 2006–07 vaccination coverage increased 16.1 percentage points over the 2004–05 level, but was still 4.6 percentage points below the 2003–04 level. In comparison, vaccination coverage for adults ≥65 years had increased to within 1.4 percentage points of the 2003–04 level, and coverage for adults aged 18–49 years with identified high-risk conditions was 1.7 percentage points below the 2003–04 level.

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TABLE 2. Percentage-point change in estimated self-reported influenza vaccination coverage from the 2005–06 influenza season to the 2006–07 season* among adults aged ≥18 years, by region, state/area, and selected age and risk groups — United States, Behavioral Risk Factor Surveillance System (BRFSS)

Region and state/area	Age and risk group					
	Persons aged 18–49 yrs at high risk†	Other persons aged 18–49 yrs	Persons aged 50–64 yrs at high risk	Other persons aged 50–64 yrs	All persons aged ≥65 yrs	All persons aged ≥18 yrs
All states combined [§]	4.6 [¶]	5.1 [¶]	5.4 [¶]	5.5 [¶]	2.8 [¶]	5.2 [¶]
New England	5.4 [¶]	4.4 [¶]	-0.6	6.5 [¶]	3.5 [¶]	5.0 [¶]
Connecticut	8.6 [¶]	1.4	1.1	6.3 [¶]	4.1	3.9
Maine	6.1	3.9 [¶]	11.9	6.8 [¶]	2.6	5.6 [¶]
Massachusetts	3.1	6.2 [¶]	-5.4 [¶]	6.9 [¶]	3.4	5.8 [¶]
New Hampshire	11.4	4.7 [¶]	5.5	5.1	5.4 [¶]	6.0 [¶]
Rhode Island	-1.0	3.9	-8.2 [¶]	7.5 [¶]	2.2	3.0
Vermont	13.2 [¶]	2.2 [¶]	9.8 [¶]	3.6 [¶]	2.8 [¶]	3.9
Mid-Atlantic	6.9 [¶]	3.3 [¶]	-1.0	7.2 [¶]	3.6 [¶]	5.0 [¶]
New Jersey	10.9 [¶]	4.7 [¶]	0.6	10.0 [¶]	3.9	6.6 [¶]
New York	2.6	1.0	-4.2	5.2 [¶]	2.3	3.0
Pennsylvania	9.6 [¶]	5.8 [¶]	4.0	8.3 [¶]	4.8 [¶]	6.7 [¶]
East North Central	5.1	5.7 [¶]	10.1 [¶]	5.6 [¶]	2.4	5.5 [¶]
Illinois	2.8	7.9 [¶]	14.4 [¶]	10.8 [¶]	1.1	7.9 [¶]
Indiana	8.5	7.2 [¶]	2.9	10.0 [¶]	5.7 [¶]	7.4 [¶]
Michigan	3.4	6.7 [¶]	18.3 [¶]	5.0 [¶]	-0.3	5.8 [¶]
Ohio	4.9	2.4	6.1	-0.1	4.9	2.4
Wisconsin	8.8	3.0	-1.1	6.0	2.0	4.1 [¶]
West North Central	3.0	6.1 [¶]	5.2	4.2	0.6	5.1 [¶]
Iowa	12.8	6.9 [¶]	7.8	8.1 [¶]	0.0	7.1 [¶]
Kansas	8.9 [¶]	3.3 [¶]	1.0	1.3	-0.5 [¶]	2.9
Minnesota	1.7	6.6 [¶]	14.2 [¶]	8.2 [¶]	4.0 [¶]	7.6 [¶]
Missouri	-1.5	6.7 [¶]	-0.1	-1.0	-2.8	3.1
Nebraska	-5.3	6.8 [¶]	18.4 [¶]	7.4 [¶]	3.0	6.3 [¶]
North Dakota	3.1	0.0	4.9	2.4	-0.1	1.0
South Dakota	5.1	5.6 [¶]	-0.1	2.9	2.7	3.9 [¶]
South Atlantic	4.6	4.8 [¶]	7.6 [¶]	7.2 [¶]	2.6	5.1 [¶]
Delaware	-0.4	5.4 [¶]	1.2	1.0	1.8	3.6
District of Columbia	12.8 [¶]	10.6 [¶]	4.8	3.0	4.4	7.8 [¶]
Florida	0.7	5.7 [¶]	10.6 [¶]	9.8 [¶]	0.6	5.4 [¶]
Georgia	3.9	3.1	-1.6	7.6 [¶]	3.0	3.7 [¶]
Maryland	12.2	3.6	7.0	4.8	3.5 [¶]	4.5
North Carolina	7.2	2.6	8.7 [¶]	3.0	2.1	3.7 [¶]
South Carolina	6.2	2.2	7.2	9.2 [¶]	3.5	4.7 [¶]
Virginia	2.6	7.6 [¶]	11.4 [¶]	6.8 [¶]	6.1	7.4 [¶]
West Virginia	3.0	6.5 [¶]	4.1	-0.5	6.0 [¶]	4.7

See Table 2 footnotes on next page.

Editorial Note: Compared with the previous season, influenza vaccination coverage significantly increased during the 2006–07 season among all adult groups for whom vaccination is recommended, but has not yet matched 2003–04 season coverage nor achieved the *Healthy People 2010* target of 60% for persons aged 18–64 years with high-risk conditions and 90% for persons aged ≥65 years.

During the 2004–05 season, one influenza vaccine manufacturer was unable to supply any vaccine to the United States, which reduced the expected supply of trivalent inactivated influenza vaccine by nearly half. In response to the shortage, CDC recommended that healthy persons aged 50–64 years without high-risk conditions not be a priority group for

influenza vaccination during that season.[¶] Compared with the 2003–04 season, influenza vaccination coverage levels declined by approximately half in this group, to 21.8%; however, coverage also declined among adults for whom vaccination continued to be recommended during the shortage season. During the 2005–06 season, the vaccine supply was adequate, but distribution of vaccine from one manufacturer was delayed, and vaccination coverage only partially rebounded. During the 2006–07 season, the vaccine supply was sufficient, distribution was not delayed, and vaccination coverage further

[¶] Information available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5350a7.htm>.

TABLE 2. (Continued) Percentage-point change in estimated self-reported influenza vaccination coverage from the 2005–06 influenza season to the 2006–07 season* among adults aged ≥18 years, by region, state/area, and selected age and risk groups — United States, Behavioral Risk Factor Surveillance System (BRFSS)

Region and state/area	Age and risk group					
	Persons aged 18–49 yrs at high risk†	Other persons aged 18–49 yrs	Persons aged 50–64 yrs at high risk	Other persons aged 50–64 yrs	All persons aged ≥65 yrs	All persons aged ≥18 yrs
East South Central	12.9[¶]	4.6[¶]	11.6[¶]	4.8[¶]	4.4[¶]	5.9[¶]
Alabama	8.2	7.6 [¶]	12.8 [¶]	3.6	9.2 [¶]	7.5 [¶]
Kentucky	7.3	1.6	9.2 [¶]	5.2	6.7 [¶]	4.1
Mississippi	3.9	3.5	0.6	6.7 [¶]	2.3	3.0 [¶]
Tennessee	22.2 [¶]	5.6 [¶]	17.2 [¶]	4.0	-0.1	7.3 [¶]
West South Central	-3.1	7.0[¶]	3.5	4.8[¶]	2.4	5.7[¶]
Arkansas	8.6	6.1 [¶]	14.5 [¶]	-0.1	5.2 [¶]	5.1
Louisiana	-4.9	4.4	3.0	6.6 [¶]	3.0	4.0
Oklahoma	0.4	0.6	-2.2	3.8	2.9	1.6
Texas	-4.7	8.1 [¶]	3.1	4.8 [¶]	1.6	6.3 [¶]
Mountain	10.7[¶]	4.7[¶]	-0.3	3.3	1.6	4.8[¶]
Arizona	12.5 [¶]	6.1 [¶]	-11.4	10.4 [¶]	3.5	6.8 [¶]
Colorado	5.2	4.8 [¶]	6.0	-2.1	0.1	3.4
Idaho	15.0	3.3 [¶]	5.7	2.2	4.3	4.6 [¶]
Montana	9.5	4.2	5.4	1.8	-1.0	3.4 [¶]
Nevada	13.4	4.4	6.6	2.2	1.9	4.7 [¶]
New Mexico	12.3 [¶]	2.1	12.4 [¶]	4.4	0.3	3.7
Utah	14.8 [¶]	4.8 [¶]	3.5	2.4	2.2	5.5 [¶]
Wyoming	8.4	1.5 [¶]	4.0	5.0 [¶]	2.2	3.1
Pacific	1.6	5.0[¶]	4.8	3.3	3.9[¶]	4.4[¶]
Alaska	8.6	2.4	-0.2	-3.9	-0.8	1.1
California	-0.3	4.8 [¶]	4.7	2.4	4.5 [¶]	3.9
Hawaii	3.6	2.9	-3.3	8.2	1.5	3.1
Oregon	12.5 [¶]	4.4 [¶]	5.0	3.0 [¶]	3.5 [¶]	5.0
Washington	1.5	5.9 [¶]	2.7	5.3 [¶]	1.8	5.0 [¶]
U.S. territories**	3.7	-2.2	-3.7	3.4	-1.7	-0.9
Puerto Rico	3.5	-3.3	-4.9	2.4	-2.7	-1.8
U.S. Virgin Islands	-4.6	3.7 [¶]	10.3 [¶]	-0.1	2.7	2.6 [¶]
Median [§]	6.2	4.6	4.8	4.9	2.7	4.6
Range [§]	-5.3–22.0	0.0–10.6	-11.4–18.4	-3.9–10.8	-2.8–9.2	1.0–7.9

* Coverage estimates are for persons interviewed during February–August.

† Each year BRFSS solicits information regarding identified high-risk conditions for serious complications after influenza infection. In the 2006 and 2007 surveys, those conditions were diabetes, asthma, myocardial infarction, and coronary heart disease.

§ Excludes U.S. territories.

¶ $p < 0.05$. Percentage-point difference between influenza seasons is statistically significant.

** Guam did not report data in 2006.

increased to levels nearly equal to those achieved before the shortage. However, the coverage rebound for persons aged 50–64 years without high-risk conditions was weaker than for other groups. Targeted communications efforts might be appropriate for persons in this population group who might believe they are not recommended for vaccination (and their health-care providers).

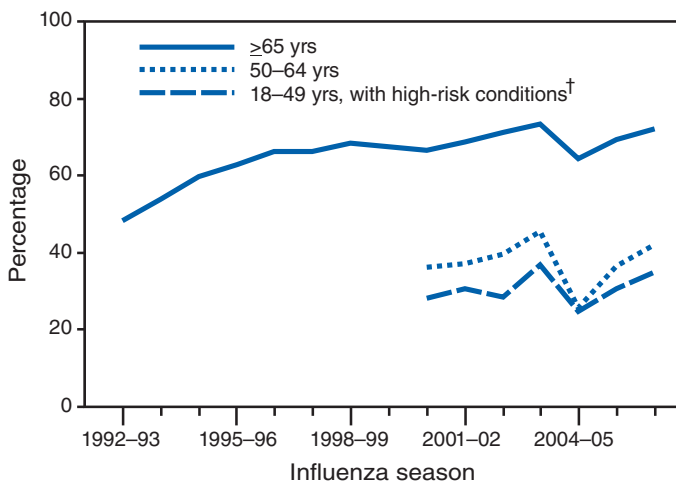
The gap in vaccination coverage between whites and other racial/ethnic groups remained essentially the same for the 2005–06 and 2006–07 seasons, except for Asians, for whom the racial/ethnic gap was eliminated. Veterans Administration clinics also eliminated racial/ethnic disparities in influenza vaccination among older adults by using multimodal programs. These include standing orders, patient reminders, freestanding vaccination clinics, assessment of vaccination rates with

feedback, and incentives to clinicians to improve influenza vaccination coverage (5).

NHIS results for the two most recent influenza seasons indicate that approximately 84% of all influenza vaccinations were administered during September–November (6). Health-care providers, health departments, and community vaccinators should offer influenza vaccine routinely as soon as it is available and throughout the entire influenza season.

CDC compared the results with estimates from the 2007 National Health Interview Survey (NHIS). NHIS is a national household survey conducted annually with a face-to-face interview method. Estimated influenza vaccination coverage from the 2007 NHIS was lower than that from BRFSS for all age groups examined (i.e., 25.5% among persons aged 18–49 years with high-risk conditions, 36.0% among persons aged

FIGURE. Estimated influenza vaccination coverage among persons aged ≥ 18 years, by age and risk group — United States, Behavioral Risk Factor Surveillance System (BRFSS), 1992–93 to 2006–07 influenza seasons*



* Based on February–August interviews only.

[†] Persons with identified high-risk conditions (asthma or diabetes) for the 2000–01 to 2004–05 seasons, and persons with identified high-risk conditions (asthma, diabetes, or heart diseases) for the 2005–06 and 2006–07 seasons.

50–64 years, and 65.6% among persons aged ≥ 65 years) (1). The NHIS estimates, all lower than the BRFSS estimates in this report, might reflect the fact that BRFSS is limited to landline telephones. NHIS data indicate that persons with landline telephones have higher influenza vaccination rates than persons living in households without landline telephones (1,7).

The findings in this report are subject to at least three other limitations. First, self-reported influenza vaccination status is subject to recall bias. Second, persons with certain high-risk conditions (e.g., emphysema, bronchitis, cancer, kidney diseases, and neurologic conditions that impair lung function) identified by ACIP were not ascertained by the survey. Finally, sample sizes for blacks and Hispanics were relatively small, which limited comparisons by age and racial/ethnic groups at state levels.

To further increase influenza vaccination coverage among all adults, health-care providers should recommend influenza vaccination in accordance with ACIP recommendations throughout the influenza season. Standing orders for vaccination should be implemented in various settings, and reminder and recall systems for patients and providers should be incorporated into medical practices and facilities that routinely provide vaccinations to adults (8–10).

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Influenza Vaccination Coverage Among Children Aged 6–23 Months — United States, 2006–07 Influenza Season

Children aged < 5 years have more influenza-related medical-care visits compared with older children, and those aged < 2 years are at the greatest risk for influenza-related hospitalizations (1). In 2002, the Advisory Committee on Immunization Practices (ACIP) encouraged annual influenza vaccination of children aged 6–23 months and then, in 2004, recommended vaccination for this group (2). Two doses, spaced at least 4 weeks apart, are recommended to fully vaccinate children aged < 9 years who are receiving influenza vaccination for the first time. This report, based on data from the 2007 National Immunization Survey (NIS), provides an assessment of influenza vaccination coverage among children aged 6–23 months during September–December of the 2006–07 influenza season. Nationally, 31.8% of children received 1 or more doses of influenza vaccine, and 21.3% were fully vaccinated, with substantial variability among states. The findings underscore the need to increase interest in and access to influenza vaccination for more children in the United States. Further study is needed to identify knowledge deficits or logistical barriers that might contribute to continued low influenza vaccination coverage among young children.

NIS is an ongoing, random-digit-dialed telephone survey of households with children who are aged 19–35 months at the time of interview, followed by a mail survey of all of the children's vaccination providers to obtain vaccination data (3). The 2007 NIS interviews were conducted during January 4, 2007–February 14, 2008, and included children born during January 5, 2004–July 14, 2006. The survey was conducted in all 50 states and in 14 local areas. Lifetime histories of influenza vaccination were obtained during the mail survey of children's vaccination providers.

Two measures of influenza vaccination coverage are reported for children who were aged 6–23 months during the entire span of September–December 2006: 1) receipt of 1 or more doses of influenza vaccine during September–December 2006, and 2) full vaccination. Children were considered fully vaccinated if they had 1) received no doses of influenza vaccine before September 1, 2006, and received 2 doses from September 1, 2006, through the date of interview or January 31, 2007 (whichever was earlier), or 2) received 1 or more doses of influenza vaccine before September 1, 2006, and received 1 or more doses during September–December 2006. The full vaccination measure is based on ACIP recommendations for 2 doses of influenza vaccine for previously unvaccinated children aged <9 years and 1 dose for previously vaccinated children aged <9 years. Later-season vaccination could not be assessed because data collection began in January 2007. NIS methodology, including how responses were weighted, has been described previously (3). Season-to-season comparisons of influenza vaccination coverage were conducted using t-tests, with $p < 0.05$ indicating statistical significance.

The household survey response rate was 64.9%. Provider-reported vaccination records were obtained for 17,017 children aged 19–35 months, representing 68.6% of all children with completed household interviews. Of these 17,017 children, 9,710 met the age criteria for this assessment. Of these 9,710, 31.8% received 1 or more doses of influenza vaccine, and 21.3% were fully vaccinated (Table). Nationally, no statistically significant increase was observed in either influenza coverage measure, compared with the previous season (2005–06) (4) (Figure 1). Nearly one third (33.1%) of children who received at least 1 dose during the 2006–07 season required, but did not receive, a second dose by January 31 (or date of interview, if interviewed in January).

Substantial variability in influenza vaccination coverage was observed among states and local areas. Among states, percentages of children who were fully vaccinated ranged from 8.6% in Mississippi to 47.6% in Rhode Island (Table). Among the 14 local areas, these percentages ranged from 6.4% in El Paso County, Texas, to 32.8% in Alameda County, California. In the majority of states, no statistically significant increase was

observed in the percentage of children who were fully vaccinated, compared with the previous season (Table).

The first (or only) influenza vaccine dose was most often administered in weeks 43–46 (i.e., October 22–November 18) or in week 48 (i.e., November 26–December 2), with a drop in doses administered during week 47 (i.e., the period coinciding with the Thanksgiving holiday) (Figure 2). Among children requiring 2 doses (i.e., those with no previous dose), the second dose was most often administered in weeks 48–50 (i.e., November 26–December 10).

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Editorial Note: The findings in this report indicate that, during the 2006–07 influenza season, the third season since ACIP issued its recommendation for annual influenza vaccination for all children aged 6–23 months, only one in five children aged 6–23 months were fully vaccinated. Prevention of influenza and its complications among infants and young children is a public health priority because they are at greater risk for influenza complications, compared with older children. Vaccination coverage for other newly recommended infant vaccines has reached approximately 75% within 7 years of introduction (5). However, influenza vaccination coverage for children aged 6–23 months has remained low, suggesting the possible influence of factors unique to influenza vaccination, including 1) the need for annual vaccination and difficulties in scheduling annual vaccination for this large cohort of children, 2) characteristics of vaccine distribution systems at the local level (e.g., uncertainties about when and how vaccine will be delivered) leading to an inability to reliably schedule vaccination clinics, and 3) a lack of parental or provider confidence or interest in influenza prevention through vaccination. Additional studies are needed to identify barriers to improving vaccination coverage among young children. Little is known about how parental and provider concerns about influenza vaccine effectiveness or safety, or the lack of understanding of the rationale for influenza vaccination recommendations, might contribute to low coverage.

Because low vaccination coverage might be attributed, in part, to the narrow time window for influenza vaccination, ACIP has recommended that 1) providers begin to offer influenza vaccination as soon as vaccine becomes available and, if possible, by early October, and 2) vaccination efforts continue throughout the influenza season (1). These recommendations are especially important for children who require 2 doses of vaccine and for other persons who remain unvaccinated after November. Peak influenza activity has occurred in January or later in >80% of influenza seasons since 1976; in >60% of seasons, the peak was in February or later (1). To promote influenza vaccination through November, December,

TABLE. Influenza vaccination coverage during September–December 2006 among children aged 6–23 months,* by vaccination status and state and local area — National Immunization Survey, United States

State/Local area	Unweighted sample size	Received 1 or more doses		Fully vaccinated†	
		%	(95% CI) [§]	%	(95% CI)
United States[¶]	9,710	31.8	(30.2–33.4)	21.3	(19.9–22.7)
Alabama	150	24.4	(17.7–32.5)	14.8	(9.8–21.9)
Alaska	128	38.4	(29.1–48.8)	29.3	(20.7–39.8)
Arizona	153	25.6	(18.5–34.2)	20.3	(13.9–28.6)
Arkansas	199	16.1	(11.3–22.3)	9.3	(6.0–14.1)
California	573	28.4	(22.3–35.5)	18.8	(13.8–25.1)
Alameda County	169	44.6	(36.3–53.2)	32.8	(25.5–41.0)
Los Angeles County	138	34.0	(25.5–43.7)	20.6	(13.6–29.9)
San Bernardino County	139	24.3	(17.2–33.1)	15.8	(10.5–23.1)
Rest of state	127	25.6	(17.3–36.1)	17.5	(10.9–26.9)
Colorado	128	33.6	(24.4–44.3)	25.9	(17.9–35.8)
Connecticut	127	50.2	(39.9–60.4)	38.0	(28.7–48.2)
Delaware	161	35.3	(27.0–44.6)	22.6	(15.9–31.1)
District of Columbia	159	34.0	(25.3–43.9)	20.8	(14.6–28.8)
Florida	283	18.1	(13.0–24.6)	11.1	(7.1–16.8)
Dade County	149	20.7	(13.8–30.0)	6.8	(3.6–12.6)
Rest of state	134	17.7	(12.0–25.2)	11.7	(7.3–18.4)
Georgia	188	33.2	(24.8–42.8)	16.1	(10.6–23.6)
Hawaii	126	49.5	(39.3–59.8)	29.8	(21.8–39.3)
Idaho	116	27.2	(19.6–36.3)	12.0	(7.2–19.3)
Illinois	335	25.4	(20.1–31.5)	15.8	(11.6–21.1)
City of Chicago	159	27.0	(19.8–35.7)	14.6	(9.2–22.4)
Rest of state	176	24.9	(18.5–32.5)	16.2	(11.1–22.9)
Indiana	389	30.5	(23.9–37.9)	17.7	(13.0–23.6)
Marion County	191	26.9	(20.7–34.2)	19.1	(13.7–26.0)
Rest of state	198	31.1	(23.5–40.0)	17.4	(12.1–24.5)
Iowa	148	38.3	(29.5–47.9)	26.4	(18.7–35.9)
Kansas	128	23.2	(15.4–33.3)	19.5	(12.3–29.6)
Kentucky	175	24.2	(18.0–31.7)	14.6	(10.0–20.8)
Louisiana	164	32.0	(23.3–42.2)	13.5	(8.7–20.3)
Maine	142	35.5	(27.0–44.9)	21.3	(14.5–30.0)
Maryland	187	32.4	(24.8–41.2)	25.6	(18.8–33.8)
Massachusetts	108	47.4	(35.9–59.1)	36.2	(26.0–47.8)
Michigan	137	39.0	(28.8–50.2)	31.1	(21.5–42.7)
Minnesota	146	34.4	(25.9–44.1)	22.4	(15.6–31.2)
Mississippi	132	16.7	(10.9–24.8)	8.6	(5.0–14.4)
Missouri	145	34.1	(24.9–44.8)	19.2	(13.0–27.6)
Montana	160	26.0	(18.8–34.9)	15.1	(10.0–22.1)
Nebraska	115	34.9	(25.7–45.4)	28.7	(20.4–38.9)
Nevada	137	16.7	(10.9–24.7)	8.7	(5.0–14.8)
New Hampshire	109	56.5	(45.0–67.4)	45.2	(34.5–56.4)
New Jersey	140	39.2	(29.9–49.5)	30.1	(21.6–40.2)

See Table footnotes on next page.

and beyond, CDC created an annual National Influenza Vaccination Week, which was first observed during November 27–December 3, 2006 (6). For the current influenza season, National Influenza Vaccination Week is planned for the week of December 8–14, 2008.*

The limitations of vaccination coverage data obtained through the NIS have been discussed in previous reports (3,5). The findings in this report are subject to at least two additional limitations. First, because NIS interviews were conducted during the influenza season and some children

might have received influenza vaccinations after the interview, vaccination coverage likely is underestimated. However, according to National Health Interview Survey data from two recent influenza seasons, approximately 85% of influenza vaccinations among all age groups were administered during September–November (1). Second, coverage estimates might be higher among children included in the NIS, compared with all children who were in the 6–23 month age group at some point during September–December. Groups of children who aged into or out of the 6–23 month cohort (and thus were excluded from the analysis) might be less likely to have been vaccinated because children aged ≤ 5 months are not recom-

*Additional information available at <http://www.cdc.gov/flu/nivw>.

TABLE. (Continued) Influenza vaccination coverage during September–December 2006 among children aged 6–23 months, by vaccination status and state and local area — National Immunization Survey, United States

State/Local area	Unweighted sample size	Received 1 or more doses		Fully vaccinated	
		%	(95% CI)	%	(95% CI)
New Mexico	159	33.3	(24.3–43.7)	21.3	(14.0–30.9)
New York	302	37.8	(31.3–44.9)	28.4	(22.4–35.2)
City of New York	172	34.8	(27.0–43.6)	26.8	(19.8–35.2)
Rest of state	130	40.6	(30.5–51.5)	29.8	(20.8–40.7)
North Carolina	154	43.1	(33.6–53.3)	27.4	(19.5–37.0)
North Dakota	156	46.4	(37.9–55.0)	39.4	(31.4–48.1)
Ohio	173	36.4	(28.8–44.9)	25.7	(19.1–33.7)
Oklahoma	140	26.5	(17.4–38.2)	11.9	(7.6–18.1)
Oregon	116	24.5	(17.1–33.9)	11.2	(6.6–18.3)
Pennsylvania	296	43.6	(36.6–50.8)	31.8	(25.6–38.7)
Philadelphia County	121	37.5	(28.0–48.1)	25.3	(17.5–35.0)
Rest of state	175	44.8	(36.7–53.2)	33.1	(25.9–41.2)
Rhode Island	137	59.6	(49.0–69.4)	47.6	(37.4–58.0)
South Carolina	229	20.8	(15.7–27.1)	13.3	(9.4–18.6)
South Dakota	146	36.1	(27.3–46.0)	22.8	(15.9–31.7)
Tennessee	152	29.7	(21.0–40.1)	21.2	(13.5–31.6)
Texas	827	30.8	(25.2–36.9)	17.3	(13.3–22.2)
Bexar County	178	31.6	(23.7–40.8)	17.9	(12.2–25.5)
City of Houston	194	23.3	(17.5–30.4)	17.3	(12.3–23.6)
Dallas County	161	22.9	(16.8–30.3)	13.7	(9.5–19.2)
El Paso County	134	18.0	(11.7–26.6)	6.4	(3.1–12.6)
Rest of state	160	34.6	(26.3–43.9)	18.7	(12.8–26.4)
Utah	198	32.8	(25.4–41.1)	21.3	(15.4–28.8)
Vermont	123	43.9	(33.5–54.9)	37.6	(27.8–48.6)
Virginia	192	37.1	(29.5–45.4)	26.1	(19.6–33.9)
Washington	286	25.5	(19.7–32.3)	16.3	(11.6–22.3)
Western Washington	160	25.2	(18.9–32.9)	15.5	(10.7–21.9)
Rest of state	126	25.6	(18.5–34.2)	16.5	(10.9–24.2)
West Virginia	160	27.2	(20.2–35.4)	15.8	(10.7–22.8)
Wisconsin	134	45.4	(35.2–56.0)	39.2	(29.4–49.9)
Wyoming	142	27.8	(19.5–38.0)	19.9	(12.6–29.9)

* N = 9,710 (unweighted). These influenza vaccination coverage measures represent a subset of children included in the 2007 National Immunization Survey. Only those children who were aged 6–23 months during the entire period of September–December 2006 and who had provider-reported immunization records are included.

† Children were considered fully vaccinated if they had 1) received no doses of influenza vaccine before September 1, 2006, and received 2 doses from September 1, 2006, through the date of interview or January 31, 2007 (whichever was earlier), or 2) received 1 or more doses of influenza vaccine before September 1, 2006, and received 1 or more doses during September–December 2006. Compared with the previous influenza season, the percentage of children who were fully vaccinated significantly increased in three states (Michigan [13.5], New Jersey [12.9], and Mississippi [7.0]) and decreased in two states (Oklahoma [-11.0] and Washington [-8.6]); no significant changes were observed in the remaining states.

§ Confidence interval.

¶ The National Health Interview Survey coverage estimate for 1 or more doses of influenza vaccine, based on parental report, was 46.4% (95% CI = 39.7–53.2; n = 368) for the entire 2006–07 season.

mended for vaccination and children aged 24–59 months have lower influenza vaccination coverage (1).

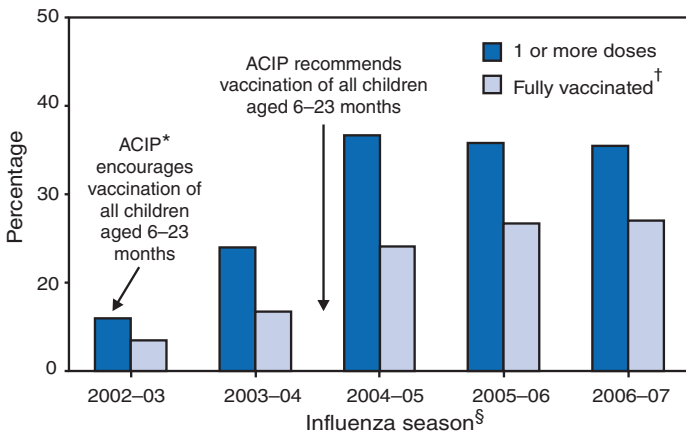
The continuing low influenza vaccination coverage described in this report underscores the need to identify innovative strategies for increasing influenza vaccination coverage among young children. Health-care providers can play several key roles in efforts to increase influenza vaccination. For example, they can routinely inform parents about the substantial burden of influenza illness among young children and the benefits and safety of preventing influenza with vaccination. Additionally, they can use strategies shown to be successful at reducing missed opportunities for vaccination, including standing orders to offer vaccine to all patients throughout the influenza season, vaccination-only clinics, and reminder/recall systems (7,8).

Beginning with the 2008–09 influenza season, ACIP has expanded its recommendation for universal influenza vaccination to include all children aged 5–18 years, in addition to those aged 6–59 months, for whom vaccination was recommended previously (1). Vaccination providers and programs should continue to focus vaccination efforts on fully vaccinating children and adolescents at greater risk for influenza complications (including children aged 6–23 months, who are at the greatest risk for influenza-related hospitalizations) as they transition to routinely vaccinating all children and adolescents (1).

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FIGURE 1. Percentage of children aged 6–23 months receiving influenza vaccination during September–December, by influenza season and vaccination status — National Immunization Survey, United States, 2002–03 to 2006–07 influenza seasons

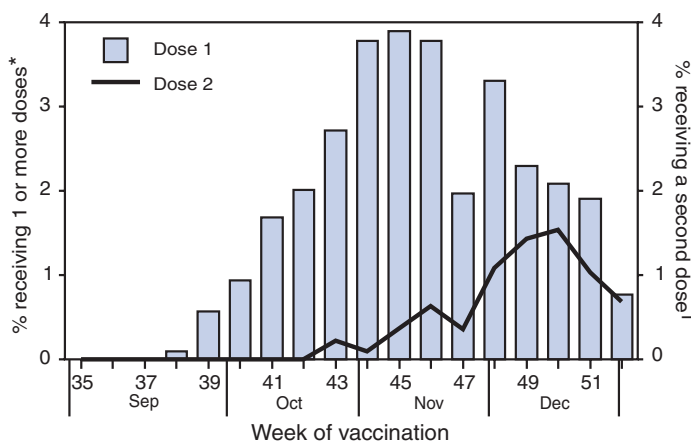


* Advisory Committee on Immunization Practices.

[†] Children were considered fully vaccinated if they had 1) received no doses of influenza vaccine before September 1 and received 2 doses from September 1 through the date of interview or January 31 (whichever was earlier), or 2) received 1 or more doses of influenza vaccine before September 1 and received 1 or more doses during September–December.

[§] 2002–03 (N = 13,831); 2003–04 (N = 13,881); 2004–05 (N = 12,056); 2005–06 (N = 13,546); and 2006–07 (N = 9,710).

FIGURE 2. Percentage of children aged 6–23 months receiving influenza vaccination during September–December 2006, by week of vaccination and dose received — National Immunization Survey, United States



* Among all age-eligible children (N = 9,710).

[†] Among the subset of age-eligible children who had no influenza dose before September 1 and thus were recommended to receive 2 doses (n = 6,869).

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Influenza Vaccination Coverage Among Children Aged 6–59 Months — Eight Immunization Information System Sentinel Sites, United States, 2007–08 Influenza Season

Vaccination is the most effective way to prevent influenza-associated morbidity and mortality (1). However, influenza vaccination coverage among children historically has been low (2,3). The Advisory Committee on Immunization Practices (ACIP) recommends annual vaccination with influenza vaccine for all children aged 6–59 months (4). Previously unvaccinated children and children who received only 1 vaccine dose for the first time in the previous influenza season are recommended to receive 2 influenza vaccine doses (4). To assess vaccination coverage among children aged 6–59 months during the 2007–08 influenza season, CDC analyzed data from the eight immunization information system (IIS) sentinel sites.* For the eight sites, an average (unweighted) of 40.8% of children aged 6–23 months received 1 or more influenza vaccine doses, and an average of 22.1% were fully vaccinated. Among children aged 24–59 months, an average of 22.2% received 1 or more doses, and an average of 16.5% were fully vaccinated. These results indicate that influenza vaccination coverage among children remains low (2,3) and highlight the need to identify additional barriers to influenza vaccination and to develop

* An IIS is a confidential, population-based, computerized data system designed primarily to consolidate vaccination records for all children within a geographic area from multiple vaccine providers. Data are collected from health-care providers, vital records, and billing systems. Information regarding IIS sentinel sites is available at <http://www.cdc.gov/vaccines/programs/iis/activities/sentinel-sites.htm>.

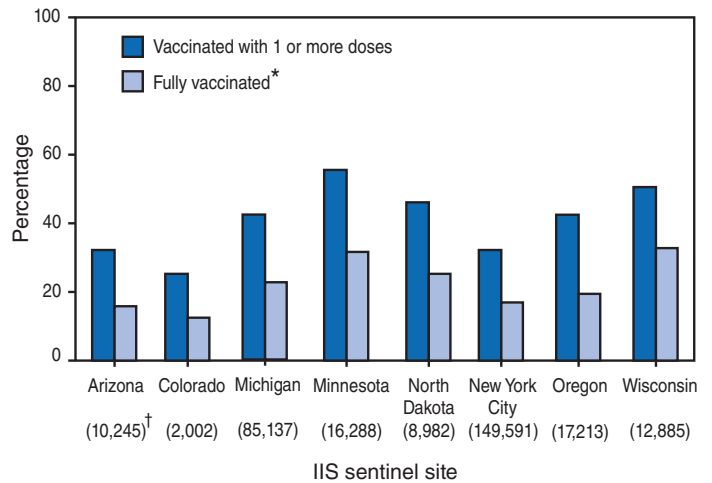
more effective interventions to promote vaccination of children aged 6–59 months who are at high risk for influenza-related morbidity and mortality (1).

IISs are useful sources to assess influenza vaccination coverage because data 1) reflect the most recent influenza season, 2) are provider-verified, and 3) can track vaccination patterns throughout the entire influenza season (September–March). For the 2008–2012 Sentinel Site Project period, CDC awarded supplemental funds to eight IISs that met the following criteria: 1) $\geq 75\%$ of child vaccine provider sites were enrolled in the IIS, 2) $\geq 85\%$ of children aged < 6 years who resided in the sentinel site region had two or more vaccinations recorded in the IIS, and 3) $> 70\%$ of doses administered were reported to the IIS within 30 days of vaccine administration. Sentinel sites in Arizona, Colorado, Michigan, Minnesota, Oregon, and Wisconsin consisted of contiguous geographic counties, postal codes, or census tracts; the other two sentinel sites consisted of the entire state of North Dakota and all New York City boroughs. As of March 31, 2008, the sum of the number of children aged 6–23 months and 24–59 months who were enrolled in the IIS at the sentinel sites ranged from 7,476 in Colorado to 535,877 in New York City.

To reflect ACIP recommendations in the 2007–08 influenza season (4), full vaccination was defined as 1) receipt of 2 valid influenza vaccine doses in the current season among influenza vaccine naive children and children who received 1 dose for the first time during September 1, 2006–March 31, 2007, or 2) receipt of 1 vaccine dose in the current season among all other children (4). This definition of full vaccination represented a change from previous influenza seasons, in which children who received only 1 dose in their first year of vaccination were recommended to receive 1 dose in the subsequent season (4). In accordance with ACIP recommendations, doses were considered valid if they were separated by at least 4 weeks.

The numbers of children aged 6–23 months or 24–59 months who resided in the sentinel site area and were enrolled in the IIS were the denominators for calculating vaccination coverage at each of the eight sites. The average for the eight sites was calculated by summing the percentages of children vaccinated at each sentinel site and dividing by the total number of sites (eight). Analyses included only children aged 6–23 months or 24–59 months during the entire influenza season to ensure that all children in the study had the same opportunity for vaccination. To determine the weekly pattern of vaccination, at each of the eight sites the number of weekly influenza vaccine doses administered to children aged 6–59 months during the 2007–08 influenza season was determined and converted into a percentage of all doses administered during the entire season; then those eight percentages were averaged.

FIGURE 1. Percentage of children aged 6–23 months who received influenza vaccination — eight immunization information system (IIS) sentinel sites, United States, 2007–08 influenza season



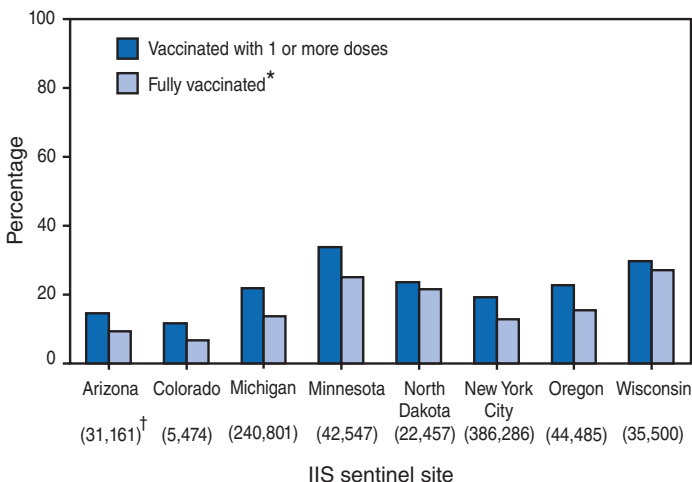
* Full vaccination = 1) receipt of 2 valid influenza vaccine doses in the current season among influenza vaccine naive children and children who received 1 dose for the first time during September 1, 2006–March 31, 2007, or 2) receipt of 1 vaccine dose in the current season among all other children.

[†] Number of children aged 6–23 months enrolled in the IIS at the sentinel sites as of March 31, 2008.

During the 2007–08 influenza season, the average coverage with one or more vaccine doses among children aged 6–23 months was 40.8% (range among the eight sites: 25.2%–55.6%); 22.1% (range: 12.4%–32.8%) were fully vaccinated (Figure 1). Among children aged 24–59 months, the average coverage was 22.2% (range: 11.6%–33.9%) for 1 or more vaccine doses; 16.5% (range: 6.6%–27.2%) were fully vaccinated (Figure 2). Three of the eight sentinel sites (Arizona, Michigan, and Oregon) had reported vaccination coverage data for previous influenza seasons. Minor modifications had been made to these sentinel site geographic areas from the 2006–07 season to the 2007–08 season, making direct comparisons difficult. However, at each of the three sites, the percentage of children receiving 1 or more doses did not change substantially for children aged 6–23 months: Arizona, from 30.4% in 2006–07 to 32.2% in 2007–08; Michigan, from 38.8% to 42.1%; and Oregon, from 46.6% to 42.4%. Coverage with 1 or more doses also did not change substantially for children aged 24–59 months: Arizona, from 15.7% to 14.5%; Michigan, from 19.3% to 21.9%; and Oregon, from 22.4% to 22.8% (2).

The average percentage of influenza vaccine doses administered to children aged 6–23 months and 24–59 months across the eight sites increased steadily during September 17–November 16, 2007 (Figure 3). Vaccination declined slightly the week of the Thanksgiving holiday (November 17–23) but rebounded during November 24–30. Among chil-

FIGURE 2. Percentage of children aged 24–59 months who received influenza vaccination — eight immunization information system (IIS) sentinel sites, United States, 2007–08 influenza season



* Full vaccination = 1) receipt of 2 valid influenza vaccine doses in the current season among influenza vaccine naive children and children who received 1 dose for the first time during September 1, 2006–March 31, 2007, or 2) receipt of 1 vaccine dose in the current season among all other children.

[†] Number of children aged 24–59 months enrolled in the IIS at the sentinel site as of March 31, 2008.

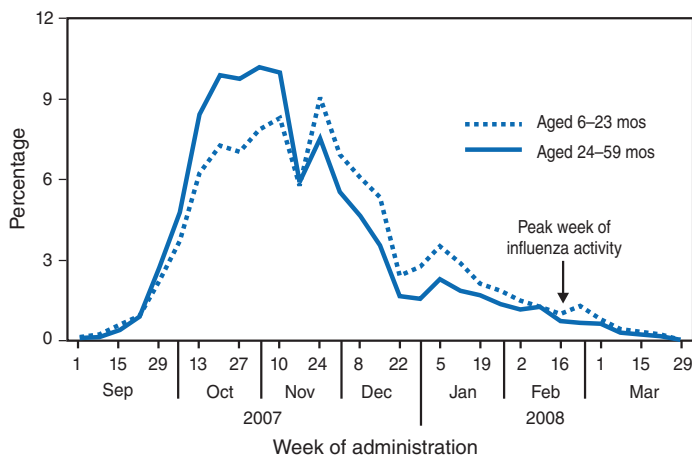
dren aged 6–23 months and 24–59 months, <18% and <13% of doses, respectively, were administered during January–March 2008. By week, the greatest average percentages (8.8%–9.1%) of children aged 6–23 months who were partially vaccinated (i.e., required 2 doses but received only 1 dose) received their only dose during November 3–16 or November 24–30. The greatest average weekly percentages (9.2%–10.6%) of partially vaccinated children aged 24–59 months received their single dose during October 20–November 16.

Reported by: LJ Williams, MPH, AE Fiore, MD, National Center for Immunization and Respiratory Diseases, CDC; KE White, MPH, Minnesota Dept of Health for the Immunization Information Systems Sentinel Site Project.

Editorial Note: These data from the eight sentinel sites reflect the first report of vaccination coverage among children during the 2007–08 influenza season. Four influenza seasons after ACIP recommended annual vaccination for children aged 6–23 months, vaccination coverage in this age group remains low. Coverage at these eight sites was even lower among children aged 24–59 months, two influenza seasons after the ACIP recommended annual vaccination for that age group. Among the three sentinel sites that reported influenza vaccination coverage in previous seasons, no substantial increase in vaccination coverage was observed for the 2007–08 season (2).

Administration of influenza vaccine is subject to several challenges that might contribute to low vaccination cover-

FIGURE 3. Average percentage* of influenza doses administered to children aged 6–23 months and 24–59 months, by week — eight immunization information system (IIS) sentinel sites, United States, 2007–08 influenza season



* Average percentage for the eight IIS sentinel sites.

age, including the need to vaccinate each year, the short time period in which to deliver vaccine, limited awareness of the magnitude of influenza burden in young children (5), and the need for 2 doses in the first or second year of vaccination to effectively prevent influenza-related illnesses (6,7). Additional effective educational and programmatic interventions that address these barriers, and studies that identify other barriers to influenza vaccination among parents and vaccine providers, are needed.

ACIP recommends that health-care providers offer influenza vaccination to all eligible children who visit for other reasons during the entire influenza season (1). More visits to vaccine providers are required for children aged 6–23 months to meet ACIP vaccination recommendations, compared with children aged 24–59 months; the higher influenza vaccination coverage in the younger age group might have been influenced by more frequent visits to vaccine providers for other reasons. Boosting influenza vaccination coverage will require more parents to be aware of, and act on, the need to schedule visits to providers specifically for influenza vaccination.

Emphasizing the benefits of vaccination throughout the influenza season, including in December and beyond, has been advocated as a way to help improve vaccination coverage (1). Campaigns such as National Influenza Vaccination Week[†] aim to raise awareness about the need for influenza vaccination and to increase vaccination use later in the season. At the IIS sentinel sites during the 2007–08 influenza season, limited vaccination was observed in December and later months. Additionally, across the eight sites, at least 60%

[†] Information available at <http://www.cdc.gov/flu/nivw/index.htm>.

of partially vaccinated children aged 6–23 months and 24–59 months received their only dose of vaccine before December, indicating that sufficient time remained to administer the second dose before the end of the influenza season. Vaccine providers and immunization programs can support parent awareness by sending reminder notices. Continued efforts to encourage providers to offer influenza vaccine and to encourage parents to seek vaccination, throughout the influenza season are needed (1).

The findings in this report are subject to at least two limitations. First, although the IIS sentinel sites have $\geq 75\%$ vaccine provider site participation, not all provider sites in all sentinel sites are enrolled in the IIS. Lacking information on vaccines administered by nonenrolled traditional health-care providers and nontraditional providers (e.g., pharmacists) might have resulted in underestimates of vaccination coverage. Second, these results might not be generalizable to the entire U.S. population and should be viewed as representative of their specific geographic areas only.

Protecting young children against influenza and its complications is an important public health goal. Implementation of provider-based strategies shown to be effective in increasing childhood coverage with other vaccines (e.g., reminder notices and extended clinic hours) (8) are particularly important for influenza vaccination, given the limited period during which vaccination occurs. However, specific parent-based and provider-based strategies that address the challenges associated with influenza vaccination also need to be identified, especially as vaccination recommendations expand to include all children aged ≥ 6 months during the 2008–09 influenza season (1). Children and adolescents at greater risk for influenza complications, including those aged 6–59 months, should continue to be a focus of vaccination efforts as providers and programs transition to routine influenza vaccination of youths aged ≥ 6 months (1).

Acknowledgments

The findings in this report are based on contributions provided by staff members at eight IIS sentinel sites.

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Influenza Activity – United States and Worldwide, May 18–September 19, 2008

During May 18–September 19, 2008, influenza A (H1), influenza A (H3), and influenza B viruses were detected worldwide and were identified sporadically in the United States. This report summarizes influenza activity in the United States and worldwide since the last update (1) and reviews the new influenza vaccine recommendations for the upcoming season. Influenza viruses circulating this summer appear antigenically similar to the strains included in the 2008–09 influenza vaccine. Recent antiviral resistance data are limited, but oseltamivir resistance among influenza A (H1N1) viruses might persist during the 2008–09 influenza season.

United States

In the United States, CDC uses 10 different systems for national influenza surveillance (2). Seven of these systems are operated year-round and provided data for this report.*

During May 18–September 19, 2008, World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System collaborating laboratories in the United States tested 19,774 specimens collected from the United States for influenza viruses; 147 (<1%) were positive. Of these, 81 (55%) were influenza A viruses, and 66 (45%) were influenza B viruses. Of the influenza A viruses, five (6%) were influenza A (H1) viruses, 17 (21%) were influenza A (H3) viruses, and 59 (73%) were not subtyped. Twenty-two states, representing the nine public health surveillance regions, reported influenza viruses. Among positive tests, 66% were reported from Hawaii and Florida: 43 (29%) from Hawaii

* 1) World Health Organization collaborating laboratories in the United States; 2) the National Respiratory and Enteric Virus Surveillance System; 3) the U.S. Influenza Sentinel Provider Surveillance Network; 4) the BioSense Surveillance System of the U.S. Department of Veterans Affairs and U.S. Department of Defense; 5) the 122 Cities Mortality Reporting System; 6) the Influenza-Associated Pediatric Mortality System (part of the National Notifiable Diseases Surveillance System [NNDSS]); and 7) novel influenza A virus case reporting through NNDSS.

and 54 (37%) from Florida. The majority of the viruses were reported during late May through July. Only 28 viruses (20 influenza A and eight influenza B viruses) were reported in August and early September.

During May 18–September 19, 2008, the weekly percentage of visits to U.S. sentinel providers for influenza-like illness remained below the national baseline of 2.2% (range: 0.5%–0.9%) according to data from the U.S. Influenza Sentinel Provider Surveillance Network. The weekly percentage of visits for acute respiratory illness to sentinel providers from the BioSense Surveillance System also remained below the national baseline of 3.2% (range: 1.3%–1.8%).

Data from the 122 Cities Mortality Reporting System indicate that the percentage of deaths attributed to pneumonia and influenza was below the epidemic threshold throughout the summer. A total of 86 influenza-associated deaths were reported during the 2007–08 influenza season; only one of these deaths occurred since May 18, 2008. No human cases of novel influenza A have been reported to the National Notifiable Diseases Surveillance System during the summer months.

Worldwide

During May 18–September 19, 2008, influenza A (H1), influenza A (H3), and influenza B viruses were detected worldwide. In Africa, influenza A (H1) viruses predominated. In Asia, influenza A (H1), A (H3), and B viruses were detected, and the predominant virus subtype varied by country. In South America, influenza A (H1) and influenza B viruses were detected. In North America, Europe, and Oceania, influenza A (H1), A (H3), and B viruses were detected sporadically.

Antigenic Characterization of Influenza Virus Isolates

The WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, located at CDC, analyzes influenza virus isolates received from laboratories worldwide. Of 55 influenza A (H1N1) viruses that were collected and analyzed during May 18–September 19, one came from the United States, 44 from South America, five from Europe, and five from Asia. Fifty-three (96%) were antigenically similar to A/Brisbane/59/2007, the H1N1 component of the 2008–09 influenza vaccine for the Northern Hemisphere. Of the 15 influenza A (H3) viruses that were characterized, one came from the United States, seven from Latin America, one from Europe, and six from Asia. All 15 were antigenically similar to A/Brisbane/10/2007, the H3N2 component of the 2008–09 influenza vaccine.

Circulating influenza B viruses can be divided into two antigenically distinct lineages that have been detected world-

wide since March 2001, represented by B/Yamagata/16/88 and B/Victoria/02/87 viruses. Of the 28 influenza B isolates collected during May 18–September 19 and characterized at CDC, 23 (82%) (one from the United States, 19 from South America, one from Europe, and two from Asia) belong to the B/Yamagata lineage. All of the B/Yamagata-lineage viruses are similar to B/Florida/04/2006, the recommended influenza B component for the 2008–09 influenza vaccine for the Northern Hemisphere. The remaining five influenza B viruses (one from Europe and four from South America) belong to the B/Victoria lineage.

Resistance Profiles of Influenza Virus Isolates

During the 2007–08 influenza season (September 30, 2007–May 17, 2008), the prevalence of oseltamivir-resistant influenza A (H1N1) viruses was 10.9%; no resistance to oseltamivir was detected among influenza A (H3N2) or influenza B viruses during that season (1). During May 18–September 19, 2008, the WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza at CDC, a member of the WHO Global Influenza Surveillance Network, received 187 isolates that were collected during this period and analyzed them for neuraminidase resistance. Of these isolates, 185 were sensitive to zanamivir, and two required additional testing. Of the 86 influenza A (H1N1) viruses received from 14 countries and analyzed for oseltamivir resistance, 40 (46.5%) were resistant. Only five of the influenza A (H1N1) viruses that were analyzed were from the United States; two of these viruses were resistant to oseltamivir. None of the 27 influenza A (H3) viruses analyzed for neuraminidase resistance were resistant to oseltamivir.

Human Infections with Avian Influenza A (H5N1) Viruses

During May 18–September 19, 2008, 12 persons with avian influenza A (H5N1), nine of whom died, were reported to WHO from Indonesia, Egypt, and Bangladesh (2). Since December 1, 2003, 387 human cases of avian influenza A (H5N1) have been reported from Asia and Africa. No human cases have been identified in North America or South America.

Reported by: WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza. L Brammer, MPH, S Epperson, MPH, L Blanton, MPH, R Dhara, MPH, T Wallis, MS, L Finelli, DrPH, A Fiore, MD, L Gubareva, PhD, J Bresee, MD, A Klimov, PhD, N Cox, PhD, Influenza Div, National Center for Immunization and Respiratory Diseases; F Dawood, MD, EIS Officer, CDC.

Editorial Note: During May 18–September 19, 2008, influenza A (H1), influenza A (H3), and influenza B viruses were detected worldwide. The influenza virus type and subtype that

will predominate, the severity of influenza-related disease activity, and the level of antiviral resistance during the 2008–09 influenza season cannot be forecast in advance of the influenza season. However, of the isolates submitted for antigenic characterization during May through early September from Northern and Southern Hemisphere countries, the majority were antigenically similar to the viruses contained in the 2008–09 influenza vaccine for the Northern Hemisphere.

Annual influenza vaccination remains the best method for preventing influenza and its potentially severe complications. When vaccine strains are well matched to influenza viruses circulating during the influenza season, vaccine effectiveness typically exceeds 50% and can be as high as 70%–90% in healthy adults. Data from an interim within-season vaccine effectiveness study during the 2007–08 influenza season showed that overall vaccine effectiveness for prevention of medically attended, laboratory-confirmed influenza infection was 44%, despite a suboptimal match between two of the three vaccine strains and the predominant circulating strain (3). Vaccine effectiveness against influenza A (H3N2), the subtype most frequently associated with increases in influenza-related complications and deaths, was 58% (3). These data demonstrate that influenza vaccination can offer substantial benefit, even in years where the match between circulating strains and vaccine strains is suboptimal.

The Advisory Committee on Immunization Practices (ACIP) recently expanded its recommendations for influenza vaccination to include all persons aged 6 months–18 years. Vaccine providers should begin vaccinating all persons in this population during the 2008–09 influenza season, if feasible, but this recommendation should be fully implemented no later than the 2009–10 influenza season (5). In addition, vaccination efforts should continue to be targeted toward persons who are at increased risk for influenza complications, including 1) children aged 6 months–4 years, 2) adults aged ≥ 50 years, 3) children and adults of any age who are immunosuppressed or have other chronic medical conditions that might predispose them to influenza-related complications, 4) persons who reside in nursing homes or chronic care facilities, or 5) females who will be pregnant during the influenza season (4). Household and other close contacts of persons at greater risk for influenza infection, including health-care workers and contacts and out-of-home caregivers for all children aged < 5 years, also should be vaccinated (4). Health-care providers should begin offering influenza vaccination as soon as vaccine becomes available and should continue vaccination efforts throughout the influenza season (4).

During the 2007–08 influenza season, an increase in the prevalence of influenza A (H1N1) viruses resistant to the neuraminidase inhibitor oseltamivir was first observed (5). However, no oseltamivir resistance among influenza A (H3N2) or influenza B viruses was demonstrated, and the overall prevalence of oseltamivir resistance among circulating influenza viruses in the United States was low. Resistance data from the United States for the summer months of 2008 and data from Southern Hemisphere countries are limited, and the extent to which these data forecast the prevalence of oseltamivir resistance among influenza A (H1N1) viruses during the 2008–09 influenza season in the United States is uncertain. Influenza A (H1N1) viruses resistant to oseltamivir have been sensitive to zanamivir. Adamantanes (rimantidine and amantadine) are not recommended currently for treatment or chemoprophylaxis because the prevalence of resistance to these antiviral medications remains high among influenza A (H3N2) viruses (4).

Enhanced surveillance for oseltamivir-resistant viruses is ongoing at CDC and will continue during the 2008–09 influenza season. At this time, oseltamivir and zanamivir remain the medications recommended for treatment and chemoprophylaxis of influenza (4). Randomized controlled clinical trials conducted before the emergence of oseltamivir-resistant influenza viruses have demonstrated that neuraminidase inhibitors such as oseltamivir and zanamivir reduce the duration and severity of illness if started within 48 hours of illness onset (6) and are approximately 80% effective in preventing illness among close contacts of patients with influenza (7). Multiple observational studies have found that treatment with oseltamivir improves outcomes associated with influenza complications among hospitalized patients with laboratory-confirmed influenza, including a reduction in mortality (8), and hospital length of stay (9). Clinicians providing care for patients during the influenza season, especially those requiring hospitalization for respiratory illness, should consider influenza as a possible cause of illness and evaluate the potential benefits of treating influenza with neuraminidase inhibitors. Recommendations for use of neuraminidase inhibitors might be revised as the 2008–09 influenza season progresses if surveillance data indicate an increase in the prevalence of oseltamivir-resistant influenza viruses in the United States.

Vaccination to prevent influenza is the cornerstone of prevention efforts, and influenza vaccination can prevent infection regardless of whether circulating viruses are sensitive or resistant to antiviral medications. To reduce the burden of influenza in the United States, CDC continues to recommend

a three-pronged approach: 1) influenza vaccination, 2) use of neuraminidase inhibitor antiviral medications when indicated for treatment or prevention, and 3) use of other measures to decrease the spread of influenza, including promotion of hand hygiene, respiratory hygiene, cough etiquette, and staying home from work and school when ill.

Influenza surveillance reports for the United States are posted on the Internet weekly during October–May at <http://www.cdc.gov/flu/weekly/fluactivity.htm>. Additional information regarding influenza viruses, influenza surveillance, influenza vaccine, and avian influenza is available at <http://www.cdc.gov/flu>.

Acknowledgments

This report is based, in part, on data contributed by participating state and territorial health departments and state public health laboratories, WHO collaborating laboratories, National Respiratory and Enteric Virus Surveillance System collaborating laboratories, the U.S. Influenza Sentinel Provider Surveillance System, and the 122 Cities Mortality Reporting System; WHO National Influenza Centers, WHO Global Influenza Programme, Geneva, Switzerland; A Kelso, PhD, I Barr, PhD, WHO Collaborating Center for Reference and Research on Influenza, Parkville, Australia; A Hay, PhD, WHO Collaborating Center for Reference and Research on Influenza, National Institute of Medical Research, London, England; and M Tashiro, MD, WHO Collaborating Center for Reference and Research on Influenza, National Institute of Infectious Diseases, Tokyo, Japan.

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Progress Toward Measles Elimination — Japan, 1999–2008

In 2005, the Regional Committee of the World Health Organization (WHO) Western Pacific Region (WPR) set a target date of 2012 for measles elimination in all WPR member states. In Japan, measles control strategies have included 1) a nationwide public awareness campaign implemented in 2001 to promote timely vaccination with the first dose of measles-containing vaccine (MCV1) administered on or after age 12 months, and 2) a 2-dose MCV schedule with the second dose (MCV2) administered at age 5–6 years, adopted in 2006 in accordance with the recommended WPR measles elimination strategy. However, during 2007–2008, Japan experienced a large measles outbreak, which resulted in exportation of measles cases from Japan into countries where measles elimination had been achieved. This report describes the epidemiology of measles in Japan during 1999–2008 and approval of a National Measles Elimination Plan in December 2007 that includes recommendations for immunization strategies, case-based measles surveillance, and monitoring to ensure elimination of measles by 2012. Measles continues to be endemic in Japan, with most cases occurring in children before school entry, except for 2007 and 2008, when a shift to an older age group was observed. With implementation of the National Measles Elimination Plan, Japan is expected to make progress toward achieving the WPR measles elimination goal.

During 1999–2007, measles surveillance in Japan consisted of aggregate case reporting from two sentinel surveillance systems: pediatric and adult. In the pediatric sentinel system, cases were reported from a representative sample of approximately 3,000 pediatric inpatient and outpatient facilities. In the adult sentinel system, cases were reported from a sample of approximately 450 inpatient hospitals. In April 2006, the adult definition was changed from age ≥ 18 years to age ≥ 15 years; however, some pediatric sentinel sites continued to report cases in persons aged ≥ 15 years. For both pediatric and adult surveillance systems, the case definition for measles was the presence of a generalized rash, fever (101.3°F [38.5°C]), and cough, coryza, or conjunctivitis; or laboratory-confirmed measles. Laboratory confirmation of cases was performed by detection of measles-specific immunoglobulin M (IgM) antibodies, which was usually performed by commercial laboratories; virus isolation and genotyping were conducted by public health institutes in the country's prefectures (i.e., Japanese jurisdictions that are larger than districts and smaller than regions). During 2000–2007, the total number of pediatric measles cases was estimated using a multihypergenomic

distribution by multiplying the average number of reported cases per sentinel medical facility by the total number of similar medical facilities nationally (1). For adult cases, estimates could not be calculated because sentinel hospitals were not chosen for representativeness. In January 2008, the two sentinel surveillance systems were replaced with nationwide case-based reporting of measles, and all health practitioners were required to report any clinical or laboratory-confirmed case to local health officials. Population immunity and vaccination coverage for eight vaccine-preventable diseases in Japan were measured by the National Epidemiological Surveillance of Vaccine-Preventable Diseases, an annual, national seroepidemiologic survey conducted among a representative sample of the Japanese population (2).

Measles outbreaks occurred each year in Japan during 1999–2003 and involved both children and adults (Figure 1). The largest outbreak occurred in 2001, when the number of measles cases among children aged <15 years was estimated at

265,000. During 2002–2006, the number of reported pediatric measles cases decreased to a low of 516 in 2006.

In 2001, national MCV1 coverage was estimated at 83.2% in children aged 24–35 months. In 2002, after a pediatrician-initiated nationwide public awareness campaign, estimated MCV1 coverage increased to 96.4% among children in the same age group and to 97.9% in 2007 (Table).

In 2007, a measles epidemic occurred with an estimated 18,000 cases nationally among children aged <15 years. Initially, measles cases were reported primarily from Tokyo and Saitama prefectures, but then spread throughout Japan during a 10-day holiday (Golden Week) in May 2007, affecting all 47 prefectures.

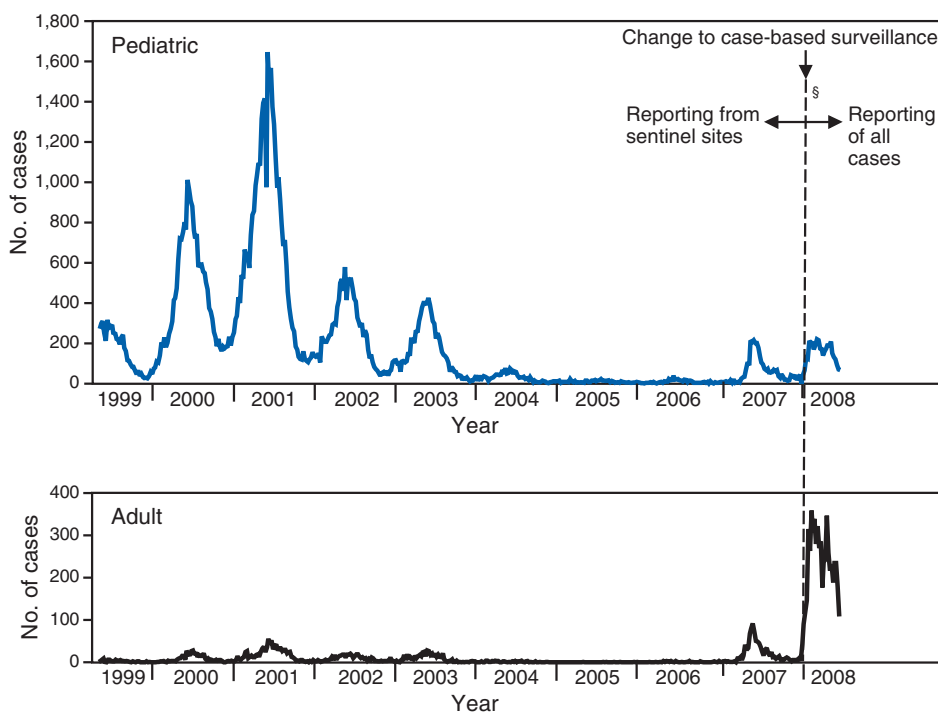
The epidemic continued in 2008 when, using the new nationwide case-based reporting system, a total of 9,631 measles cases were reported through June 22. Of these, 6,169 (64.1%) were clinical cases and 3,462 (35.9%) were laboratory confirmed. Cases were reported from all 47 prefectures

but centered in the Tokyo metropolitan region, where 4,229 (43.9%) cases were reported, and in Hokkaido, with 1,344 (13.9%) cases (Figure 2). Persons aged ≥ 15 years accounted for 5,794 (60.2%) cases, with 2,584 (26.8%) occurring among youths aged 15–19 years. Among 6,919 patients with vaccination status reported, 2,540 (36.7%) had been vaccinated previously; of those, 2,436 (95.9%) had received MCV1, and 104 (4.1%) had received MCV2. In 2008, measles virus was identified in nasopharyngeal or blood specimens submitted from 141 patients with suspected measles. Genotype results were available from 104 (73.8%) specimens; 96 (92.3%) were genotype D5, five (4.8%) were genotype H1, and three (2.9%) were genotype A (all three specimens obtained from recently vaccinated patients) (3).

Nine cases of measles encephalitis were reported in 2007, and five cases were reported during January–June 2008. Ages of persons with measles encephalitis ranged from 13 to 42 years (median: 23 years); no encephalitis deaths were reported.

In response to the 2007 outbreak and to achieve the measles elimination goal agreed on by WPR member states,

FIGURE 1. Number of pediatric and adult* measles cases reported, by week — National Epidemiological Surveillance of Infectious Diseases, Japan, 1999 (week 14) to 2008 (week 25)†



* During 1999–2007, measles surveillance in Japan was conducted via aggregate case reporting from two sentinel surveillance systems: pediatric and adult. In the pediatric sentinel system, cases were reported from a representative sample of approximately 3,000 pediatric inpatient and outpatient facilities. In the adult sentinel system, cases were reported from a sample of approximately 450 inpatient hospitals. In April 2006, the adult definition was changed from age ≥ 18 years to age ≥ 15 years. However, some pediatric facilities continued to report persons aged ≥ 15 years.

† As of June 22, 2008.

§ Since January 1, 2008, all measles cases are to be reported.

TABLE. Number and percentage of measles cases reported from pediatric and adult sentinel systems,* by sex and age group — Japan, 1999–2007

Characteristic	1999†	2000	2001	2002	2003	2004	2005	2006	2007
Total	5,957	22,970	34,734	12,911	8,746	1,606	544	555	4,101
Sex (%)									
Male	55	55	54	53	54	56	56	55	54
Female	45	45	46	47	46	44	44	45	46
Pediatric	5,875	22,552	33,812	12,473	8,285	1,547	537	516	3,127
Age group (yrs) (%)									
<1	18.3	14.8	14.6	15.9	15.7	14.6	12.7	15.3	16.3
1–4	51.9	50.2	46.6	43.2	38.9	43.6	53.8	46.9	23.4
5–14	26.2	30.3	33.2	34.9	35.4	33.4	27.2	30.2	47.2
≥15	3.6	4.7	5.6	6.0	10.0	8.4	6.3	7.6	13.1
Adult	82	418	922	438	461	59	7	39	974
Age group (yrs) (%)									
15–19	28.0	29.7	23.1	17.6	19.1	6.8	0	15.4	28.6
20–29	48.8	54.3	59.1	63.2	57.3	57.6	14.3	48.7	48.0
30–44	22.0	14.6	15.6	16.2	20.6	25.4	57.1	25.6	21.1
≥45	1.2	1.4	2.2	3.0	3.0	10.2	28.6	10.3	2.3
Incidence in pediatric population§	NA	991	1,422	528	383	56	28	17	104
MCV1¶ coverage among children aged 24–35 mos (%)	NA	78.4	83.2	96.4	93.1	92.3	96.1	96.9	97.9
MCV2** coverage among children aged 5–6 yrs (%)	—	—	—	—	—	—	—	79.9	87.9

* During 1999–2007, measles surveillance in Japan was conducted via aggregate case reporting from two sentinel surveillance systems: pediatric and adult. In the pediatric sentinel system, cases were reported from a representative sample of approximately 3,000 pediatric inpatient and outpatient facilities. In the adult sentinel system, cases were reported from a sample of approximately 450 inpatient hospitals. In April 2006, the adult definition was changed from age ≥18 years to age ≥15 years. However, some pediatric facilities continued to report persons aged ≥15 years.

† April–December only.

§ Per 100,000 population.

¶ Measles-containing vaccine, 1 dose.

** The second dose of measles-containing vaccine was added in 2006

the Japanese government approved a 5-year National Measles Elimination Plan in December 2007. The plan includes a 3-part strategy: 1) intensified efforts to achieve high vaccination coverage among children and young adults, including a 5-year catch-up campaign that began in April 2008, targeting cohorts aged 13 years and 18 years with measles and rubella combined vaccine (MR); 2) establishment of a nationwide case-based measles-rubella surveillance system; and 3) establishment of a National Measles Elimination Council and local measles elimination councils to provide program monitoring and oversight.

In addition to the 5-year catch-up MR campaign, education officials will review each child's vaccination status at school entry and during routine physical examinations during the school year, encouraging vaccination for those who are behind schedule and following up until children have received 2 doses of MCV. Although Japanese schools have no vaccination requirements for entry, a national advocacy and communication campaign also will be conducted to encourage timely administration of MCV1 at age 12–23 months and MCV2 at age 5–6 years, before entering primary school.

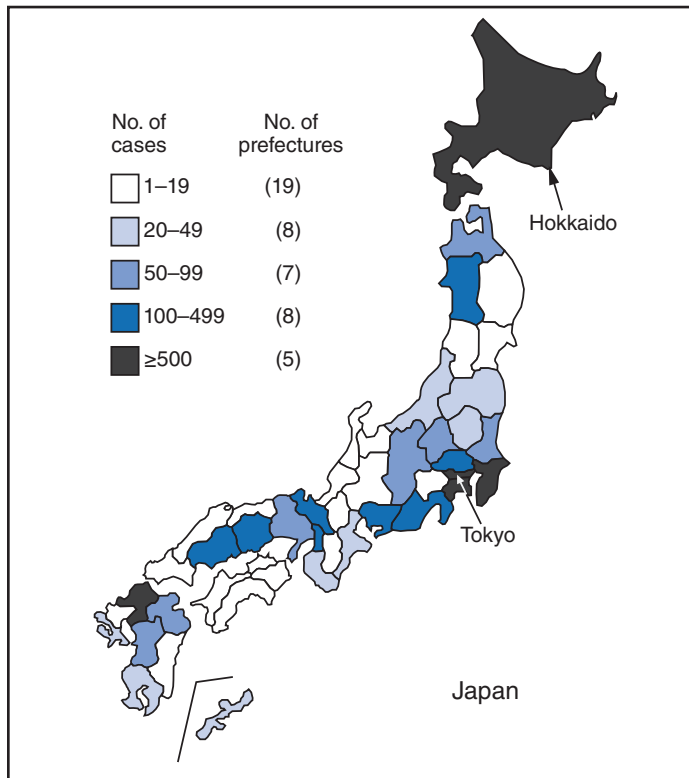
Reported by: T Sunagawa, MD, PhD, T Shimada MD, K Ueno-Yamamoto, MD, K Yamashita, PhD, K Tanaka-Taya, MD, PhD,

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Editorial Note: The resurgence of measles in Japan in 2007 had wide-ranging effects, both domestically and internationally. Japanese residents with measles exported the virus into countries where measles elimination had been achieved, including the United States and Canada (4,5). Anecdotal reports also indicate that some visitors to Japan from the United States and Taiwan were infected with measles virus and developed measles upon return to their home countries. The international spread of measles virus from Japan provides a reminder that countries in regions that have eliminated measles need to maintain very high levels of vaccination coverage and high-quality surveillance to limit the spread of imported measles virus.

Virologic surveillance in Japan demonstrated a succession of genotypes since surveillance activities began there in the early 1990s. Genotypes D3 and D5 cocirculated for most of the 1990s, with genotype D5 more frequently detected in 2001

FIGURE 2. Number* of measles cases, by prefecture — Japan 2008†



* N = 9,631.

† As of June 22, 2008.

and genotype H1 during 2002–2005 (6,7). In 2006, genotype D5 apparently was reintroduced in Japan (8) and has been associated with measles cases imported from Japan into the United States (4,5).

Effective implementation of the immunization strategies in Japan's National Measles Elimination Plan is aimed at reaching high vaccination coverage (>95%) among persons aged ≤22 years and also is expected to affect older age groups through herd immunity. The overall goal is to achieve elimination of measles by 2012. Monitoring disease incidence, surveillance quality, and vaccination coverage is critical to ensure progress toward elimination.

Shifting to nationwide case-based surveillance was critical for Japan to progress toward measles elimination. Use of this system in 2008 enabled more representative reporting of adult cases, allowed for estimation of age-specific incidence, and provided information on the vaccination status of persons with reported measles. In addition to documenting the progress toward measles elimination, the nationwide surveillance system

will monitor the impact of measles elimination activities on the incidence of rubella and congenital rubella syndrome.

The WHO-recommended strategies for measles elimination include high routine coverage with 2 doses of MCV, supplementary immunization activities when routine coverage is not adequate, high-quality case-based measles surveillance, and access to a high-quality measles laboratory network. By adopting these recommended strategies, member states of WPR have made substantial progress in reducing the number of measles cases and deaths. Moreover, in 2006, South Korea became the first country in WPR to declare measles elimination (9). With Japan's renewed commitment and political and financial commitments from all WPR member states and partners, the region is progressing toward achieving the goal of measles elimination by 2012.

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Notice to Readers

World Heart Day — September 28, 2008

Worldwide, approximately 17.5 million deaths are attributed to heart disease and stroke each year (1). Controlling certain risk factors, such as high blood pressure, high cholesterol, diabetes, obesity, tobacco use, and physical inactivity, can help prevent heart disease and stroke.

In 2000, the World Heart Federation, a nongovernmental organization based in Geneva, Switzerland, created the annual World Heart Day campaign to increase public awareness of the threat of heart disease and stroke. The theme of this year's

World Heart Day is “Know Your Risk!,” a call to action for persons to understand their risk for cardiovascular disease. Approximately 100 member organizations will participate in the event this year. Activities will include free heart health screenings, walks, runs, jump rope sessions, fitness events, public talks, scientific forums, exhibitions, concerts, and sports tournaments to highlight the importance of a healthy lifestyle to prevent heart disease.

CDC funds heart disease and stroke prevention programs in 41 states and the District of Columbia. Additional information about these programs is available at http://www.cdc.gov/dhdsp/state_program/index.htm. Information about World Heart Day and the World Heart Federation is available at <http://www.world-heart-federation.org/what-we-do/world-heart-day>.

Reference

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Errata: Vol. 56, Nos. 34 and 37

In Vol. 56, No. 34, in the report, “National, State, and Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2006,” minor errors (generally one tenth of 1%) occurred in national, state, and local coverage estimates for the combined 4:3:1:3:3:1 vaccine series and for certain individual vaccines. For the 4:3:1:3:3:1 vaccine series, the national coverage estimate should read **76.9%**. Similarly, national vaccination coverage estimates for poliovirus; measles, mumps, and rubella; hepatitis B; and varicella vaccines should read **92.8%, 92.3%, 93.3%, and 89.2%**, respectively.

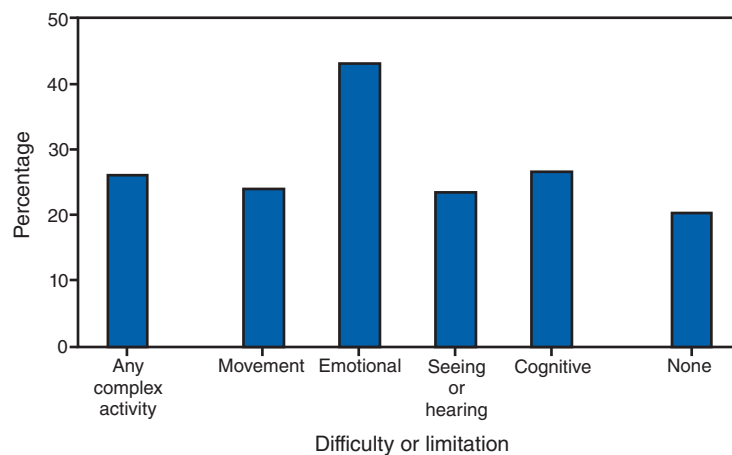
In Vol. 56, No. 37, in the report, “Influenza Vaccination Coverage Among Children Aged 6–23 Months — United States, 2005–06 Influenza Season,” minor errors occurred in national, state, and local coverage estimates of influenza vaccination coverage. The national coverage estimate for 1 or more doses of influenza vaccine should read **32.2%**, and the national coverage estimate for children fully vaccinated with influenza vaccine should read **20.9%**.

Additional information is available at http://www.cdc.gov/vaccines/stats-surv/nis/data/tables_2006.htm.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Adults* Who Were Current Smokers, by Type of Difficulty or Limitation† — National Health Interview Survey, United States, 2001–2005



* Noninstitutionalized adults aged ≥ 18 years.

† Based on responses to numerous questions, which can be found in the appendix of the source publication. Any complex activity limitation = difficulty with specific tasks, including personal care, attending school, keeping house, or working. Movement difficulty = difficulty with at least one of eight activities because of a health problem and without using special equipment. Emotional difficulty = a score of 13 or higher on the K6 serious psychological distress scale. Seeing or hearing difficulty = vision problems, even when wearing eyeglasses, or being unable to see at all, or having trouble hearing without a hearing aid, or being deaf. Cognitive difficulty = limited in any way because of difficulty remembering or experiencing periods of confusion.

During 2001–2005, the percentage of adults who were current smokers was greater among those with emotional (43%), cognitive (27%), movement (24%), and seeing or hearing (23%) difficulties and among those with complex activity limitations (26%) than among adults with no disabilities (20%).

SOURCE: Altman B, Bernstein A. Disability and health in the United States, 2001–2005. Hyattsville, MD: National Center for Health Statistics; 2008. Available at <http://www.cdc.gov/nchs/data/misc/disability2001-2005.pdf>.

TABLE 1. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending September 20, 2008 (38th week)*

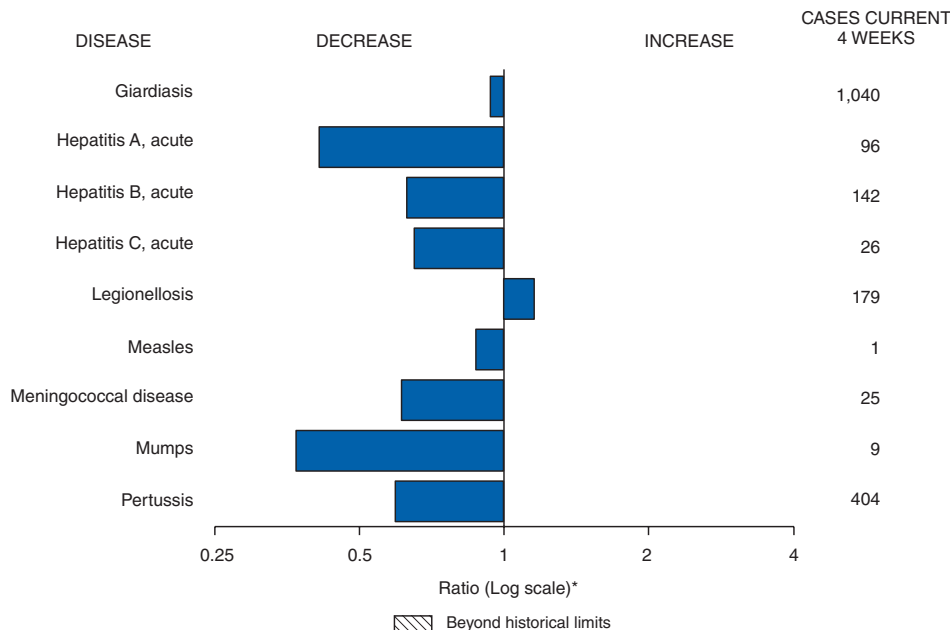
Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2007	2006	2005	2004	2003	
Anthrax	—	—	—	1	1	—	—	—	
Botulism:									
foodborne	—	6	0	32	20	19	16	20	
infant	—	66	2	85	97	85	87	76	
other (wound & unspecified)	—	12	1	27	48	31	30	33	
Brucellosis	2	58	2	131	121	120	114	104	FL (1), CA (1)
Chancroid	—	30	0	23	33	17	30	54	
Cholera	—	1	0	7	9	8	6	2	
Cyclosporiasis§	—	105	1	93	137	543	160	75	
Diphtheria	—	—	—	—	—	—	—	1	
Domestic arboviral diseases§,¶:									
California serogroup	—	23	4	55	67	80	112	108	
eastern equine	—	2	0	4	8	21	6	14	
Powassan	—	1	—	7	1	1	1	—	
St. Louis	—	8	1	9	10	13	12	41	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,**:									
<i>Ehrlichia chaffeensis</i>	11	540	13	828	578	506	338	321	MD (2), VA (2), NC (4), TN (2), AL (1)
<i>Ehrlichia ewingii</i>	—	7	—	—	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	3	221	14	834	646	786	537	362	ME (1), MN (2)
undetermined	1	50	4	337	231	112	59	44	TN (1)
<i>Haemophilus influenzae</i> ,††									
invasive disease (age <5 yrs):									
serotype b	—	19	0	22	29	9	19	32	
nonserotype b	1	121	2	199	175	135	135	117	FL (1)
unknown serotype	2	138	3	180	179	217	177	227	NY (1), OH (1)
Hansen disease§	2	53	2	101	66	87	105	95	FL (1), CA (1)
Hantavirus pulmonary syndrome§	—	11	0	32	40	26	24	26	
Hemolytic uremic syndrome, postdiarrheal§	2	134	7	292	288	221	200	178	OH (1), TN (1)
Hepatitis C viral, acute	10	585	17	849	766	652	720	1,102	NY (3), IN (1), MI (3), NC (2), FL (1)
HIV infection, pediatric (age <13 years)§§	—	—	3	—	—	380	436	504	
Influenza-associated pediatric mortality§,¶¶	—	88	0	77	43	45	—	N	
Listeriosis	4	417	22	808	884	896	753	696	NY (1), OH (1), CO (1), CA (1)
Measles***	1	129	1	43	55	66	37	56	WA (1)
Meningococcal disease, invasive†††:									
A, C, Y, & W-135	—	204	4	325	318	297	—	—	
serogroup B	—	118	2	167	193	156	—	—	
other serogroup	—	26	0	35	32	27	—	—	
unknown serogroup	7	454	10	550	651	765	—	—	FL (1), CO (1), OR (3), CA (2)
Mumps	2	297	15	800	6,584	314	258	231	WA (2)
Novel influenza A virus infections	—	—	—	1	N	N	N	N	
Plague	—	1	0	7	17	8	3	1	
Poliomyelitis, paralytic	—	—	0	—	—	1	—	—	
Polio virus infection, nonparalytic§	—	—	—	—	N	N	N	N	
Psittacosis§	—	9	0	12	21	16	12	12	
Qfever§,§§ total:	3	81	2	171	169	136	70	71	
acute	3	74	—	—	—	—	—	—	CO (1), CA (2)
chronic	—	7	—	—	—	—	—	—	
Rabies, human	—	—	0	1	3	2	7	2	
Rubella¶¶¶	—	11	0	12	11	11	10	7	
Rubella, congenital syndrome	—	—	—	—	1	1	—	1	
SARS-CoV§,****	—	—	—	—	—	—	—	8	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	103	1	132	125	129	132	161	
Syphilis, congenital (age <1 yr)	—	141	8	430	349	329	353	413	
Tetanus	—	7	1	28	41	27	34	20	
Toxic-shock syndrome (staphylococcal)§	—	44	2	92	101	90	95	133	
Trichinellosis	—	5	0	5	15	16	5	6	
Tularemia	1	77	3	137	95	154	134	129	NE (1)
Typhoid fever	11	282	11	434	353	324	322	356	NY (4), PA (2), MN (1), FL (1), WA (1), CA (2)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	—	6	0	37	6	2	—	N	
Vancomycin-resistant <i>Staphylococcus aureus</i> §	—	—	—	2	1	3	1	N	
Vibriosis (noncholera <i>Vibrio</i> species infections)§	23	304	6	447	N	N	N	N	NC (3), FL (4), TN (1), AZ (2), WA (2), CA (11)
Yellow fever	—	—	—	—	—	—	—	—	

See Table 1 footnotes on next page.

TABLE 1. (Continued) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending September 20, 2008 (38th week)*

—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.
 * Incidence data for reporting year 2008 are provisional, whereas data for 2003, 2004, 2005, 2006, and 2007 are finalized.
 † Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. Additional information is available at <http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.
 § Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.
 ¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.
 ** The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).
 †† Data for *H. influenzae* (all ages, all serotypes) are available in Table II.
 §§ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.
 ¶¶ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Eighty-six cases occurring during the 2007–08 influenza season have been reported.
 *** The one measles case reported for the current week was indigenous.
 ††† Data for meningococcal disease (all serogroups) are available in Table II.
 §§§ In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.
 ¶¶¶ No rubella cases were reported for the current week.
 **** Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals September 20, 2008, with historical data



* Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

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TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Chlamydia [†]					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	13,287	21,220	28,892	778,974	795,674	101	124	341	4,700	5,478	142	104	732	4,449	7,996
New England	504	690	1,516	26,268	25,583	—	0	1	1	2	1	5	30	255	245
Connecticut	—	212	1,093	7,556	7,696	N	0	0	N	N	—	0	28	28	42
Maine [§]	44	49	72	1,764	1,871	N	0	0	N	N	1	1	6	35	40
Massachusetts	327	333	660	12,965	11,515	N	0	0	N	N	—	2	11	91	87
New Hampshire	35	40	73	1,514	1,511	—	0	1	1	2	—	1	4	47	40
Rhode Island [§]	79	54	98	1,994	2,237	—	0	0	—	—	—	0	3	5	6
Vermont [§]	19	15	44	475	753	N	0	0	N	N	—	1	7	49	30
Mid. Atlantic	2,654	2,768	5,023	107,637	102,870	—	0	0	—	—	14	13	81	508	1,080
New Jersey	227	417	520	14,836	15,539	N	0	0	N	N	—	0	6	10	50
New York (Upstate)	625	564	2,177	20,080	19,194	N	0	0	N	N	12	5	20	198	158
New York City	1,301	992	3,091	42,130	36,857	N	0	0	N	N	—	2	7	71	78
Pennsylvania	501	817	1,047	30,591	31,280	N	0	0	N	N	2	6	61	229	794
E.N. Central	1,289	3,530	4,373	124,651	129,807	—	1	3	37	26	43	26	101	1,234	1,324
Illinois	14	1,056	1,711	33,944	37,817	N	0	0	N	N	—	2	11	61	148
Indiana	337	374	656	14,639	15,348	N	0	0	N	N	6	3	41	138	61
Michigan	762	790	1,226	32,560	27,369	—	0	3	28	18	2	5	10	178	144
Ohio	94	881	1,261	31,414	34,983	—	0	1	9	8	35	6	59	485	385
Wisconsin	82	352	613	12,094	14,290	N	0	0	N	N	—	8	38	372	586
W.N. Central	256	1,242	1,701	45,977	45,767	—	0	77	1	6	13	18	111	692	1,130
Iowa	173	160	240	6,323	6,334	N	0	0	N	N	—	5	39	216	477
Kansas	—	170	529	6,575	5,900	N	0	0	N	N	5	1	14	59	100
Minnesota	—	261	373	9,357	9,807	—	0	77	—	—	4	5	34	159	148
Missouri	—	470	567	16,867	16,862	—	0	1	1	6	—	3	13	110	123
Nebraska [§]	—	93	252	3,485	3,793	N	0	0	N	N	4	2	9	84	125
North Dakota	25	34	65	1,272	1,206	N	0	0	N	N	—	0	51	4	17
South Dakota	58	54	86	2,098	1,865	N	0	0	N	N	—	1	9	60	140
S. Atlantic	3,105	3,796	7,609	135,064	157,895	—	0	1	3	3	28	18	65	621	818
Delaware	50	66	150	2,609	2,489	—	0	1	1	—	2	0	2	12	15
District of Columbia	58	129	217	5,094	4,349	—	0	1	—	1	—	0	1	5	3
Florida	1,198	1,317	1,552	50,222	41,141	N	0	0	N	N	21	8	35	326	413
Georgia	3	478	1,338	11,025	31,219	N	0	0	N	N	3	4	14	142	178
Maryland [§]	399	457	667	16,522	15,952	—	0	1	2	2	—	0	4	16	26
North Carolina	—	96	4,783	5,901	22,138	N	0	0	N	N	—	0	18	27	59
South Carolina [§]	687	431	3,050	18,961	19,924	N	0	0	N	N	—	1	15	32	59
Virginia [§]	709	544	1,062	22,597	18,363	N	0	0	N	N	2	1	5	48	55
West Virginia	1	58	96	2,133	2,320	N	0	0	N	N	—	0	3	13	10
E.S. Central	994	1,557	2,394	59,034	60,689	—	0	0	—	—	5	3	59	116	432
Alabama [§]	—	473	589	16,194	18,501	N	0	0	N	N	3	1	14	52	80
Kentucky	287	232	370	8,674	5,937	N	0	0	N	N	1	0	24	23	194
Mississippi	—	365	1,048	13,923	16,163	N	0	0	N	N	—	0	11	12	79
Tennessee [§]	707	531	789	20,243	20,088	N	0	0	N	N	1	1	18	29	79
W.S. Central	1,818	2,718	4,426	103,948	89,832	—	0	1	3	2	17	6	85	318	276
Arkansas [§]	281	270	455	10,407	6,794	N	0	0	N	N	1	1	8	34	36
Louisiana	—	378	774	14,491	14,489	—	0	1	3	2	—	1	6	37	48
Oklahoma	23	207	392	7,491	9,766	N	0	0	N	N	16	1	14	93	77
Texas [§]	1,514	1,868	3,923	71,559	58,783	N	0	0	N	N	—	2	72	154	115
Mountain	386	1,303	1,811	43,242	53,636	83	89	170	3,184	3,447	10	10	266	406	2,317
Arizona	114	451	650	15,123	18,117	83	86	168	3,114	3,342	2	1	9	66	38
Colorado	144	206	488	6,523	12,768	N	0	0	N	N	6	2	25	84	157
Idaho [§]	85	61	314	2,736	2,540	N	0	0	N	N	2	1	61	44	251
Montana [§]	43	53	363	2,165	1,940	N	0	0	N	N	—	1	6	35	51
Nevada [§]	—	181	416	6,668	6,956	—	1	7	41	46	—	0	6	11	21
New Mexico [§]	—	145	561	4,804	6,509	—	0	3	23	19	—	2	22	127	94
Utah	—	119	209	4,232	3,925	—	0	7	4	37	—	1	164	28	1,660
Wyoming [§]	—	25	58	991	881	—	0	1	2	3	—	0	4	11	45
Pacific	2,281	3,691	4,676	133,153	129,595	18	32	217	1,471	1,992	11	9	37	299	374
Alaska	63	93	129	3,275	3,574	N	0	0	N	N	—	0	1	3	3
California	1,788	2,854	4,115	104,028	101,135	18	32	217	1,471	1,992	8	5	19	181	195
Hawaii	—	108	151	3,707	4,124	N	0	0	N	N	—	0	1	2	6
Oregon [§]	124	188	402	7,186	6,924	N	0	0	N	N	1	1	11	45	104
Washington	306	386	634	14,957	13,838	N	0	0	N	N	2	2	16	68	66
American Samoa	—	0	22	73	73	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	6	25	107	636	—	0	0	—	—	—	0	0	—	—
Puerto Rico	145	121	612	5,163	5,537	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	10	21	427	132	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.

[†] Chlamydia refers to genital infections caused by *Chlamydia trachomatis*.[§] Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Giardiasis					Gonorrhea					Haemophilus influenzae, invasive All ages, all serotypes†				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	259	301	1,158	11,511	12,635	3,639	6,050	8,913	216,952	257,269	21	46	173	1,843	1,827
New England	6	26	48	958	1,047	51	103	227	3,744	4,053	—	3	12	118	137
Connecticut	—	6	14	221	265	—	50	199	1,727	1,562	—	0	9	30	37
Maine§	4	3	12	121	139	4	2	6	73	94	—	0	3	9	9
Massachusetts	—	10	21	343	456	42	43	127	1,602	1,938	—	2	5	57	67
New Hampshire	1	2	8	101	26	3	2	6	80	112	—	0	1	9	15
Rhode Island§	—	1	15	57	36	1	7	13	238	298	—	0	1	5	7
Vermont§	1	3	12	115	125	1	1	5	24	49	—	0	3	8	2
Mid. Atlantic	65	56	131	2,040	2,189	617	633	1,028	24,184	26,825	9	9	31	370	356
New Jersey	—	4	15	131	294	74	111	168	3,896	4,385	—	1	7	55	53
New York (Upstate)	48	23	111	811	770	126	126	545	4,500	4,934	6	3	22	111	102
New York City	8	16	29	558	617	291	176	518	7,615	7,949	—	1	6	65	79
Pennsylvania	9	15	29	540	508	126	229	394	8,173	9,557	3	4	9	139	122
E.N. Central	24	44	96	1,636	2,054	438	1,257	1,644	44,493	53,098	3	7	28	265	283
Illinois	—	10	32	373	653	6	368	589	11,907	14,147	—	2	7	75	91
Indiana	N	0	0	N	N	133	150	296	5,937	6,571	—	1	20	56	44
Michigan	3	11	21	386	449	255	310	657	12,114	11,439	—	0	3	14	22
Ohio	21	16	31	629	568	31	314	531	11,286	16,017	3	2	6	107	79
Wisconsin	—	8	23	248	384	13	107	214	3,249	4,924	—	0	2	13	47
W.N. Central	10	29	621	1,401	902	36	325	426	11,625	14,449	—	3	24	136	108
Iowa	1	6	24	215	213	22	29	53	1,079	1,452	—	0	1	2	1
Kansas	5	3	11	112	126	—	41	130	1,609	1,694	—	0	3	11	11
Minnesota	—	0	575	509	6	—	60	92	2,092	2,516	—	0	21	41	44
Missouri	—	8	22	324	365	—	155	210	5,552	7,429	—	1	6	53	35
Nebraska§	4	4	10	145	103	—	26	47	973	1,085	—	0	3	21	14
North Dakota	—	0	36	14	13	1	2	7	75	81	—	0	2	8	3
South Dakota	—	1	10	82	76	13	6	15	245	192	—	0	0	—	—
S. Atlantic	32	54	102	1,784	2,120	1,073	1,276	3,072	45,919	60,008	6	11	29	450	459
Delaware	1	1	6	29	28	10	20	44	791	969	—	0	2	6	6
District of Columbia	—	1	5	34	56	31	48	104	1,908	1,749	—	0	1	7	3
Florida	24	22	52	871	910	396	462	549	16,883	16,877	5	3	10	141	120
Georgia	—	11	25	399	463	6	194	561	4,216	12,861	1	2	10	112	92
Maryland§	5	1	18	74	185	120	118	188	4,419	4,792	—	1	3	27	68
North Carolina	N	0	0	N	N	—	76	1,949	2,638	10,081	—	1	9	57	44
South Carolina§	—	3	7	83	76	197	182	833	6,907	7,589	—	1	7	40	39
Virginia§	2	9	39	265	367	312	157	486	7,632	4,387	—	1	6	43	66
West Virginia	—	0	5	29	35	1	15	26	525	703	—	0	3	17	21
E.S. Central	9	9	23	321	396	360	565	945	21,349	23,724	—	3	8	97	102
Alabama§	2	5	12	184	187	—	188	287	6,413	7,984	—	0	2	15	23
Kentucky	N	0	0	N	N	90	89	153	3,371	2,360	—	0	1	2	6
Mississippi	N	0	0	N	N	—	131	401	5,080	6,125	—	0	2	12	7
Tennessee§	7	4	13	137	209	270	165	296	6,485	7,255	—	2	6	68	66
W.S. Central	14	8	41	291	302	589	1,002	1,355	35,661	37,324	2	2	29	87	78
Arkansas§	7	3	8	103	111	110	87	167	3,428	3,020	—	0	3	8	9
Louisiana	—	2	9	83	97	—	175	317	6,293	8,372	—	0	2	7	5
Oklahoma	7	3	35	105	94	14	82	124	2,828	3,782	2	1	21	66	57
Texas§	N	0	0	N	N	465	640	1,102	23,112	22,150	—	0	3	6	7
Mountain	28	31	68	1,044	1,190	115	221	337	7,592	10,121	1	5	14	222	194
Arizona	—	3	11	93	138	21	69	115	2,183	3,756	—	2	11	94	71
Colorado	17	11	27	385	384	86	58	101	2,270	2,532	1	1	4	42	47
Idaho§	1	3	19	136	129	5	4	18	119	187	—	0	4	12	4
Montana§	1	2	9	67	75	3	1	48	78	51	—	0	1	2	2
Nevada§	2	2	6	76	103	—	43	130	1,585	1,691	—	0	1	12	9
New Mexico§	—	2	7	72	87	—	25	104	896	1,272	—	1	4	27	32
Utah	7	6	32	198	241	—	11	36	377	576	—	1	6	30	25
Wyoming§	—	0	3	17	33	—	2	9	84	56	—	0	2	3	4
Pacific	71	55	185	2,036	2,435	360	638	809	22,385	27,667	—	2	7	98	110
Alaska	5	2	5	67	54	11	10	24	366	408	—	0	4	14	10
California	52	35	91	1,333	1,674	286	525	679	18,421	23,212	—	0	3	25	42
Hawaii	—	1	5	32	59	—	12	22	406	478	—	0	2	14	9
Oregon§	3	9	19	329	313	12	23	63	891	829	—	1	4	42	47
Washington	11	8	87	275	335	51	62	97	2,301	2,740	—	0	3	3	2
American Samoa	—	0	0	—	—	—	0	1	3	3	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	2	—	1	12	45	107	—	0	1	—	—
Puerto Rico	2	2	23	95	297	5	5	25	210	245	—	0	0	—	2
U.S. Virgin Islands	—	0	0	—	—	—	2	6	86	34	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Hepatitis (viral, acute), by type†										Legionellosis				
	A					B									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
	Med	Max				Med	Max				Med	Max			
United States	30	48	171	1,799	2,140	51	71	259	2,443	3,122	47	54	128	1,868	1,819
New England	4	2	7	89	99	—	1	7	45	89	3	3	14	92	108
Connecticut	4	0	3	22	14	—	0	7	15	29	3	0	5	30	29
Maine§	—	0	2	6	2	—	0	2	10	8	—	0	2	5	3
Massachusetts	—	1	5	38	52	—	0	3	9	34	—	0	3	13	29
New Hampshire	—	0	2	11	12	—	0	1	5	4	—	0	5	23	7
Rhode Island§	—	0	2	10	11	—	0	2	4	12	—	0	5	16	33
Vermont§	—	0	1	2	8	—	0	1	2	2	—	0	1	5	7
Mid. Atlantic	2	6	16	202	342	8	10	18	329	400	19	15	54	633	585
New Jersey	—	1	6	41	100	—	3	7	101	114	—	1	8	52	81
New York (Upstate)	—	1	6	44	52	4	1	7	51	60	13	5	19	228	149
New York City	—	2	5	70	125	—	2	6	66	90	—	2	10	65	129
Pennsylvania	2	1	6	47	65	4	3	7	111	136	6	6	32	288	226
E.N. Central	5	6	16	220	256	4	7	18	260	343	6	10	33	396	431
Illinois	—	1	10	64	94	—	1	6	60	107	—	1	5	24	91
Indiana	1	0	4	16	17	1	0	6	25	41	—	1	7	36	41
Michigan	1	2	7	90	65	1	2	5	86	85	—	3	16	117	121
Ohio	3	1	4	32	52	2	2	7	83	93	6	5	18	209	149
Wisconsin	—	0	2	18	28	—	0	1	6	17	—	0	3	10	29
W.N. Central	—	5	29	207	128	—	2	9	73	88	2	2	9	85	78
Iowa	—	1	7	93	39	—	0	2	13	19	—	0	2	12	9
Kansas	—	0	3	12	6	—	0	3	6	8	1	0	1	2	8
Minnesota	—	0	23	26	49	—	0	5	7	15	—	0	4	9	15
Missouri	—	0	3	35	17	—	1	4	41	30	—	1	5	42	34
Nebraska§	—	0	5	39	12	—	0	1	5	10	1	0	4	18	8
North Dakota	—	0	2	—	—	—	0	1	1	—	—	0	2	—	—
South Dakota	—	0	1	2	5	—	0	1	—	6	—	0	1	2	4
S. Atlantic	8	7	15	260	360	16	15	60	568	753	12	8	28	298	289
Delaware	—	0	1	6	6	—	0	3	7	14	—	0	2	8	7
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	1	10	11
Florida	5	3	8	114	112	9	6	12	243	253	7	3	10	110	102
Georgia	1	1	4	34	55	1	3	8	93	118	—	0	3	18	25
Maryland§	—	0	3	11	60	—	0	6	16	84	4	2	10	68	55
North Carolina	—	0	9	48	37	6	0	17	58	95	1	0	7	24	35
South Carolina§	—	0	2	9	14	—	1	6	44	48	—	0	2	9	13
Virginia§	2	1	5	34	68	—	2	16	76	104	—	1	6	37	34
West Virginia	—	0	2	4	8	—	0	30	31	37	—	0	3	14	7
E.S. Central	1	1	9	62	82	2	7	13	259	279	2	2	10	90	72
Alabama§	—	0	4	9	17	—	2	5	74	96	—	0	2	12	8
Kentucky	1	0	3	23	16	—	2	5	66	53	1	1	4	44	36
Mississippi	—	0	2	4	7	—	0	3	30	28	—	0	1	1	—
Tennessee§	—	1	6	26	42	2	2	8	89	102	1	1	5	33	28
W.S. Central	1	5	55	178	178	8	15	131	484	637	—	1	23	54	91
Arkansas§	—	0	1	5	10	—	1	4	30	58	—	0	2	9	9
Louisiana	—	0	2	10	26	—	1	4	56	76	—	0	1	6	4
Oklahoma	—	0	3	7	10	2	2	37	81	37	—	0	3	3	5
Texas§	1	5	53	156	132	6	9	107	317	466	—	1	18	36	73
Mountain	2	4	10	157	187	—	3	11	143	160	—	2	5	53	77
Arizona	—	2	9	75	127	—	1	4	48	68	—	0	5	14	25
Colorado	2	0	3	30	21	—	0	3	21	25	—	0	1	5	19
Idaho§	—	0	3	17	4	—	0	2	6	11	—	0	1	3	5
Montana§	—	0	1	1	9	—	0	1	—	—	—	0	1	3	3
Nevada§	—	0	2	5	10	—	1	3	30	36	—	0	1	8	8
New Mexico§	—	0	3	15	8	—	0	2	9	10	—	0	1	4	8
Utah	—	0	2	11	6	—	0	5	26	6	—	0	3	16	6
Wyoming§	—	0	1	3	2	—	0	1	3	4	—	0	0	—	3
Pacific	7	11	51	424	508	13	8	30	282	373	3	4	18	167	88
Alaska	—	0	1	2	3	—	0	2	9	4	—	0	1	1	—
California	6	9	42	346	440	11	5	19	196	277	3	3	14	133	66
Hawaii	—	0	2	14	5	—	0	2	4	10	—	0	1	4	1
Oregon§	—	1	3	23	22	1	1	3	36	45	—	0	2	13	6
Washington	1	1	7	39	38	1	1	9	37	37	—	0	3	16	15
American Samoa	—	0	0	—	—	—	0	0	—	14	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	—	2	—	0	0	—	—
Puerto Rico	—	0	4	15	55	—	1	5	34	58	—	0	1	1	4
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Data for acute hepatitis C, viral are available in Table I.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Lyme Disease					Malaria					Meningococcal disease, invasive† All serotypes				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	244	371	1,375	17,095	21,134	16	22	136	688	926	7	19	53	802	809
New England	5	52	238	2,576	6,712	—	1	35	32	42	—	0	3	20	35
Connecticut	—	0	45	—	2,717	—	0	27	11	1	—	0	1	1	6
Maine§	—	2	67	301	298	—	0	1	—	6	—	0	1	4	5
Massachusetts	—	16	114	1,039	2,676	—	0	2	14	24	—	0	3	15	17
New Hampshire	—	10	120	983	781	—	0	1	3	8	—	0	0	—	3
Rhode Island§	—	0	77	—	131	—	0	8	—	—	—	0	1	—	1
Vermont§	5	2	37	253	109	—	0	1	4	3	—	0	1	—	3
Mid. Atlantic	166	170	960	10,933	8,598	2	5	18	162	285	—	2	6	93	100
New Jersey	—	37	179	2,136	2,571	—	0	2	—	59	—	0	2	10	14
New York (Upstate)	103	56	453	3,620	2,404	2	1	8	27	48	—	0	3	25	27
New York City	—	1	13	20	332	—	3	9	108	145	—	0	2	20	19
Pennsylvania	63	56	487	5,157	3,291	—	1	3	27	33	—	1	5	38	40
E.N. Central	5	10	54	516	1,887	2	2	7	88	101	—	3	9	124	124
Illinois	—	0	9	61	139	—	1	6	36	47	—	1	4	39	50
Indiana	2	0	8	31	42	—	0	2	5	8	—	0	4	22	18
Michigan	2	0	12	72	47	—	0	2	12	13	—	0	3	24	20
Ohio	1	0	4	27	26	2	0	3	24	19	—	1	4	32	29
Wisconsin	—	7	38	325	1,633	—	0	3	11	14	—	0	2	7	7
W.N. Central	29	5	740	743	336	1	1	9	47	27	—	2	8	74	47
Iowa	—	1	8	81	106	—	0	1	5	3	—	0	3	16	10
Kansas	—	0	1	2	8	—	0	1	5	2	—	0	1	3	3
Minnesota	29	1	731	628	205	1	0	8	21	11	—	0	7	19	14
Missouri	—	0	3	19	9	—	0	4	8	5	—	0	3	23	13
Nebraska§	—	0	2	9	5	—	0	2	8	5	—	0	2	10	2
North Dakota	—	0	9	1	3	—	0	2	—	—	—	0	1	1	2
South Dakota	—	0	1	3	—	—	0	0	—	1	—	0	1	2	3
S. Atlantic	30	54	172	2,011	3,411	2	4	13	161	197	1	3	10	121	134
Delaware	3	12	37	591	580	—	0	1	1	4	—	0	1	1	1
District of Columbia	—	2	11	118	101	—	0	1	1	2	—	0	0	—	—
Florida	5	1	8	63	17	—	1	4	38	45	1	1	3	46	52
Georgia	—	0	3	17	8	1	1	4	41	34	—	0	2	14	19
Maryland§	13	18	136	624	1,955	—	0	4	14	50	—	0	4	11	19
North Carolina	5	0	8	25	31	1	0	7	23	17	—	0	4	11	14
South Carolina§	—	0	4	16	20	—	0	2	9	5	—	0	3	19	13
Virginia§	4	12	68	523	642	—	1	7	34	39	—	0	2	16	14
West Virginia	—	0	9	34	57	—	0	0	—	1	—	0	1	3	2
E.S. Central	—	1	5	35	42	—	0	3	13	27	—	1	6	39	41
Alabama§	—	0	3	9	10	—	0	1	3	4	—	0	2	5	8
Kentucky	—	0	1	2	4	—	0	1	4	7	—	0	2	7	9
Mississippi	—	0	1	1	—	—	0	1	1	2	—	0	2	9	10
Tennessee§	—	0	3	23	28	—	0	2	5	14	—	0	3	18	14
W.S. Central	—	2	11	65	54	—	1	64	48	70	—	2	13	87	82
Arkansas§	—	0	1	2	1	—	0	1	—	—	—	0	2	7	9
Louisiana	—	0	1	1	2	—	0	1	2	14	—	0	3	19	24
Oklahoma	—	0	1	—	—	—	0	4	2	5	—	0	5	12	14
Texas§	—	2	10	62	51	—	1	60	44	51	—	1	7	49	35
Mountain	1	0	4	35	34	—	1	5	21	51	1	1	4	42	53
Arizona	—	0	1	4	2	—	0	1	9	11	—	0	2	6	11
Colorado	1	0	1	5	—	—	0	2	3	19	1	0	1	10	20
Idaho§	—	0	2	8	7	—	0	1	1	2	—	0	2	3	4
Montana§	—	0	2	4	2	—	0	0	—	3	—	0	1	4	1
Nevada§	—	0	2	8	10	—	0	3	4	2	—	0	2	6	4
New Mexico§	—	0	2	4	5	—	0	1	2	4	—	0	1	7	2
Utah	—	0	1	—	5	—	0	1	2	10	—	0	2	4	9
Wyoming§	—	0	1	2	3	—	0	0	—	—	—	0	1	2	2
Pacific	8	4	9	181	60	9	3	10	116	126	5	4	17	202	193
Alaska	—	0	2	5	5	—	0	2	4	2	—	0	2	3	1
California	7	3	8	133	50	8	2	8	85	88	2	3	17	143	142
Hawaii	N	0	0	N	N	—	0	1	2	2	—	0	2	4	7
Oregon§	—	0	5	35	4	—	0	2	4	12	3	1	3	29	25
Washington	1	0	7	8	1	1	0	3	21	22	—	0	5	23	18
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	1	1	1	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	3	1	0	1	3	6
U.S. Virgin Islands	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Data for meningococcal disease, invasive caused by serogroups A, C, Y, & W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	166	149	849	5,632	7,106	65	86	153	3,124	4,618	40	29	195	1,531	1,618
New England	—	17	49	501	1,104	10	7	20	275	410	—	0	1	2	7
Connecticut	—	0	3	—	69	6	3	17	152	172	—	0	0	—	—
Maine†	—	1	5	25	64	1	1	5	37	64	N	0	0	N	N
Massachusetts	—	13	33	420	869	N	0	0	N	N	—	0	1	1	7
New Hampshire	—	0	4	26	63	1	1	3	31	41	—	0	1	1	—
Rhode Island†	—	0	25	19	12	N	0	0	N	N	—	0	0	—	—
Vermont†	—	0	6	11	27	2	2	6	55	133	—	0	0	—	—
Mid. Atlantic	26	21	43	668	924	14	19	32	785	770	—	1	5	51	66
New Jersey	—	0	9	4	167	—	0	0	—	—	—	0	2	2	24
New York (Upstate)	20	6	24	319	442	14	9	20	381	391	—	0	3	15	6
New York City	—	2	7	46	94	—	0	2	13	35	—	0	2	16	23
Pennsylvania	6	9	23	299	221	—	9	23	391	344	—	0	2	18	13
E.N. Central	10	20	189	898	1,240	10	5	27	202	356	1	1	11	94	48
Illinois	—	3	9	121	134	2	1	21	87	101	—	1	8	61	30
Indiana	3	0	12	45	47	—	0	2	7	10	—	0	3	8	5
Michigan	1	4	16	158	225	1	1	8	59	184	—	0	1	3	3
Ohio	6	6	176	532	548	7	1	5	49	61	1	0	4	22	9
Wisconsin	—	1	8	42	286	N	0	0	N	N	—	0	0	—	1
W.N. Central	3	12	142	499	486	7	4	13	140	211	—	4	33	347	320
Iowa	—	1	9	64	123	—	0	3	16	23	—	0	2	6	15
Kansas	—	1	5	30	82	—	0	7	—	95	—	0	1	—	11
Minnesota	1	1	131	156	111	—	0	10	45	22	—	0	4	—	1
Missouri	—	3	18	163	68	—	0	9	43	35	—	3	33	322	276
Nebraska†	2	1	12	70	39	—	0	0	—	—	—	0	4	16	12
North Dakota	—	0	5	1	7	7	0	8	24	18	—	0	0	—	—
South Dakota	—	0	3	15	56	—	0	2	12	18	—	0	1	3	5
S. Atlantic	26	14	50	576	720	15	34	94	1,356	1,672	35	9	109	572	768
Delaware	—	0	3	11	10	—	0	0	—	—	—	0	3	22	14
District of Columbia	—	0	1	4	8	—	0	0	—	—	—	0	2	7	3
Florida	14	3	20	209	176	—	0	77	97	128	1	0	3	13	11
Georgia	1	1	6	51	30	8	7	42	288	219	3	0	8	47	55
Maryland†	7	1	6	48	86	—	0	13	94	326	1	1	5	39	50
North Carolina	—	0	38	79	227	6	9	16	353	372	28	0	96	292	486
South Carolina†	4	2	22	85	61	—	0	0	—	46	—	0	5	31	55
Virginia†	—	2	8	85	97	—	12	27	456	530	2	1	15	118	89
West Virginia	—	0	12	4	25	1	1	11	68	51	—	0	1	3	5
E.S. Central	4	6	13	208	369	—	2	7	85	128	4	3	22	219	224
Alabama†	—	1	6	29	74	—	0	0	—	—	—	1	8	62	69
Kentucky	—	1	8	55	22	—	0	4	35	17	—	0	1	1	5
Mississippi	—	2	9	65	204	—	0	1	2	2	—	0	3	6	16
Tennessee†	4	1	6	59	69	—	1	6	48	109	4	1	18	150	134
W.S. Central	11	20	198	890	806	2	2	40	78	815	—	2	153	217	151
Arkansas†	—	1	11	46	144	2	1	6	44	24	—	0	14	44	72
Louisiana	—	0	5	48	16	—	0	0	—	6	—	0	1	3	4
Oklahoma	—	0	26	32	5	—	0	32	32	45	—	0	132	142	45
Texas†	11	17	179	764	641	—	0	34	2	740	—	1	8	28	30
Mountain	5	18	37	594	804	1	1	5	61	69	—	0	3	25	31
Arizona	—	3	10	141	174	N	0	0	N	N	—	0	2	8	7
Colorado	2	4	13	114	229	—	0	0	—	—	—	0	1	1	3
Idaho†	1	0	4	23	37	—	0	1	—	9	—	0	1	1	4
Montana†	—	1	11	74	35	—	0	2	8	14	—	0	1	3	1
Nevada†	—	0	7	23	34	1	0	2	7	10	—	0	1	1	—
New Mexico†	—	0	5	30	58	—	0	3	24	9	—	0	1	2	4
Utah	1	6	27	177	217	—	0	3	7	11	—	0	0	—	—
Wyoming†	1	0	2	12	20	—	0	3	15	16	—	0	2	9	12
Pacific	81	20	303	798	653	6	4	12	142	187	—	0	1	4	3
Alaska	3	1	29	113	43	—	0	4	12	37	N	0	0	N	N
California	—	7	129	257	342	5	3	12	123	141	—	0	1	1	1
Hawaii	—	0	2	8	18	—	0	0	—	—	N	0	0	N	N
Oregon†	1	3	8	125	88	1	0	1	7	9	—	0	1	3	2
Washington	77	6	169	295	162	—	0	0	—	—	N	0	0	N	N
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	0	—	—	2	1	5	50	43	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.
 U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
 * Incidence data for reporting year 2008 are provisional.
 † Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Salmonellosis					Shiga toxin-producing <i>E. coli</i> (STEC)†					Shigellosis				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
United States	710	853	2,110	30,342	32,542	81	81	247	3,409	3,442	269	409	1,227	13,315	12,129
New England	—	23	402	1,457	1,871	—	3	37	170	249	—	3	28	138	208
Connecticut	—	0	372	372	431	—	0	34	34	71	—	0	27	27	44
Maine§	—	2	14	109	94	—	0	3	14	32	—	0	6	18	14
Massachusetts	—	15	52	741	1,085	—	2	11	80	107	—	2	5	78	135
New Hampshire	—	3	10	102	134	—	0	5	21	24	—	0	1	3	5
Rhode Island§	—	1	13	66	65	—	0	3	7	7	—	0	9	9	7
Vermont§	—	1	7	67	62	—	0	3	14	8	—	0	1	3	3
Mid. Atlantic	75	94	212	3,595	4,542	7	7	192	511	388	14	33	93	1,641	568
New Jersey	—	14	30	454	983	—	1	5	24	92	—	7	36	519	128
New York (Upstate)	43	25	73	989	1,077	7	3	188	359	147	12	8	35	470	107
New York City	3	23	48	909	999	—	0	5	39	40	2	9	35	522	193
Pennsylvania	29	29	83	1,243	1,483	—	2	9	89	109	—	2	65	130	140
E.N. Central	52	85	169	3,181	4,557	15	10	39	472	512	68	70	145	2,482	1,980
Illinois	—	20	63	755	1,591	—	1	6	53	101	—	20	37	570	438
Indiana	19	9	53	441	502	—	1	13	47	57	7	11	83	514	81
Michigan	9	17	37	663	717	—	2	16	110	78	1	2	7	80	55
Ohio	24	25	65	955	993	15	2	17	151	120	60	21	76	1,111	903
Wisconsin	—	12	26	367	754	—	3	16	111	156	—	8	39	207	503
W.N. Central	34	50	123	1,983	2,064	5	13	57	594	567	5	19	39	666	1,475
Iowa	3	8	16	321	361	—	2	20	155	136	—	3	11	118	71
Kansas	9	7	20	302	300	—	0	4	31	39	1	0	4	30	21
Minnesota	17	13	70	552	506	5	3	21	139	171	3	4	25	236	178
Missouri	—	14	29	500	542	—	2	9	112	106	—	6	29	166	1,069
Nebraska§	5	5	13	178	187	—	2	28	120	69	1	0	2	5	20
North Dakota	—	0	35	28	32	—	0	20	2	7	—	0	15	35	3
South Dakota	—	2	11	102	136	—	1	4	35	39	—	1	9	76	113
S. Atlantic	283	263	442	7,845	8,016	11	13	50	581	493	31	67	149	2,245	3,327
Delaware	3	3	9	116	118	1	0	1	11	13	—	0	2	7	9
District of Columbia	—	1	4	42	44	—	0	1	8	—	—	0	3	13	15
Florida	133	102	181	3,399	3,059	4	2	18	127	101	6	19	75	635	1,776
Georgia	51	38	86	1,499	1,335	2	1	7	70	73	18	26	50	830	1,144
Maryland§	11	11	30	447	665	1	2	9	73	61	1	1	5	48	82
North Carolina	53	19	228	845	1,031	—	1	14	71	100	3	1	27	142	59
South Carolina§	18	20	55	715	758	—	0	4	32	8	2	9	32	428	97
Virginia§	14	20	49	669	867	3	3	25	168	124	1	4	13	131	138
West Virginia	—	4	25	113	139	—	0	3	21	13	—	0	61	11	7
E.S. Central	29	63	144	2,276	2,346	1	6	21	201	227	11	43	178	1,379	1,407
Alabama§	4	16	50	652	660	1	1	17	50	57	1	10	43	320	470
Kentucky	6	9	21	324	404	—	1	12	63	75	3	6	35	213	310
Mississippi	—	16	57	729	688	—	0	2	5	5	—	9	112	270	485
Tennessee§	19	16	35	571	594	—	2	7	83	90	7	15	32	576	142
W.S. Central	69	99	894	3,793	3,189	4	5	25	160	186	49	71	748	2,927	1,443
Arkansas§	36	13	50	577	502	3	1	4	37	30	17	7	27	419	65
Louisiana	—	17	44	651	637	—	0	1	2	8	—	11	25	458	389
Oklahoma	33	16	72	578	386	1	0	14	23	15	7	3	32	113	90
Texas§	—	55	794	1,987	1,664	—	3	11	98	133	25	51	702	1,937	899
Mountain	52	60	113	2,373	1,944	16	9	24	391	446	27	18	45	682	667
Arizona	31	20	43	798	674	—	1	8	57	84	17	9	34	359	376
Colorado	17	11	43	537	444	6	2	10	111	123	9	2	7	82	89
Idaho§	2	3	14	129	96	8	2	12	90	102	—	0	1	10	9
Montana§	—	2	10	80	71	—	0	3	26	—	—	0	1	6	19
Nevada§	—	3	14	154	195	—	0	4	18	22	—	3	13	134	43
New Mexico§	—	6	32	408	213	—	1	6	40	35	—	1	6	61	82
Utah	1	6	17	237	193	2	1	6	45	66	1	1	5	27	20
Wyoming§	1	1	5	30	58	—	0	2	4	14	—	0	2	3	29
Pacific	116	111	399	3,839	4,013	22	9	35	329	374	64	30	79	1,155	1,054
Alaska	—	1	4	42	69	—	0	1	6	3	—	0	0	—	8
California	95	78	286	2,788	3,031	8	5	22	161	195	56	27	73	999	841
Hawaii	1	6	15	199	205	—	0	5	11	25	—	1	3	34	64
Oregon§	2	6	19	322	246	—	1	8	51	61	2	1	6	56	58
Washington	18	13	103	488	462	14	2	13	100	90	6	2	20	66	83
American Samoa	—	0	1	2	—	—	0	0	—	—	—	0	1	1	4
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	11	12	—	0	0	—	—	—	0	3	14	12
Puerto Rico	1	11	41	341	666	—	0	1	2	1	—	0	4	16	21
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped.

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Streptococcal diseases, invasive, group A					<i>Streptococcus pneumoniae</i> , invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max		
United States	26	93	259	3,945	4,119	15	36	166	1,111	1,250
New England	—	6	31	293	315	—	1	14	50	95
Connecticut	—	0	26	90	95	—	0	11	—	12
Maine§	—	0	3	21	22	—	0	1	1	1
Massachusetts	—	3	8	138	155	—	1	5	39	64
New Hampshire	—	0	2	20	23	—	0	1	7	8
Rhode Island§	—	0	8	12	5	—	0	1	2	8
Vermont§	—	0	2	12	15	—	0	1	1	2
Mid. Atlantic	4	18	43	828	772	2	4	19	140	212
New Jersey	—	3	11	132	138	—	1	6	28	43
New York (Upstate)	1	6	17	275	239	2	2	14	71	75
New York City	—	3	10	150	185	—	1	12	41	94
Pennsylvania	3	6	16	271	210	N	0	0	N	N
E.N. Central	3	19	42	772	804	3	6	23	203	221
Illinois	—	5	16	206	244	—	1	6	46	56
Indiana	3	2	11	112	96	—	0	14	29	13
Michigan	—	3	10	134	165	1	1	5	54	58
Ohio	—	5	14	219	192	2	1	5	43	47
Wisconsin	—	2	10	101	107	—	1	3	31	47
W.N. Central	2	5	39	306	274	2	2	16	101	66
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	2	0	5	33	28	—	0	3	14	—
Minnesota	—	0	35	144	131	2	0	13	41	38
Missouri	—	2	10	70	72	—	1	2	28	17
Nebraska§	—	0	3	31	21	—	0	3	7	10
North Dakota	—	0	5	10	14	—	0	2	5	1
South Dakota	—	0	2	18	8	—	0	1	6	—
S. Atlantic	7	18	34	720	986	1	6	13	166	225
Delaware	—	0	2	6	9	—	0	0	—	—
District of Columbia	—	0	4	20	16	—	0	1	1	2
Florida	2	5	11	199	237	1	1	4	45	46
Georgia	3	4	13	176	191	—	1	5	49	51
Maryland§	—	1	6	24	167	—	0	4	5	49
North Carolina	—	2	10	110	134	N	0	0	N	N
South Carolina§	1	1	5	51	86	—	1	4	36	35
Virginia§	1	3	12	107	126	—	0	6	25	35
West Virginia	—	0	3	27	20	—	0	1	5	7
E.S. Central	—	4	9	134	170	—	2	11	70	73
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	30	32	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	16	5
Tennessee§	—	3	7	104	138	—	1	9	54	68
W.S. Central	1	8	85	357	246	3	5	66	191	174
Arkansas§	—	0	2	4	17	—	0	2	5	10
Louisiana	—	0	2	11	14	—	0	2	9	30
Oklahoma	—	2	19	91	54	2	1	7	51	37
Texas§	1	6	65	251	161	1	3	58	126	97
Mountain	8	10	22	422	444	4	5	12	177	171
Arizona	4	3	9	158	168	1	2	8	89	86
Colorado	2	2	8	119	112	3	1	4	50	33
Idaho§	—	0	2	11	13	—	0	1	3	2
Montana§	N	0	0	N	N	—	0	1	4	1
Nevada§	—	0	2	8	2	N	0	0	N	N
New Mexico§	—	2	7	74	76	—	0	3	15	28
Utah	2	1	5	46	68	—	0	3	15	21
Wyoming§	—	0	2	6	5	—	0	1	1	—
Pacific	1	3	10	113	108	—	0	2	13	13
Alaska	1	0	4	30	20	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	—	2	10	83	88	—	0	2	13	13
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	—	0	12	30	4	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	—	13	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDSS event code 11717).

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	<i>Streptococcus pneumoniae</i> , invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Age <5 years									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
	Med	Max				Med	Max				Med	Max			
United States	28	58	307	2,115	2,235	9	9	43	311	372	122	233	351	8,391	7,936
New England	—	1	49	43	99	—	0	8	6	12	—	6	14	215	190
Connecticut	—	0	44	7	55	—	0	7	—	4	—	0	6	23	24
Maine§	—	0	2	15	10	—	0	1	2	1	—	0	2	9	7
Massachusetts	—	0	0	—	2	—	0	0	—	2	—	4	11	155	112
New Hampshire	—	0	0	—	—	—	0	0	—	—	—	0	2	11	23
Rhode Island§	—	0	3	9	18	—	0	1	2	3	—	0	5	13	22
Vermont§	—	0	2	12	14	—	0	1	2	2	—	0	5	4	2
Mid. Atlantic	2	4	13	190	129	—	0	2	19	23	31	32	51	1,248	1,139
New Jersey	—	0	0	—	—	—	0	0	—	—	5	4	10	155	153
New York (Upstate)	1	1	6	50	46	—	0	2	6	9	1	3	13	98	104
New York City	—	0	5	57	—	—	0	0	—	—	25	18	37	798	681
Pennsylvania	1	2	9	83	83	—	0	2	13	14	—	5	12	197	201
E.N. Central	5	14	64	551	573	1	2	14	77	84	31	17	31	686	654
Illinois	—	1	17	71	126	—	0	6	14	28	1	5	19	163	340
Indiana	2	3	39	164	121	1	0	11	19	19	2	2	10	105	36
Michigan	—	0	3	13	2	—	0	1	2	1	16	2	17	153	86
Ohio	3	8	17	303	324	—	1	4	42	36	12	5	13	228	146
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	4	37	46
W.N. Central	—	3	115	128	152	—	0	9	8	29	—	8	15	273	256
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	12	12
Kansas	—	1	5	56	73	—	0	1	3	6	—	0	5	24	14
Minnesota	—	0	114	—	20	—	0	9	—	19	—	1	5	71	47
Missouri	—	1	8	68	46	—	0	1	2	—	—	5	10	158	172
Nebraska§	—	0	0	—	2	—	0	0	—	—	—	0	2	8	4
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	2	4	11	—	0	1	3	4	—	0	0	—	7
S. Atlantic	14	22	53	897	981	6	3	10	144	176	26	50	215	1,829	1,779
Delaware	—	0	1	3	9	—	0	0	—	2	—	0	4	10	11
District of Columbia	—	0	3	13	15	—	0	0	—	1	—	2	9	86	138
Florida	8	13	30	528	546	3	2	6	96	95	15	20	34	711	599
Georgia	6	8	22	279	354	3	1	5	41	70	—	10	175	332	322
Maryland§	—	0	0	—	1	—	0	0	—	—	6	6	14	243	228
North Carolina	N	0	0	N	N	N	0	0	N	N	2	5	18	197	237
South Carolina§	—	0	0	—	—	—	0	0	—	—	2	1	5	64	73
Virginia§	N	0	0	N	N	N	0	0	N	N	1	5	17	185	165
West Virginia	—	1	9	74	56	—	0	2	7	8	—	0	1	1	6
E.S. Central	7	6	15	217	188	2	1	4	39	27	10	20	31	783	647
Alabama§	N	0	0	N	N	N	0	0	N	N	—	7	16	316	278
Kentucky	2	1	6	61	20	—	0	2	10	2	1	1	7	62	40
Mississippi	1	0	5	4	41	1	0	0	1	—	—	3	15	112	87
Tennessee§	4	3	13	152	127	1	0	3	28	25	9	8	14	293	242
W.S. Central	—	1	7	61	65	—	0	2	12	7	18	41	60	1,489	1,317
Arkansas§	—	0	2	12	5	—	0	1	3	2	3	2	19	116	91
Louisiana	—	1	7	49	60	—	0	2	9	5	—	11	22	357	352
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	5	52	50
Texas§	—	0	0	—	—	—	0	0	—	—	15	25	47	964	824
Mountain	—	1	7	26	45	—	0	2	4	11	—	10	29	316	339
Arizona	—	0	0	—	—	—	0	0	—	—	—	5	21	145	182
Colorado	—	0	0	—	—	—	0	0	—	—	—	2	7	76	35
Idaho§	N	0	0	N	N	N	0	0	N	N	—	0	1	3	1
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	3	—	1
Nevada§	N	0	0	N	N	N	0	0	N	N	—	2	6	58	75
New Mexico§	—	0	1	2	—	—	0	0	—	—	—	1	4	32	30
Utah	—	1	7	22	30	—	0	2	4	10	—	0	2	—	12
Wyoming§	—	0	1	2	15	—	0	1	—	1	—	0	1	2	3
Pacific	—	0	1	2	3	—	0	1	2	3	6	42	64	1,552	1,615
Alaska	N	0	0	N	N	N	0	0	N	N	—	0	1	1	6
California	N	0	0	N	N	N	0	0	N	N	4	38	59	1,392	1,486
Hawaii	—	0	1	2	3	—	0	1	2	3	—	0	2	12	5
Oregon§	N	0	0	N	N	N	0	0	N	N	—	0	3	15	14
Washington	N	0	0	N	N	N	0	0	N	N	2	3	9	132	104
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	4
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	6	2	10	116	115
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).

§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 20, 2008, and September 22, 2007 (38th Week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease†									
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Neuroinvasive					Nonneuroinvasive§				
		Med	Max			Current week	Med	Max	Cum 2008	Cum 2007	Current week	Med	Max	Cum 2008	Cum 2007
United States	208	658	1,660	19,584	28,945	—	1	61	346	1,072	—	2	84	441	2,247
New England	5	13	68	395	1,831	—	0	2	3	2	—	0	1	2	6
Connecticut	—	0	38	—	1,058	—	0	2	3	1	—	0	1	2	2
Maine¶	—	0	26	—	235	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	1	1	—	—	0	2	—	1	—	0	0	—	3
New Hampshire	2	6	18	191	255	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	0	—	—	—	0	0	—	—	—	0	0	—	1
Vermont¶	3	6	17	203	283	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	53	56	117	1,670	3,642	—	0	6	24	16	—	0	3	7	8
New Jersey	N	0	0	N	N	—	0	1	2	1	—	0	1	2	—
New York (Upstate)	N	0	0	N	N	—	0	4	11	3	—	0	1	1	1
New York City	N	0	0	N	N	—	0	2	6	9	—	0	3	4	2
Pennsylvania	53	56	117	1,670	3,642	—	0	2	5	3	—	0	1	—	5
E.N. Central	48	163	378	4,677	8,125	—	0	11	18	88	—	0	6	9	54
Illinois	10	13	63	713	835	—	0	4	—	50	—	0	4	4	31
Indiana	—	0	222	—	—	—	0	2	2	11	—	0	1	—	10
Michigan	10	64	154	1,961	3,015	—	0	2	5	15	—	0	1	—	—
Ohio	28	55	128	1,675	3,461	—	0	3	9	8	—	0	2	2	8
Wisconsin	—	7	38	328	814	—	0	2	2	4	—	0	1	3	5
W.N. Central	7	24	145	844	1,181	—	0	9	28	235	—	0	22	109	712
Iowa	N	0	0	N	N	—	0	2	4	11	—	0	1	4	15
Kansas	7	5	36	276	435	—	0	1	2	11	—	0	3	10	26
Minnesota	—	0	0	—	—	—	0	3	3	42	—	0	6	13	56
Missouri	—	12	51	500	678	—	0	3	4	55	—	0	3	4	14
Nebraska¶	N	0	0	N	N	—	0	1	2	19	—	0	8	20	133
North Dakota	—	0	140	48	—	—	0	2	2	49	—	0	9	34	310
South Dakota	—	0	5	20	68	—	0	5	11	48	—	0	6	24	158
S. Atlantic	41	94	167	3,303	3,852	—	0	4	6	40	—	0	4	5	34
Delaware	—	1	6	40	36	—	0	0	—	1	—	0	1	1	—
District of Columbia	—	0	3	18	24	—	0	0	—	—	—	0	0	—	—
Florida	27	27	87	1,245	915	—	0	1	1	3	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	3	1	22	—	0	4	1	23
Maryland¶	N	0	0	N	N	—	0	1	3	5	—	0	1	3	4
North Carolina	N	0	0	N	N	—	0	0	—	4	—	0	1	—	3
South Carolina¶	11	17	66	622	752	—	0	1	—	2	—	0	0	—	2
Virginia¶	—	21	81	847	1,279	—	0	0	—	3	—	0	0	—	2
West Virginia	3	15	66	531	846	—	0	1	1	—	—	0	0	—	—
E.S. Central	10	17	101	901	387	—	0	10	41	63	—	0	10	63	78
Alabama¶	10	17	101	891	385	—	0	5	10	15	—	0	2	4	4
Kentucky	N	0	0	N	N	—	0	1	—	3	—	0	0	—	—
Mississippi	—	0	2	10	2	—	0	6	27	41	—	0	9	55	70
Tennessee¶	N	0	0	N	N	—	0	1	4	4	—	0	2	4	4
W.S. Central	33	182	886	6,314	7,899	—	0	14	41	215	—	1	12	42	120
Arkansas¶	—	10	38	440	591	—	0	2	8	11	—	0	1	—	6
Louisiana	—	1	10	58	99	—	0	3	6	21	—	0	6	20	9
Oklahoma	N	0	0	N	N	—	0	4	3	53	—	0	3	5	41
Texas¶	33	166	852	5,816	7,209	—	0	10	24	130	—	0	6	17	64
Mountain	11	40	105	1,420	1,974	—	0	15	56	265	—	0	21	131	1,003
Arizona	—	0	0	—	—	—	0	6	32	36	—	0	10	11	28
Colorado	8	14	43	630	802	—	0	4	12	96	—	0	10	59	468
Idaho¶	N	0	0	N	N	—	0	1	2	11	—	0	7	30	115
Montana¶	—	5	27	223	301	—	0	1	—	35	—	0	2	5	165
Nevada¶	N	0	0	N	N	—	0	2	6	1	—	0	3	7	10
New Mexico¶	—	4	22	163	305	—	0	1	3	36	—	0	1	1	20
Utah	3	10	55	394	542	—	0	5	1	27	—	0	2	13	39
Wyoming¶	—	0	9	10	24	—	0	0	—	23	—	0	2	5	158
Pacific	—	1	7	60	54	—	0	31	129	148	—	0	13	73	232
Alaska	—	1	5	47	28	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	31	129	141	—	0	13	69	214
Hawaii	—	0	6	13	26	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	0	—	7	—	0	2	4	18
Washington	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	2	17	55	210	—	0	0	—	—	—	0	0	—	—
Puerto Rico	2	9	20	331	575	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

* Incidence data for reporting year 2008 are provisional.

† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.

§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.

¶ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE III. Deaths in 122 U.S. cities,* week ending September 20, 2008 (38th week)

Reporting area	All causes, by age (years)						P&I† Total	Reporting area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
New England	411	277	93	18	13	10	34	S. Atlantic	1,215	730	321	81	56	26	53
Boston, MA	118	71	28	7	8	4	7	Atlanta, GA	160	89	42	15	11	3	3
Bridgeport, CT	26	21	3	2	—	—	1	Baltimore, MD	224	133	59	12	7	12	24
Cambridge, MA	12	10	2	—	—	—	2	Charlotte, NC	104	64	28	4	6	2	2
Fall River, MA	32	25	6	1	—	—	3	Jacksonville, FL	159	92	45	14	7	1	4
Hartford, CT	49	37	7	2	3	—	4	Miami, FL	95	62	15	13	5	—	3
Lowell, MA	15	13	2	—	—	—	2	Norfolk, VA	36	25	8	1	1	1	1
Lynn, MA	11	8	3	—	—	—	—	Richmond, VA	56	31	18	2	4	1	4
New Bedford, MA	25	16	6	2	1	—	2	Savannah, GA	50	26	16	2	3	3	4
New Haven, CT	U	U	U	U	U	U	U	St. Petersburg, FL	44	31	12	—	1	—	1
Providence, RI	60	33	19	2	1	5	8	Tampa, FL	173	105	47	11	8	2	6
Somerville, MA	1	1	—	—	—	—	—	Washington, D.C.	100	64	26	6	3	1	1
Springfield, MA	37	22	13	1	—	1	2	Wilmington, DE	14	8	5	1	—	—	—
Waterbury, CT	25	20	4	1	—	—	3	E.S. Central	832	526	214	54	24	14	65
Worcester, MA	U	U	U	U	U	U	U	Birmingham, AL	174	102	51	18	1	2	15
Mid. Atlantic	1,989	1,344	460	107	36	42	89	Chattanooga, TN	63	43	15	3	1	1	3
Albany, NY	52	40	11	—	1	—	2	Knoxville, TN	113	79	24	4	4	2	4
Allentown, PA	17	13	1	—	2	1	—	Lexington, KY	71	44	17	4	3	3	4
Buffalo, NY	72	44	19	3	2	4	8	Memphis, TN	134	77	43	4	7	3	26
Camden, NJ	37	19	15	2	—	1	2	Mobile, AL	79	47	20	7	3	2	6
Elizabeth, NJ	12	10	2	—	—	—	2	Montgomery, AL	41	28	12	1	—	—	2
Erie, PA	52	40	10	1	1	—	2	Nashville, TN	157	106	32	13	5	1	5
Jersey City, NJ	32	19	9	4	—	—	2	W.S. Central	1,311	833	334	96	24	23	64
New York City, NY	963	665	217	51	13	17	33	Austin, TX	84	55	23	5	1	—	2
Newark, NJ	34	10	11	2	2	9	1	Baton Rouge, LA	57	34	15	8	—	—	—
Paterson, NJ	15	5	6	—	—	4	—	Corpus Christi, TX	77	53	19	2	—	3	2
Philadelphia, PA	373	232	98	28	11	4	15	Dallas, TX	158	96	38	15	6	3	9
Pittsburgh, PA§	32	20	10	1	—	1	3	El Paso, TX	90	68	15	4	2	1	6
Reading, PA	27	21	3	3	—	—	1	Fort Worth, TX	113	71	31	7	1	3	4
Rochester, NY	119	91	19	7	2	—	11	Houston, TX	192	116	52	16	3	5	8
Schenectady, NY	10	8	2	—	—	—	—	Little Rock, AR	62	42	8	7	4	1	2
Scranton, PA	13	13	—	—	—	—	1	New Orleans, LA¶	U	U	U	U	U	U	U
Syracuse, NY	86	64	18	2	1	1	4	San Antonio, TX	276	172	77	21	4	2	14
Trenton, NJ	14	10	3	1	—	—	1	Shreveport, LA	52	32	15	3	—	2	5
Utica, NY	15	8	4	2	1	—	1	Tulsa, OK	150	94	41	8	3	3	12
Yonkers, NY	14	12	2	—	—	—	—	Mountain	972	648	201	76	23	24	52
E.N. Central	1,798	1,182	415	110	39	49	103	Albuquerque, NM	130	89	24	12	2	3	8
Akron, OH	54	34	16	1	1	2	3	Boise, ID	59	46	11	2	—	—	2
Canton, OH	27	20	6	1	—	—	1	Colorado Springs, CO	54	35	17	1	—	1	—
Chicago, IL	298	175	82	19	12	7	25	Denver, CO	66	43	11	6	2	4	3
Cincinnati, OH	U	U	U	U	U	U	U	Las Vegas, NV	199	133	41	19	5	1	13
Cleveland, OH	207	139	42	14	4	8	12	Ogden, UT	24	18	5	—	1	—	—
Columbus, OH	183	119	47	12	2	3	6	Phoenix, AZ	131	72	35	13	5	6	5
Dayton, OH	87	57	25	4	1	—	5	Pueblo, CO	32	24	4	4	—	—	4
Detroit, MI	178	97	54	15	7	5	11	Salt Lake City, UT	137	88	27	13	4	5	8
Evansville, IN	45	40	3	1	—	1	3	Tucson, AZ	140	100	26	6	4	4	9
Fort Wayne, IN	71	45	21	4	1	—	—	Pacific	1,460	953	351	93	36	26	122
Gary, IN	8	5	1	2	—	—	—	Berkeley, CA	10	7	3	—	—	—	1
Grand Rapids, MI	41	24	10	2	2	3	1	Fresno, CA	U	U	U	U	U	U	U
Indianapolis, IN	147	98	31	6	4	8	12	Glendale, CA	32	24	7	—	1	—	9
Lansing, MI	41	31	7	2	1	—	2	Honolulu, HI	69	52	12	2	—	3	3
Milwaukee, WI	101	63	21	11	2	4	10	Long Beach, CA	71	46	20	5	—	—	7
Peoria, IL	49	38	9	—	—	2	7	Los Angeles, CA	231	142	54	17	11	7	23
Rockford, IL	43	30	6	4	—	3	2	Pasadena, CA	19	12	6	1	—	—	—
South Bend, IN	58	40	10	6	—	2	1	Portland, OR	106	69	27	6	2	2	6
Toledo, OH	95	72	16	6	—	1	1	Sacramento, CA	158	104	40	7	5	2	16
Youngstown, OH	65	55	8	—	2	—	1	San Diego, CA	153	89	47	9	2	5	7
W.N. Central	513	314	128	30	18	23	33	San Francisco, CA	114	72	31	7	3	1	18
Des Moines, IA	U	U	U	U	U	U	U	San Jose, CA	178	123	32	15	4	4	16
Duluth, MN	37	28	7	1	—	1	2	Santa Cruz, CA	25	14	7	2	2	—	2
Kansas City, KS	26	10	12	3	1	—	1	Seattle, WA	113	73	25	10	3	2	6
Kansas City, MO	89	54	20	10	3	2	5	Spokane, WA	70	48	15	6	1	—	6
Lincoln, NE	38	27	7	2	2	—	2	Tacoma, WA	111	78	25	6	2	—	2
Minneapolis, MN	49	24	13	3	3	6	2	Total**	10,501	6,807	2,517	665	269	237	615
Omaha, NE	77	40	29	5	1	2	3								
St. Louis, MO	72	37	20	4	4	7	7								
St. Paul, MN	59	39	14	2	1	3	4								
Wichita, KS	66	55	6	—	3	2	7								

U: Unavailable. —:No reported cases.

* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of >100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

† Pneumonia and influenza.

§ Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

** Total includes unknown ages.

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