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Racial Disparities in Total Knee Replacement Among Medicare Enrollees — United States, 2000–2006

An estimated 45% of U.S. adults might be at risk for developing symptomatic knee osteoarthritis during their lifetimes, with whites and blacks at equal risk for this common disabling condition (*1*). Total knee replacement (TKR) is an effective method of reducing pain and improving physical function among those with disabling knee osteoarthritis; however, whites have been more likely to undergo the procedure than blacks (*2–4*). As a result, a *Healthy People 2010* objective* calls for eliminating racial disparities in the rate of TKR among persons aged ≥65 years (*5*). To monitor progress toward achieving this objective, CDC analyzed national and state TKR rates for Medicare enrollees for the period 2000–2006, stratified by sex, age group, and black or white race. From 2000 to 2006, the TKR rate overall in the United States increased 58%, from 5.5 to 8.7 per 1,000 population, with similar increases among whites (61%) and blacks (56%). However, the TKR rate for blacks was 37% lower than the rate for whites in 2000 (3.6 versus 5.7 per 1,000 population) and 39% lower in 2006 (5.6 versus 9.2 per 1,000 population). Health-care providers and public health agencies might help reduce this disparity by widely distributing TKR information that is tailored to the education and literacy levels and culture of patients with symptomatic knee osteoarthritis. Health-care providers should conduct, as routine practice, thorough discussions regarding knee pain symptoms and loss of physical function with older patients of all races who might be candidates for TKR (*2*).

National and state TKR rates for Medicare enrollees were calculated using 2000–2006 hospital claims and enrollment record data obtained from the Centers for Medicare and Medicaid Services. Analysis was restricted to U.S. residents in the 50 states and District of Columbia (DC) who were aged ≥65 years, entitled to Medicare Part A, and not members of managed care organizations. TKR rates were calculated per 1,000 members of this group, using population estimates on July 1 of the given year. Eligible TKR procedures were defined as *International Classification of Diseases, Ninth Revision, Clinical Modification* code 81.54 (total knee replacement) on hospital claims records from acute care, short-term hospitals. Partial knee replacements were excluded because they represent only 8% of all knee replacement procedures (*6*). Annual TKR rates and 95% confidence intervals were calculated for adults aged ≥65 years overall and by age group (65–74, 75–84, and ≥85 years), sex, black or white race, and state. For this report, estimates by race are presented only for blacks and whites because Medicare race/ethnicity data for other populations (e.g., Asians and Hispanics) are underreported and might produce misleading results (*7*).

Unadjusted national and state estimates were calculated to describe the actual disparity in each jurisdiction for program planning and resource allocation (*8*). Age-adjusted national

*The initial *Healthy People* objective was developmental and lacked a baseline and target to enable measurement of progress. That objective read, "Eliminate racial disparities in the rate of total knee replacements." In 2006, the objective was revised to read, "Eliminate racial disparities in the rate of total knee replacements among persons aged 65 years and older. Target: 0 percent."

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rates using the 2000 projected U.S. population[†] also were calculated to monitor the trend in TKR black/white disparity. Percentage changes in TKR rates from 2000 to 2006 were calculated for blacks and whites, and percentage differences between blacks and whites undergoing TKR were calculated for both years.

In 2000, a total of 26,585,955 Medicare enrollees met the study inclusion criteria; in 2006, the total was 28,382,683. The number of hospitalizations for TKR among Medicare enrollees in the study increased from 145,242 in 2000 to 248,267 in 2006 (Table 1), and the overall TKR rate increased 58% (from 5.5 to 8.7 per 1,000 population). Similar increases were observed by sex, age group, and black or white race (Table 1). In both years, the total number of procedures performed was highest among those aged 65–74 years, but the TKR rate was highest among those aged 75–84 years. TKR rates increased in all states from 2000 to 2006, with the greatest increases in Arkansas (84%), Mississippi (84%), and Delaware (83%), and the lowest increases in Iowa (35%), New Mexico (35%), and Idaho (38%). In 2006, TKR rates ranged from 13.9 in Utah to 4.5 in Hawaii.

TKR rates were 37% lower among blacks than whites (3.6 versus 5.7 per 1,000 population) in 2000, and 39% lower in 2006 (5.6 versus 9.2) (Table 2, Figure). In both years, the black/white disparity was lower among women (23% and 28%) than among men (63% and 60%). In 2006, blacks had a lower TKR rate than whites in all 50 states and DC; the smallest black/white disparities were in DC (11%), Delaware (18%), Massachusetts (18%), and Nevada (18%), and the largest were in Illinois (52%) and Pennsylvania (49%). From 2000 to 2006, the black/white disparity increased across all three age groups, among women (but not among men), and in 19 states (Table 2).

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Editorial Note: Racial disparity in TKR procedures is an important social and public health problem, underscored by adoption of a *Healthy People 2010* objective to eliminate racial disparities in TKR procedures. The findings in this report, however, confirm that little or no progress was made toward achieving this objective from 2000 to 2006. Although the numbers and rates of TKR procedures increased among Medicare enrollees in all demographic groups from 2000 to 2006, the disparity in rates between whites and blacks persisted in the nation overall and increased in 19 states.

[†] Additional information available at http://www.cdc.gov/nchs/data/statnt/statnt20.pdf.

TABLE 1. Numbers and unadjusted rates* of total knee replacement (TKR)† among Medicare enrollees,§ by sex, age group, white or black race, and state — United States, 2000 and 2006

Characteristic	2000 No.	2000 Rate (95% CI¶)	2006 No.	2006 Rate (95% CI)	Increase from 2000 to 2006** (%)
Overall††	**145,242**	**5.5 (5.4–5.5)**	**248,267**	**8.7 (8.7–8.8)**	**58**
Sex					
Women	94,871	6.1 (6.0–6.1)	159,882	9.8 (9.8–9.9)	61
Men	50,371	4.6 (4.6–4.7)	88,385	7.3 (7.3–7.4)	59
Age group (yrs)					
65–74	74,153	5.4 (5.4–5.5)	132,533	9.1 (9.0–9.1)	69
75–84	62,146	6.6 (6.5–6.6)	100,273	10.2 (10.1–10.2)	55
≥85	8,943	2.6 (2.5–2.6)	15,461	4.0 (3.9–4.0)	54
Race					
White	133,012	5.7 (5.6–5.7)	226,829	9.2 (9.1–9.2)	61
Black	7,630	3.6 (3.5–3.7)	12,656	5.6 (5.5–5.7)	56
State					
Alabama	2,604	5.2 (5.0–5.4)	4,265	8.4 (8.1–8.6)	62
Alaska	199	5.8 (5.0–6.6)	428	9.9 (9.0–10.8)	71
Arizona	2,172	6.0 (5.7–6.2)	4,003	9.1 (8.8–9.4)	52
Arkansas	1,736	5.1 (4.9–5.4)	3,341	9.4 (9.1–9.7)	84
California	8,123	4.5 (4.4–4.6)	15,966	7.3 (7.1–7.4)	62
Colorado	1,555	6.3 (6.0–6.6)	3,521	11.5 (11.1–11.9)	83
Connecticut	1,464	4.2 (3.9–4.4)	2,907	7.0 (6.7–7.2)	67
Delaware	500	5.4 (4.9–5.9)	1,067	9.9 (9.3–10.5)	83
District of Columbia	200	3.6 (3.1–4.0)	323	6.0 (5.3–6.6)	67
Florida	9,928	5.5 (5.4–5.6)	16,968	8.6 (8.4–8.7)	56
Georgia	3,533	5.1 (4.9–5.3)	6,424	8.4 (8.2–8.6)	65
Hawaii	256	2.7 (2.3–3.0)	447	4.5 (4.1–4.9)	67
Idaho	1,123	8.8 (8.3–9.3)	1,649	12.1 (11.5–12.6)	38
Illinois	7,150	5.8 (5.6–5.9)	12,173	9.2 (9.1–9.4)	59
Indiana	4,251	6.1 (5.9–6.3)	6,828	9.6 (9.4–9.8)	57
Iowa	3,739	9.2 (8.9–9.5)	4,781	12.4 (12.1–12.8)	35
Kansas	2,593	8.2 (7.9–8.5)	3,921	12.1 (11.7–12.5)	48
Kentucky	2,114	4.7 (4.5–4.9)	3,824	8.0 (7.7–8.3)	70
Louisiana	1,902	4.8 (4.6–5.0)	3,388	8.2 (7.9–8.4)	71
Maine	977	5.5 (5.2–5.9)	1,518	8.1 (7.7–8.5)	47
Maryland	2,740	5.5 (5.3–5.7)	5,066	9.1 (8.8–9.3)	65
Massachusetts	2,514	4.2 (4.1–4.4)	4,633	7.1 (6.9–7.3)	69
Michigan	7,148	6.4 (6.2–6.5)	12,101	10.4 (10.2–10.6)	63
Minnesota	3,833	7.8 (7.5–8.0)	5,854	13.4 (13.1–13.8)	72
Mississippi	1,426	4.4 (4.2–4.7)	2,594	8.1 (7.8–8.4)	84
Missouri	3,825	6.3 (6.1–6.5)	6,040	9.6 (9.4–9.9)	52
Montana	779	6.6 (6.2–7.1)	1,311	11.1 (10.5–11.7)	68
Nebraska	1,801	8.4 (8.0–8.8)	2,741	13.1 (12.6–13.6)	56
Nevada	566	4.1 (3.8–4.5)	1,277	7.2 (6.8–7.6)	76
New Hampshire	759	5.3 (4.9–5.7)	1,198	7.5 (7.1–7.9)	42
New Jersey	3,045	3.4 (3.3–3.6)	5,691	6.0 (5.8–6.1)	76
New Mexico	846	5.5 (5.1–5.8)	1,269	7.4 (7.0–7.8)	35
New York	6,473	3.7 (3.6–3.8)	10,293	5.9 (5.8–6.0)	59
North Carolina	4,728	5.3 (5.2–5.5)	7,782	8.4 (8.2–8.6)	58
North Dakota	701	7.7 (7.1–8.3)	1,022	11.9 (11.1–12.6)	55
Ohio	6,845	5.8 (5.6–5.9)	11,775	9.6 (9.4–9.8)	66
Oklahoma	2,357	6.1 (5.9–6.4)	3,921	10.0 (9.7–10.3)	64
Oregon	1,608	6.3 (6.0–6.6)	2,528	9.1 (8.7–9.4)	44
Pennsylvania	7,053	5.5 (5.3–5.6)	10,772	8.7 (8.5–8.9)	58
Rhode Island	334	3.7 (3.3–4.1)	502	5.9 (5.4–6.4)	59
South Carolina	2,490	5.5 (5.2–5.7)	4,376	8.9 (8.6–9.1)	62
South Dakota	859	8.2 (7.6–8.7)	1,402	13.0 (12.4–13.7)	59
Tennessee	2,834	4.5 (4.3–4.6)	4,789	7.8 (7.5–8.0)	73
Texas	9,476	5.9 (5.8–6.0)	17,668	9.3 (9.1–9.4)	58
Utah	1,414	8.1 (7.7–8.6)	2,376	13.9 (13.4–14.5)	72
Vermont	361	4.8 (4.3–5.3)	594	7.4 (6.8–8.0)	54
Virginia	3,407	4.7 (4.6–4.9)	6,377	8.2 (8.0–8.4)	74
Washington	2,514	5.5 (5.3–5.7)	5,109	9.0 (8.7–9.2)	64
West Virginia	1,269	5.2 (4.9–5.5)	2,111	8.6 (8.2–9.0)	65
Wisconsin	4,736	7.3 (7.1–7.5)	6,626	11.2 (10.9–11.4)	53
Wyoming	382	6.9 (6.2–7.6)	727	12.3 (11.4–13.2)	78

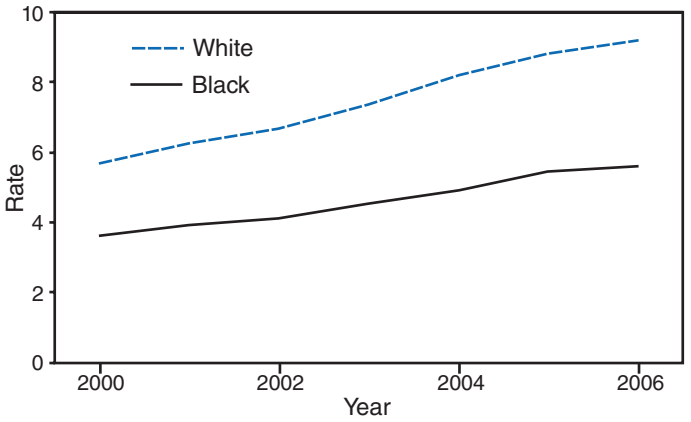
* Per 1,000 population.
† Defined as *International Classification of Diseases, Ninth Revision, Clinical Modification* code 81.54 (total knee replacement) on hospital claims records from acute care, short-term hospitals.
§ U.S. residents in the 50 states or District of Columbia who were aged ≥65 years, entitled for Medicare Part A, and not members of managed care organizations.
¶ Confidence interval.
** The overall percentage increase might not be consistent with the percentage increases for subpopulations because of rounding.
†† Includes persons in all racial/ethnic groups.

TABLE 2. Comparison of numbers and unadjusted rates* of total knee replacement (TKR)† among Medicare enrollees§ of black or white race, by sex, age group, and state — United States, 2000 and 2006

	2000					2006				
	Black		White		Difference between black and white** (%)	Black		White		Difference between black and white** (%)
Characteristic	No.	Rate (95% CI¶)	No.	Rate (95% CI)		No.	Rate (95% CI)	No.	Rate (95% CI)	
Overall	**7,630**	**3.6 (3.5–3.7)**	**133,012**	**5.7 (5.6–5.7)**	**-37**	**12,656**	**5.6 (5.5–5.7)**	**226,829**	**9.2 (9.1–9.2)**	**-39**
Sex										
Women	6,211	4.8 (4.7–4.9)	85,484	6.2 (6.2–6.2)	-23	9,953	7.3 (7.2–7.5)	143,904	10.2 (10.1–10.2)	-28
Men	1,419	1.8 (1.7–1.9)	47,528	4.9 (4.9–5.0)	-63	2,703	3.1 (2.9–3.2)	82,925	7.8 (7.8–7.9)	-60
Age group (yrs)										
65–74	4,352	3.8 (3.7–3.9)	67,071	5.6 (5.6–5.7)	-32	7,859	6.2 (6.0–6.3)	119,617	9.5 (9.5–9.6)	-35
75–84	2,848	4.2 (4.1–4.4)	57,646	6.8 (6.7–6.9)	-38	4,270	6.2 (6.0–6.4)	92,623	10.6 (10.6–10.7)	-42
≥85	430	1.6 (1.4–1.7)	8,295	2.7 (2.6–2.8)	-41	527	1.9 (1.7–2.1)	14,589	4.2 (4.1–4.3)	-55
State										
Alabama	324	3.8 (3.4–4.2)	2,248	5.5 (5.2–5.7)	-31	471	6.1 (5.6–6.7)	3,742	8.7 (8.4–9.0)	-30
Alaska	—††	—	165	6.1 (5.2–7.0)	—	—	—	348	10.6 (9.5–11.7)	—
Arizona	—	—	2,052	6.1 (5.8–6.4)	—	—	—	3,800	9.4 (9.1–9.7)	—
Arkansas	130	3.8 (3.2–4.5)	1,589	5.2 (5.0–5.5)	-27	193	6.1 (5.3–7.0)	3,094	9.7 (9.3–10.0)	-37
California	335	3.7 (3.3–4.1)	6,891	4.8 (4.7–4.9)	-23	579	5.3 (4.9–5.7)	13,431	8.0 (7.9–8.2)	-34
Colorado	—	—	1,485	6.5 (6.1–6.8)	—	51	6.4 (4.6–8.1)	3,344	11.7 (11.3–12.1)	-45
Connecticut	59	3.8 (2.8–4.8)	1,379	4.2 (4.0–4.4)	-10	117	5.4 (4.4–6.4)	2,725	7.1 (6.8–7.4)	-24
Delaware	52	5.2 (3.8–6.6)	441	5.5 (5.0–6.0)	-5	106	8.3 (6.7–9.9)	937	10.1 (9.5–10.8)	-18
District of Columbia	128	3.4 (2.8–4.0)	66	3.9 (3.0–4.9)	-13	199	5.8 (5.0–6.6)	112	6.5 (5.3–7.7)	-11
Florida	413	4.2 (3.8–4.6)	9,213	5.7 (5.6–5.8)	-26	661	5.5 (5.1–5.9)	15,697	8.9 (8.8–9.1)	-38
Georgia	541	4.2 (3.8–4.5)	2,931	5.3 (5.1–5.5)	-21	814	5.8 (5.4–6.1)	5,497	9.0 (8.7–9.2)	-36
Hawaii	—	—	78	3.3 (2.5–4.0)	—	—	—	171	6.2 (5.3–7.2)	—
Idaho	—	—	1,088	8.7 (8.2–9.2)	—	—	—	1,598	12.0 (11.4–12.6)	—
Illinois	265	2.6 (2.3–2.9)	6,724	6.1 (5.9–6.2)	-57	589	4.7 (4.3–5.0)	11,224	9.8 (9.6–10.0)	-52
Indiana	145	4.0 (3.3–4.6)	4,042	6.2 (6.0–6.4)	-35	249	6.3 (5.5–7.1)	6,498	9.8 (9.5–10.0)	-36
Iowa	—	—	3,665	9.1 (8.8–9.4)	—	—	—	4,709	12.5 (12.1–12.8)	—
Kansas	62	6.6 (5.0–8.3)	2,472	8.2 (7.9–8.5)	-20	75	7.4 (5.7–9.1)	3,753	12.2 (11.9–12.6)	-39
Kentucky	98	4.5 (3.6–5.4)	1,988	4.7 (4.4–4.9)	-4	126	5.8 (4.8–6.8)	3,652	8.1 (7.8–8.3)	-28
Louisiana	303	3.4 (3.0–3.7)	1,575	5.2 (5.0–5.5)	-35	468	5.2 (4.7–5.7)	2,886	9.0 (8.7–9.4)	-42
Maine	—	—	960	5.5 (5.1–5.8)	—	—	—	1,501	8.1 (7.7–8.5)	—
Maryland	316	3.7 (3.3–4.1)	2,366	5.9 (5.7–6.2)	-37	723	6.9 (6.4–7.4)	4,162	9.7 (9.4–9.9)	-29
Massachusetts	57	3.1 (2.3–4.0)	2,391	4.3 (4.1–4.4)	-28	133	5.9 (4.9–6.9)	4,358	7.2 (7.0–7.4)	-18
Michigan	364	3.5 (3.1–3.9)	6,672	6.7 (6.5–6.8)	-48	724	6.6 (6.1–7.1)	11,128	10.8 (10.6–11.0)	-39
Minnesota	—	—	3,756	7.8 (7.6–8.1)	—	—	—	5,703	13.4 (13.1–13.8)	—
Mississippi	235	2.9 (2.5–3.3)	1,171	4.9 (4.6–5.2)	-41	381	5.2 (4.7–5.7)	2,181	9.0 (8.6–9.3)	-42
Missouri	118	3.2 (2.6–3.8)	3,663	6.5 (6.3–6.7)	-51	203	5.1 (4.4–5.8)	5,755	9.9 (9.6–10.1)	-48
Montana	—	—	748	6.5 (6.1–7.0)	—	—	—	1,254	11.1 (10.4–11.7)	—
Nebraska	—	—	1,751	8.4 (8.0–8.8)	—	—	—	2,654	13.1 (12.6–13.6)	—
Nevada	—	—	534	4.3 (3.9–4.7)	—	56	6.2 (4.6–7.8)	1,152	7.6 (7.1–8.0)	-18
New Hampshire	—	—	755	5.3 (4.9–5.7)	—	—	—	1,182	7.6 (7.1–8.0)	—
New Jersey	170	2.3 (1.9–2.6)	2,789	3.6 (3.4–3.7)	-36	404	4.6 (4.2–5.1)	5,076	6.2 (6.0–6.4)	-26
New Mexico	—	—	717	5.5 (5.1–5.9)	—	—	—	1,106	7.7 (7.2–8.1)	—
New York	404	2.6 (2.3–2.9)	5,846	3.9 (3.8–4.0)	-33	639	3.9 (3.6–4.2)	9,156	6.3 (6.2–6.4)	-38
North Carolina	638	4.4 (4.1–4.8)	3,970	5.4 (5.2–5.6)	-19	860	6.2 (5.8–6.6)	6,783	8.8 (8.6–9.0)	-30
North Dakota	—	—	689	7.7 (7.1–8.3)	—	—	—	990	11.8 (11.1–12.5)	—
Ohio	344	4.0 (3.5–4.4)	6,402	5.9 (5.7–6.0)	-32	641	6.9 (6.3–7.4)	10,956	9.8 (9.6–9.9)	-30
Oklahoma	77	4.6 (3.5–5.6)	2,210	6.2 (5.9–6.4)	-26	122	7.6 (6.3–9.0)	3,525	10.2 (9.9–10.6)	-25
Oregon	—	—	1,574	6.4 (6.0–6.7)	—	—	—	2,455	9.2 (8.8–9.5)	—
Pennsylvania	260	3.6 (3.2–4.0)	6,690	5.6 (5.4–5.7)	-36	294	4.6 (4.0–5.1)	10,339	9.0 (8.8–9.1)	-49
Rhode Island	—	—	322	3.7 (3.3–4.1)	—	—	—	478	5.9 (5.4–6.5)	—
South Carolina	404	4.3 (3.9–4.7)	2,049	5.7 (5.5–6.0)	-25	620	6.6 (6.1–7.1)	3,711	9.4 (9.1–9.7)	-30
South Dakota	—	—	837	8.2 (7.6–8.7)	—	—	—	1,367	13.2 (12.5–13.9)	—
Tennessee	235	3.5 (3.0–3.9)	2,573	4.6 (4.4–4.8)	-24	310	5.3 (4.7–5.9)	4,412	8.0 (7.7–8.2)	-34
Texas	440	3.4 (3.1–3.7)	8,208	6.1 (6.0–6.3)	-44	820	5.4 (5.0–5.7)	15,740	9.8 (9.6–9.9)	-45
Utah	—	—	1,385	8.2 (7.8–8.7)	—	—	—	2,308	14.1 (13.5–14.6)	—
Vermont	—	—	357	4.8 (4.3–5.3)	—	—	—	588	7.4 (6.8–8.0)	—
Virginia	412	3.7 (3.4–4.1)	2,929	4.9 (4.8–5.1)	-24	643	5.8 (5.3–6.2)	5,550	8.7 (8.5–8.9)	-33
Washington	—	—	2,416	5.6 (5.3–5.8)	—	—	—	4,861	9.3 (9.0–9.6)	—
West Virginia	—	—	1,218	5.1 (4.8–5.4)	—	—	—	2,039	8.5 (8.2–8.9)	—
Wisconsin	67	5.1 (3.9–6.4)	4,599	7.4 (7.1–7.6)	-31	98	7.1 (5.7–8.5)	6,433	11.3 (11.0–11.6)	-37
Wyoming	—	—	373	6.9 (6.2–7.7)	—	—	—	708	12.3 (11.4–13.2)	—

* Per 1,000 population.
† Defined as *International Classification of Diseases, Ninth Revision, Clinical Modification* code 81.54 (total knee replacement) on hospital claims records from acute care, short-term hospitals.
§ U.S. residents in the 50 states or District of Columbia who were aged ≥65 years, entitled for Medicare Part A, and not members of managed care organizations.
¶ Confidence interval.
** The overall percentage difference might not be consistent with the percentage differences for subpopulations because of rounding.
†† Number is less than 50, making rate estimate potentially unreliable.

FIGURE. Age-adjusted rates* of total knee replacement† among Medicare enrollees,§ by white or black race — United States, 2000–2006



* Per 1,000 population. Age-adjusted to the United States 2000 projected population.

† Defined as *International Classification of Diseases, Ninth Revision, Clinical Modification* code 81.54 (total knee replacement) on hospital claims records from acute care, short-term hospitals.

§ U.S. residents in the 50 states or District of Columbia who were aged ≥65 years, entitled for Medicare Part A, and not members of managed care organizations.

The findings of an increase in the overall rate of TKR procedures in the United States and the substantial and continuing black/white disparities in TKR are consistent with previous reports. One report examining rates of knee and hip replacement, bypass surgery, and angioplasty from 1997 to 2001 in New York and Pennsylvania Medicare populations found an increase in the white/nonwhite disparity for joint replacements (*9*). An analysis of 1998–2000 Medicare data also indicated racial disparity in TKR rates (*3*). Rates in that study differ somewhat from those in this report, likely because of the substantial increase in the number of TKR procedures since 2000, the different geographic areas examined (i.e., nation and state compared with selected hospital referral regions), and restriction of the study population in this report to Medicare enrollees aged ≥65 years who were not in a managed care organization, instead of the entire Medicare enrollee population.

The precise causes of black/white disparities in TKR are unclear and likely multifactorial. The disparities are not explained by varying risk for knee osteoarthritis (*1*). Likewise, disparate access to health care probably does not explain the disparities. Several reports have indicated that racial disparity in TKR procedures persists even after adjusting for access to clinical care (*2*). However, differing knowledge, attitudes, and beliefs regarding TKR might play some role. Lower outcome expectations have been associated with unwillingness to undergo TKR; these lower expectations might result from communication gaps with health-care providers or inaccurate information from peers (*2*). Also, the likelihood of undergoing a joint replacement increases if a member of the patient's social network has undergone a successful joint replacement (*2*). Although no evidence has been presented showing racial differences in functional status after undergoing TKR, nonwhite Medicare beneficiaries are more likely to undergo surgery in hospitals that have fewer TKR procedures and where adverse TKR outcomes are more common (*10*). Negative TKR outcomes might influence members of social networks not to seek TKR. The likelihood of undergoing TKR increases with increased education (*2*). One study of U.S. adults found racial disparity in joint replacement use during 1998–2004 among persons aged ≥65 years but not among persons aged 51–64 years (*4*), a difference that might be attributable, in part, to a narrower education gap between blacks and whites at younger age levels.

The findings in this report are subject to at least three limitations. First, the study data were collected from Medicare hospital claims and thus depend on the accuracy of physician or administrative reporting and procedure coding. However, these data are the only available national source of hospital procedure information with complete black and white race data for persons aged ≥65 years. Second, all hospitalizations were analyzed, but access to individual identifiers was prohibited; therefore, some persons might have been counted twice if they underwent TKR surgery on each knee at two separate times in the same year. Finally, the analysis does not include persons in managed care organizations, a standard exception in Medicare analyses, because these organizations do not release specific claims data; in 2004, approximately 17% of all Medicare enrollees were members of managed care organizations.

Racial disparity between blacks and whites persists in TKR procedures, and the precise underlying reasons are unclear. A combined public health and clinical strategy to address racial disparity in TKR might include wider distribution of information in various public settings and equipping health-care providers with resources that enable them to have TKR discussions that are thorough and tailored to the understanding, needs, and concerns of their patients (*2*).

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Clostridium perfringens Infection Among Inmates at a County Jail — Wisconsin, August 2008

On August 8, 2008, employees at a Wisconsin county jail noted nausea, vomiting, and diarrhea among more than 100 inmates during the early morning inspection. Seven inmates were seen by the jail nurse that morning. Following jail protocol, guards gave at least 60 inmates bismuth subsalicylate to relieve symptoms, and the jail nurse notified local health department staff members, who suspected a foodborne outbreak at the jail and initiated an investigation. This report summarizes the findings of an investigation by the Wisconsin Division of Public Health (WDPH) and the local health department, which determined the outbreak was caused by eating casserole containing ground turkey and beef (relative risk [RR] = 25.1) that was served during the evening meal on August 7. *Clostridium perfringens* enterotoxin was detected in stool samples collected from six ill inmates, and 43,000 CFU/g of the organism were isolated from a remaining sample of casserole. An environmental investigation determined the casserole was made with food items that were prepared and stored improperly. Proper food preparation and storage methods are especially important in large institutions such as jails and prisons, where large amounts of foods are prepared and served at one time.

The county jail has a capacity of approximately 550 inmates and is regulated by the local sheriff's department. The jail houses a mixed population that includes male (approximately 90% of the population) and female adults, work release inmates, contract prisoners from the Wisconsin Department of Corrections, and juveniles housed in the juvenile detention facility. Food preparation is conducted on-site in a central kitchen. An independent food-handling company is responsible for establishing the menu, providing the food ingredients, and overseeing the food preparations, which are conducted by inmates on a weekly rotating kitchen assignment. Meals are pre-portioned and served to the inmates, to be consumed in their cells. Inmates are served a set menu and are not given a choice of food items.

On August 8, 2008, after discussion with the jail nurse, WDPH epidemiologists prepared a questionnaire to record inmate demographic information, clinical signs and symptoms, time of symptom onset, and food-consumption histories for all meals served at the jail on August 6 and 7. The questionnaire was distributed to all of the inmates in their cells. All inmates, whether or not they had been ill, were asked to complete the questionnaire on August 8. Of 475 inmates at the jail on August 8, 257 (54%) returned the self-administered survey.

A probable *C. perfringens* intoxication case was defined as the self-reported (by questionnaire) presence of at least one of the following symptoms: diarrhea (three or more loose stools in a 24-hour period), abdominal cramps, or nausea occurring between 5:00 p.m. on August 7 and 5:00 p.m. on August 8. A confirmed case was defined as a probable case with a stool sample positive for *C. perfringens* enterotoxin. Among the 257 inmates who answered the questionnaire, 37 returned forms that were incomplete and could not be used for analysis. Among the 220 inmates who completed the full survey, 194 probable and six confirmed cases were identified. Among those 200 cases, the most frequently reported signs and symptoms included diarrhea (97%), abdominal cramps (85%), nausea (64%), and generalized aches (51%) (Table 1). In a comment space on the questionnaire, four respondents commented on the unusual taste of the casserole. Among the 200 cases, 172 (86%) occurred in males aged 15–62 years (median: 28 years); the mean onset interval was approximately 8 hours after the August 7 evening meal (Figure). One case occurred in an inmate who was assigned to food preparation duty. None of the food preparation supervisors reported being ill, although they also consumed the meal. No information was collected on the location of ill inmates within the jail.

In a cohort analysis, among food and beverages reported consumed by the inmates, the strongest association with illness was eating casserole (RR = 25.1) at dinner on August 7 (Table 2). Among 220 inmates, 192 (87%) reported eating the casserole, which was made with macaroni noodles, ground beef, and ground turkey (but not turkey served for the evening meal on August 6), frozen mixed vegetables, and gravy.

TABLE 1. Number and percentage of *Clostridium perfringens* probable and confirmed infections (N = 200)* with clinical symptoms and positive laboratory tests among jail inmates — Wisconsin, August 2008

Symptom	No.	(%)
Diarrhea	194	(97)
Abdominal cramps	169	(85)
Nausea	128	(64)
Generalized aches	102	(51)
Headache	94	(47)
Fatigue	89	(45)
Chills	85	(43)
Vomiting	45	(23)
Laboratory confirmed	6	(3)

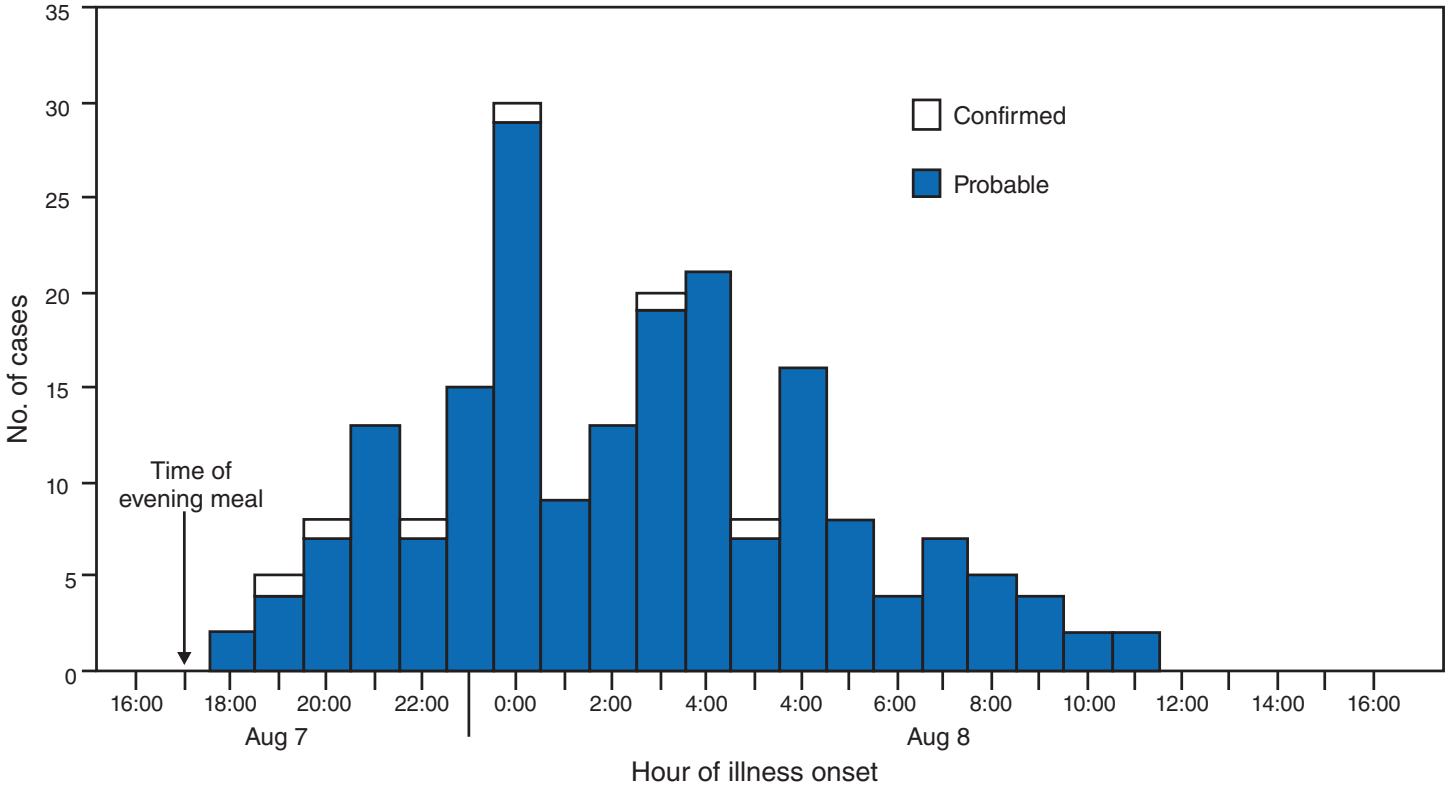
* Probable cases = cases with one or more self-reported symptoms (i.e., diarrhea, abdominal cramps, or nausea); confirmed cases = probable case definition with positive stool specimen.

Stool specimens obtained from six symptomatic inmates on August 8 were submitted to the Wisconsin State Laboratory of Hygiene (WSLH) for testing for *C. perfringens* and *Bacillus cereus* enterotoxin. On August 13, test results confirmed the presence of *C. perfringens* enterotoxin in stool samples from all six inmates. Tests were negative for *B. cereus* enterotoxin, and cultures for the outbreak stool screen for *Salmonella*, *Shigella*, *Campylobcater*, and *Escherichia coli* O157:H7 were negative.

The company that distributes food to the jail routinely freezes and stores for up to 72 hours leftover food that is not served. Samples of the stored casserole, served as the main course for evening meal on August 7, were tested on August 12 for the presence of *C. perfringens* by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), Bureau of Laboratory Services. No other food items were tested; 43,000 CFU/g (quantified via a dilution plate count) of *C. perfringens* was isolated from the sample of casserole.

On August 8, the environmental health sanitarian from the local health department met with jail kitchen supervisors and employees of the food distribution company to assess food preparation and employee health and hygiene practices. The macaroni and ground beef in the implicated casserole were cooked the day before. The sanitarian determined that food temperatures had not been obtained or recorded consistently, and documentation of cooling temperatures for both the ground beef and macaroni, where cooling from 70°F to 41°F

FIGURE. Number of self-reported cases of *Clostridium perfringens* intoxications (N = 200)* among inmates housed at a county jail who ate casserole dinner, by hour of illness onset — Wisconsin, August 7 and 8, 2008



* Probable cases = cases with one or more self-reported symptoms (i.e., diarrhea, abdominal cramps, or nausea); confirmed cases = probable case definition with positive stool specimen.

TABLE 2. Association between reported food exposures and cases of *Clostridium perfringens* gastroenteritis at a county jail — Wisconsin, August 2008

	No. who ate specified foods			No. who did not eat specified foods					
Meal and date served	Cases	Total	Attack rate (%)	Cases	Total	Attack rate (%)	RR*	p-value	95% CI†
Breakfast (8/6/2008)									
Cereal	147	159	(93)	31	34	(91)	1.2	0.5	(0.4–3.9)
Milk	151	164	(92)	26	28	(93)	0.9	0.6	(0.2–3.8)
Lunch (8/6/2008)									
Chicken strips	161	172	(94)	18	22	(82)	2.8	0.1	(1.0–8.2)
Carrots	135	145	(93)	41	45	(91)	1.3	0.4	(0.4–3.9)
Brownie/Cake	109	116	(94)	55	62	(88)	1.9	0.2	(0.7–5.1)
Flavored drink	154	166	(93)	24	27	(89)	1.5	0.4	(0.5–5.1)
Dinner (8/6/2008)									
Turkey with gravy	177	186	(95)	7	13	(54)	9.5	<0.1	(4.0–22.7)
Rice	176	186	(95)	7	12	(58)	4.7	<0.1	(1.7–12.9)
Corn	170	181	(94)	10	14	(71)	4.7	<0.1	(1.7–12.9)
Dinner roll	168	181	(93)	14	16	(88)	1.7	0.4	(0.4–7.1)
Breakfast (8/7/2008)									
Cereal	147	159	(93)	31	34	(91)	1.2	0.5	(0.4–3.9)
Milk	146	158	(92)	29	32	(91)	1.2	0.5	(0.4–4.1)
Lunch (8/7/2008)									
Hot dog	171	184	(93)	13	15	(87)	1.9	0.3	(0.5–7.6)
Bun	169	182	(93)	15	17	(88)	1.7	0.4	(0.41–6.7)
Potato chips	164	178	(92)	20	21	(95)	0.6	0.5	(0.1–4.4)
Green beans	147	157	(94)	36	41	(88)	1.9	0.2	(0.7–5.3)
Dinner (8/7/2008)									
Casserole	191	198	(96)	1	9	(11)	25.1	<0.1	(11.7–53.9)
Mixed vegetables	168	179	(94)	22	26	(85)	2.5	0.1	(0.9–7.3)
Cornbread	159	168	(95)	30	36	(83)	3.1	<0.1	(1.2–8.2)

* Relative risk.
† Confidence interval.

(39°C to 23°C) is a vital step, could not be provided. An inspection of the cooler revealed improper handling and cooling of taco meat, which was being prepared for a future meal and was not implicated in this outbreak; some containers of meat were cooled with ice paddles and other containers were not. The sanitarian recommended training kitchen employees on proper cooling processes and food history documentation requirements, stressed that reuse of food items should occur only when records of proper preparation and temperature documentation are available, and provided fact sheets on proper food-handling and preparation.

Reported by: *H Hsieh, MS, Outagamie County Public Health Div; J Archer, MS, R Heffernan, MPH, JP Davis, MD, Wisconsin Div of Public Health. CF Nielsen, PhD, EIS Officer, CDC.*

Editorial Note: *C. perfringens* is a ubiquitous, spore-forming bacterium and a natural inhabitant of soil and the intestinal tracts of many warm-blooded mammals, including humans. *C. perfringens* food contamination is a common source of foodborne illness in industrialized nations and causes an estimated 250,000 cases of diarrhea annually in the United States (*1*). When food products contaminated with *C. perfringens* are cooled too slowly or are reheated insufficiently, enterotoxin-producing vegetative cells can increase rapidly during the period when ambient temperatures range between 104°F and 122°F (40°C and 50°C). Illness is caused by the production of enterotoxin in the small intestine after ingestion of food containing ≥10^6 CFU/g of *C. perfringens* vegetative cells (*2,3*). Typical symptoms of acute abdominal pain, nausea, and diarrhea occur 6–24 hours after eating contaminated food, are generally self-limited and last approximately 24 hours; associated deaths are rare (*2*). Proper preparation and storage of food and cleaning and disinfection of preparation areas can effectively control foodborne illness caused by *C. perfringens*.

The epidemiologic and laboratory results from this investigation strongly implicated the casserole as the source of illness. Consumption of casserole at the evening meal on August 7 was associated with a high risk for illness. Consumption of certain items at the evening meal on the previous day was more weakly associated with illness. However, time from consumption of these items to the onset of illness makes these items unlikely as vehicles for illness caused by *C. perfringens*, which has a shorter incubation period. Leftover items from the evening dinner on

August 6 were not included in the casserole, nor were they available for microbiologic testing.

Some cases in this outbreak occurred only a few hours after consumption of casserole, somewhat earlier than might be expected for *C. perfringens*. This might reflect time-reporting errors, because inmates at the jail do not have clocks or watches available in their cells. However, lower gastrointestinal symptoms can occur as soon as 2 hours after ingestion of foods containing *C. perfringens* (*4*).

Laboratory detection of *C. perfringens* during foodborne outbreak investigations requires either quantitative cultures of implicated foods or enterotoxin-positive stool specimens from ill persons (*5*). In this investigation, testing of food and stool samples confirmed the presence of *C. perfringens*. The detection of enterotoxin in stool specimens and isolation of *C. perfringens* in food samples provided confirmatory evidence that *C. perfringens* contamination of the casserole was the causative agent for the outbreak.

The casserole had been made by combining and reheating leftover food items from previous meals and food items that were near their expiration dates. The limited preparation history for these leftover foods indicated that they might not have been cooled properly after previous meals, potentially allowing *C. perfringens* vegetative cells to increase to concentrations sufficient to cause illness during mixing and reheating of the casserole. The food sample tested was frozen during holding and thawed before shipment. Because *C. perfringens* is sensitive to freezing and significant cell die-off commonly occurs when samples are frozen, the original concentration of *C. perfringens* cells likely was greater than 43,000 CFU/g.

Foodborne outbreaks of *C. perfringens* infections typically occur in institutional settings, where large quantities of food are sometimes prepared several hours before serving. *C. perfringens* frequently has been found to contaminate meats, meat products, and gravies, and is most often associated with improper holding temperatures or inadequate cooking (*2*). Proper food-handling practices are imperative. Food items need to be heated before serving to temperatures sufficient to kill spore-forming bacteria, and afterward cooled quickly for storage. The optimal temperature for growth of *C. perfringens* vegetative cells is 109°F to 113°F (43°C to 45°C) (*6,7*); therefore, rapidly cooling cooked meats to below these temperatures is important (*8*).

The findings in this report are subject to at least one limitation. The illness rate for inmates who did not submit a survey could not be determined; therefore, an overall attack rate could not be calculated reliably.

Correctional workers, inmates (including those working on weekly rotations), and other persons serving as food handlers, food preparers, or food distributors should receive training and educational materials regarding food preparation as part of in-facility, pre-service training or orientation. Measures to prevent the spread of potential foodborne and waterborne pathogenic organisms should emphasize basic food and water sanitation measures and encourage good hygiene, particularly appropriate handwashing techniques, disposal of waste and soiled materials, and disinfection. Prepared foods in institutional settings should not include reused meats or other food items cooked or served with meats from previous meals unless stringent food-preparation procedures are followed, such as closely monitoring and recording cooking times and temperatures and ensuring proper cold storage and reheating.

Acknowledgments

The findings in this report are based, in part, on contributions by WSLH and DATCP staff members; epidemiologists, nurses, environmental health sanitarians, and other personnel of the local health department and county jail in Wisconsin; and K Bisgard, Office of Workforce and Career Development, CDC.

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Progress Toward Measles Elimination — European Region, 2005–2008

In 2002, the World Health Organization (WHO) Regional Committee for the European Region (EUR)* revised earlier targets to eliminate indigenous measles and achieve rubella control (*1*) by resolving to 1) eliminate both diseases in EUR member states by 2010, using a combination of routine and supplementary immunization strategies,† and 2) monitor progress toward this goal through improved surveillance (*2*). This report summarizes progress toward measles elimination during 2005–2008 and updates a previous report from 2005 (*3*). In 2005 and 2006, large-scale outbreaks occurred in the eastern EUR member states. However, in 2007 and 2008, overall measles incidence in EUR declined to a historic low of <10 cases per 1 million population, with the majority of cases reported from Western Europe. During 2005–2007, routine vaccination coverage with 1 dose of measles-containing vaccine (MCV) among children aged 12–23 months in EUR reached a high of 93%–94%, up from 90%–91% during 2000–2004. Nevertheless, two major challenges to measles elimination remain: 1) suboptimal vaccination coverage in many countries, which has led to continued outbreaks and the resurgence of indigenous measles in some Western European countries, and 2) setbacks with implementation of supplementary immunization activities (SIAs) in Eastern Europe in 2008. Achieving the measles elimination goal by 2010 will require 1) development of approaches to sustain and increase vaccination coverage, 2) promotion of effective outbreak prevention and control measures, and 3) further strengthening of surveillance.

Immunization Activities

All 53 countries in EUR have a national, routine, 2-dose MCV schedule. Fifty-one countries use combined measles, mumps, and rubella (MMR) vaccine nationwide; the Russian Federation has introduced MMR vaccine in some regions, and Tajikistan uses monocomponent measles vaccine. On a yearly basis, countries report routine coverage for first and second doses of MCV (MCV1 and MCV2) to WHO. No coverage data are yet available for 2008. Overall, estimated MCV1 coverage among children aged 12–23 months in EUR increased from 90%–91% during 2000–2004 to 93%–94% during 2005–2007 (Figure). EUR targets of ≥95% coverage for MCV1 and MCV2 were reached in 2007 by 36 (68%) and 26 (49%) countries, respectively (Table 1). MCV1 coverage remained <90% in 10 countries (eight of them in Western Europe), accounting for 24% of the region's total population, and MCV2 coverage was <90% in 10 countries (eight of them in Western Europe), accounting for 21% of the EUR population. In addition, of the 45 countries reporting subnational level data in 2007, 16 (35%) had MCV1 coverage ≥95% in all provinces.

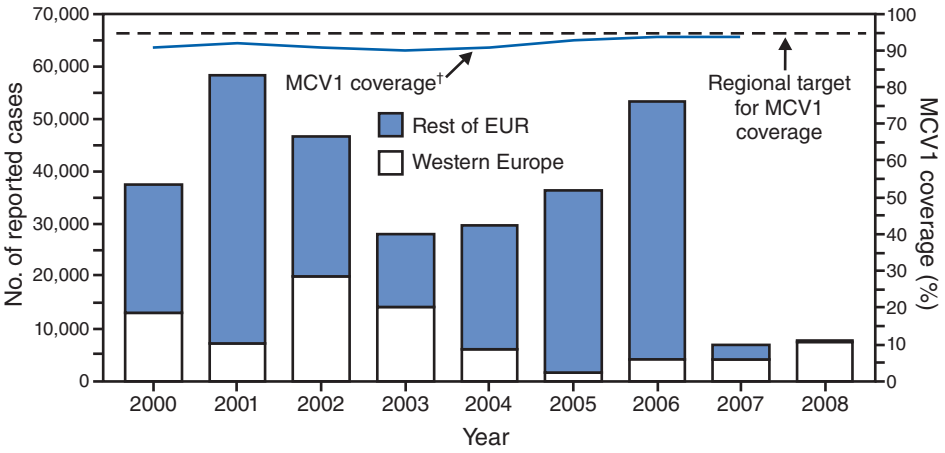
During 2005–2008, nationwide SIAs reaching approximately 27 million persons were implemented in eight countries in eastern EUR where historic weaknesses in immunization programs had created large susceptible populations among adolescents and adults (*4*) (Table 2). During 2005–2007, SIAs in six countries achieved ≥95% vaccination coverage among target age groups, whereas 51% coverage was achieved through an SIA in the Russian Federation (Table 2). In 2008, reports of adverse events, which were perceived by the media and some health-care providers to be caused by the measles-rubella vaccine, resulted in the suspension of an SIA in Ukraine and in only 50% SIA coverage in Georgia (Table 2). These adverse events subsequently were determined by WHO and the ministries of health in Ukraine and Georgia not to be caused by the vaccine (WHO, unpublished data, 2009).

Some countries with ongoing measles outbreaks promoted vaccination through enhanced health communication and accelerated routine vaccination activities rather than conducting mass campaigns over short periods. For example, in the United Kingdom, approximately 500,000 unimmunized or underimmunized persons aged 1–18 years received MMR vaccine during 2008. During European Immunization Week in April 2008, MMR vaccination was offered along with other vaccines during outreach efforts in 15 of 32 participating countries, reaching approximately 2 million persons.

* Included 53 member states in 2008: Andorra, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Luxembourg, Monaco, Netherlands, Norway, Portugal, San Marino, Spain, Sweden, Switzerland, and the United Kingdom (grouped for this report as Western European), and Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Malta, Montenegro, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Slovenia, Tajikistan, The former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, and Uzbekistan (grouped for this report as Eastern European). Estimated population of EUR in 2006: 887.3 million.

† Supplementary immunization activities (SIAs) increase population immunity by immunizing large numbers of susceptible persons in a short period. SIAs aimed at achieving ≥95% vaccination coverage among the targeted age groups are recommended for all EUR countries with susceptible cohorts older than the age appropriate to receive the second routine dose or with inadequate first- or second-dose coverage. Three types of SIAs are used in EUR: 1) catch-up campaigns (i.e., one-time national campaigns targeting multiple cohorts in whom susceptible persons have accumulated); 2) follow-up campaigns (i.e., national campaigns conducted every 3–5 years to reach children who were not targeted by the previous mass campaign); and 3) focal campaigns (i.e., campaigns targeting children who have missed routine vaccination and previous mass campaigns in specific, geographically limited areas) (*2*).

FIGURE. Regional coverage with 1 dose of measles-containing vaccine (MCV1) among children aged 12–23 months and number of reported measles cases — European Region (EUR), World Health Organization, 2000–2008*



* Based on annual reports (for 2000–2007) and country monthly reports (for 2008); data for 2008 are provisional and include reports received by January 27, 2009.
† MCV1 coverage data for 2008 are not yet available.

Surveillance

Measles is a notifiable disease in all 53 EUR member states. All countries report clinically diagnosed measles cases to WHO on a yearly basis. Countries are encouraged to report additional, case-based information (e.g., case confirmation status, age, and vaccination status for individual measles cases) on a monthly basis (*5*). In 2008, 39 (74%) countries reported monthly data in a case-based format, compared with 14 (27%) countries in 2005 (Table 1); 11 (20%) countries submitted additional information in their monthly reports as aggregate counts, and three (6%) reported annually.

The EUR Regional Laboratory Network for measles, which included 48 national laboratories in 2008, provides laboratory support for surveillance (e.g., quality assurance, confirmation of cases, and genotyping of measles viruses circulating in the region). In 2008, the network reported 18,721 specimens tested for measles, of which 3,549 (19%) were positive. In 2007 and 2008, the most commonly isolated genotype of measles virus in EUR was D4, which accounted for >90% of all genotyped viruses.

Measles Incidence

During 2007 and 2008, the incidence of measles in EUR was substantially lower (7.8 and 8.8 cases per 1 million population, respectively) than during 2005 and 2006 (41.4 and 60.2 cases per 1 million population, respectively) (Table 1, Figure). By comparison, measles incidence in 2002 was 53.3 cases per 1 million. During 2005–2008, the number of countries reporting measles incidence of less than one case per 1 million population (one indicator for measles elimination) ranged from 20 (38%) to 29 (55%) (Table 1). In 2008, a total of 3,575 (46%) reported cases were confirmed

TABLE 1. Progress toward achieving disease incidence, immunization, and surveillance milestones for measles — European Region,* World Health Organization (WHO), 2005–2008†

Milestone	Target	2005	2006	2007	2008
Incidence					
Total no. of reported measles cases (incidence per 1 million)	<1 case per 1 million	36,373 (41.4)	53,344 (60.2)	6,949 (7.8)	7,814 (8.8)
No. of member states with <1 indigenously acquired measles case per 1 million (%)§	100%	24 (46)	20 (38)	29 (55)	27 (51)
Immunization coverage with measles-containing vaccine (MCV)					
No. of member states with ≥95% coverage with first dose of MCV (%)	100%	30 (58)	30 (57)	36 (68)	—¶
No. of member states with ≥95% coverage with second dose of MCV (%)	100%	22 (42)	21 (40)	26 (49)	—¶
Surveillance					
No. of member states with monthly case-based reporting for measles to WHO (%)	100%	14 (27)	26 (49)	37 (70)	39 (74)
No. of member states that submitted to WHO ≥80% of monthly case-based reports for measles (%)	80%	44 (85)	44 (83)	44 (83)	43 (81)
No. of member states that submitted to WHO ≥80% of monthly case-based reports for measles on time (%)**	80%	13 (25)	15 (28)	24 (45)	14 (26)

* Total number of member states was 52 in 2005 and 53 during 2006–2008.
† Based on annual WHO/UNICEF Joint Reporting Forms (for incidence and immunization coverage data for 2005–2007) and country monthly reports (for data on completeness and timeliness of surveillance and for all 2008 data); data for 2008 are provisional and include reports received by January 27, 2009.
§ An indicator for measles elimination
¶ Data not available.
** Timeliness is defined as receipt of a monthly report by the WHO Regional Office in Copenhagen, Denmark, before the 25th of the following month.

TABLE 2. Summary of measles supplementary immunization activities (SIAs) — nine Eastern countries, European Region, World Health Organization (WHO), 2005–2008*

Country	Year	Target group		Coverage achieved (%)	Vaccine used
		Age group	No.		
Kazakhstan	2005	15–25 yrs	1,565,997	99.3	Measles-rubella
Turkey	2005	9 mos–6 yrs	8,976,587	96.3	Measles-rubella
Russian Federation	2005	18–35 yrs (unimmunized)	6,636,599	51.0	Measles
Azerbaijan	2006	7–23 yrs; 7–29 yrs (in specific areas)	2,473,399	95.2	Measles-rubella
Uzbekistan	2006–2007	10–29 yrs	8,763,635	100.6	Measles-rubella
Armenia	2007	6–27 yrs	942,767	96.8	Measles-rubella
Turkmenistan	2007	7–23 yrs	1,671,000†	97.1	Measles-rubella
Georgia	2008	6–27 yrs	980,140	50.3§	Measles-rubella
Ukraine	2008	16–25 yrs	7,500,000†	Suspended¶	Measles-rubella

* Based on the SIA reports submitted by countries to the WHO Regional Office in Copenhagen, Denmark; data for the SIA in the Russian Federation are based on the WHO/UNICEF Joint Reporting Form.

† Approximate.

§ The cause of the low coverage in Georgia was public concern about vaccine safety generated by media reports of adverse events shortly after the SIA started. Subsequent investigation by WHO and the Georgian Ministry of Health identified most of the reported adverse events as episodes of fainting and anxiety attacks.

¶ SIA suspended because of a reported death after vaccination; fewer than 200,000 persons had been immunized in selected regions, which began vaccinating before the official SIA start date. The fatal case was subsequently determined by WHO and the Ukrainian Ministry of Health not to be causally related to vaccination.

by laboratory testing, 952 (12%) were confirmed by epidemiologic link, and 3,287 (42%) were diagnosed clinically. In 2008, of the 7,627 cases with known age and vaccination status, 2,899 (38%) occurred among persons aged ≥15 years and 6,268 (82%) occurred among unvaccinated persons.

During 2005–2008, a total of 120 measles outbreaks (including 17 outbreaks with more than 250 cases) were reported in 28 countries. Large, nationwide, multiyear outbreaks (some of which started as early as in 2004) occurred in Ukraine (46,121 cases during 2005–2007), Romania (8,542 cases during 2004–2007), and Georgia (8,391 cases during 2004–2005). Measles cases during 2005–2006 primarily occurred in Eastern Europe (Figure). However, the proportion of cases from Western Europe increased from 6% (n = 5,524) during 2005–2006 to 57% (n = 3,933) in 2007 and 95% (n = 7,436) in 2008, when cases occurred primarily in Austria, France, Germany, Israel, Italy, Spain, Switzerland, and the United Kingdom.

Measles deaths generally are underreported; during 2005–2008, a total of 25 deaths were reported (14 in 2005, 10 in 2006, and one in 2008), compared with 27 deaths during 2001–2004. Consistent with the increase in the proportion of measles cases from Western European countries, where measles patients are not routinely hospitalized, the proportion of hospitalizations among patients with reported cases declined from 47% in 2005 to 17% in 2008.

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Editorial Note: During 2005–2008, measles incidence in EUR declined to its lowest level to date. This decline was attributable to high vaccination coverage achieved through 2-dose MCV routine vaccination schedules and implementation of SIAs. In addition, surveillance has been strengthened by expanding case-based reporting and laboratory testing. However, measles outbreaks continued to occur because of 1) past weaknesses in immunization programs, which resulted in large, susceptible, young adult populations in eastern EUR (*4*) and some Western European countries, and 2) limited access to health-care services for certain minority groups throughout the region (e.g., the Roma populations). The decline in measles cases in Eastern Europe largely is attributed to improved routine coverage with MCV and successful SIAs. However, in countries where SIAs have not been implemented successfully, the reduction of cases might represent a post-outbreak decline, reflecting the cyclical nature of measles. Since 2007, as the outbreaks in eastern parts of EUR subsided, measles resurgence occurred in some Western European countries because of persistent suboptimal coverage with MCV and problems with vaccine acceptance (*6,7*). Ongoing transmission in Western Europe has been linked to multiple introductions of measles virus into other regions, including the United States, where indigenous measles has been eliminated (*7,8*).

Belief systems have become the principal barrier to vaccinating children in Western Europe, resulting in decreased MCV coverage in many countries (*6,7,9*). Certain groups are rejecting vaccination because of philosophic or religious beliefs (*6,7*). In addition, certain parents, influenced by antivaccine movements and negative media reports, are choosing not to

vaccinate their children or delay vaccination because of safety concerns. Recent measles cases in Western Europe occurred primarily among unimmunized or underimmunized persons from these subgroups (*6,7*). Unsubstantiated concerns about vaccine safety and quality also have adversely affected recent SIAs in Ukraine and Georgia.

Reaching the measles elimination goal by the target date of 2010 will require high-level political commitment to increase and sustain at high levels 2-dose MCV coverage among children and, where necessary, implement SIAs to reduce measles susceptibility among older cohorts. To reverse decreases in MCV coverage in some areas, trust in immunization by the general public must be restored and maintained. European Immunization Week, held annually in April, provides an opportunity to actively communicate the benefits and risks of immunization and advocate for the protection of children. Achieving measles elimination also requires the continued education of public health professionals and health-care providers, focusing on highlighting the distinction between coincidental and causally related adverse events after vaccination. Unlike in the United States, regulations related to immunization (e.g., school entry requirements) are minimal or nonexistent in many EUR countries (*7*). Therefore, health professionals should be educated on how to guide parents who have questions and concerns about immunization.

To monitor progress toward measles elimination more effectively, surveillance needs to be strengthened through adoption of revised WHO regional surveillance guidelines that 1) are adapted to overall lower measles incidence levels and 2) emphasize the importance of laboratory confirmation, case-based reporting, coordination between laboratory and epidemiologic components, and use of standardized performance indicators. Advocacy with member states to improve measles surveillance also is important. When outbreaks occur, International Health Regulations[§] provide a mechanism to alert other member states and limit further transmission.

The findings in this report are subject to at least four limitations. First, measles cases might be underreported overall and variably among EUR countries. Second, comparisons between countries are difficult because of this underreporting and because of variations in reporting cases by confirmation status (some countries report only confirmed cases) and the extent of laboratory testing. Third, 2008 data are provisional because of delayed reporting and are based on monthly reports because countries submit final annual reports later in the year. Finally, a regionally standardized definition of measles outbreaks does not exist.

[§] Additional information available at http://www.who.int/csr/ihr.

Measles elimination in EUR is achievable, as demonstrated by countries that have maintained high vaccination coverage and have been free of indigenous measles for several years (e.g., Finland) (*7,10*). However, suboptimal MCV coverage, which has resulted in continued transmission of measles virus and increasing numbers of cases in certain parts of EUR, increases the likelihood of future outbreaks and threatens to delay measles elimination. These threats need to be urgently addressed to sustain the gains and reach the goal of measles elimination in EUR by 2010.

Acknowledgments

This report is based, in part, on contributions by immunization program staff members in all 53 EUR member states.

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Notice to Readers

Epidemiology in Action Course

CDC's Office of Workforce and Career Development and Rollins School of Public Health at Emory University will cosponsor the course, Epidemiology in Action, April 27–May 8, 2009, at the Emory University campus in Atlanta, Georgia. The course, which is designed for state and local public health professionals, emphasizes practical applications of epidemiology

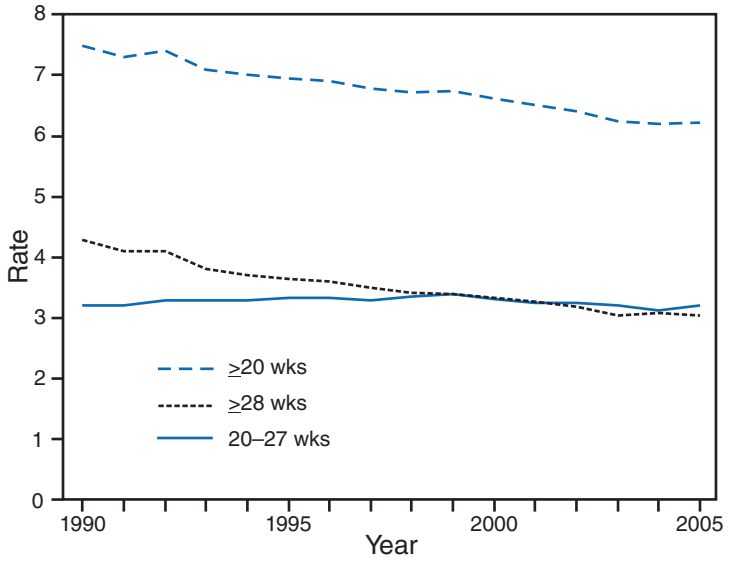
to public health problems and consists of lectures, workshops, classroom exercises (including actual epidemiologic problems), and roundtable discussions. Topics covered during the course include descriptive epidemiology and biostatistics, analytic epidemiology, epidemic investigations, public health surveillance, surveys and sampling, Epi Info training, and discussions of selected prevalent diseases.

Tuition is charged to attend the course. Additional information and applications are available at http://www.sph.emory.edu/epicourses; by mail (Emory University, Hubert Department of Global Health [Attn: Pia], 1518 Clifton Rd. NE, Rm. 746, Atlanta, GA 30322); telephone (404-727-3485); fax (404-727-4590); or e-mail (pvaleri@emory.edu).

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Fetal Mortality Rates,* by Period of Gestation — United States, 1990–2005



* Per 1,000 live births and fetal deaths.

In 2005, the fetal mortality rate in the United States was 6.2 fetal deaths of ≥20 weeks' gestation per 1,000 live births and fetal deaths. From 1990 to 2003, the rate declined 17% because of a decrease in late fetal deaths (≥28 weeks' gestation); the fetal mortality rate for 20–27 weeks' gestation did not decline. From 2003 to 2005, the rate did not decline for either gestational age grouping.

SOURCE: MacDorman MF, Kirmeyer S. Fetal and perinatal mortality, United States, 2005. Natl Vital Stat Rep 2009;57(8).

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending February 14, 2009 (6th week)*

Disease	Current week	Cum 2009	5-year weekly average†	Total cases reported for previous years 2008	2007	2006	2005	2004	States reporting cases during current week (No.)
Anthrax	—	—	0	—	1	1	—	—	
Botulism:									
foodborne	—	3	0	14	32	20	19	16	
infant	1	3	2	100	85	97	85	87	PA (1)
other (wound and unspecified)	—	2	1	22	27	48	31	30	
Brucellosis	—	2	1	82	131	121	120	114	
Chancroid	1	5	1	29	23	33	17	30	MI (1)
Cholera	—	—	0	3	7	9	8	6	
Cyclosporiasis§	1	12	2	131	93	137	543	160	FL (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup	—	—	—	41	55	67	80	112	
eastern equine	—	—	—	3	4	8	21	6	
Powassan	—	—	—	1	7	1	1	1	
St. Louis	—	—	—	10	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,**:									
Ehrlichia chaffeensis	2	11	1	898	828	578	506	338	NC (1), GA (1)
Ehrlichia ewingii	—	—	—	9	—	—	—	—	
Anaplasma phagocytophilum	1	2	1	575	834	646	786	537	MD (1)
undetermined	—	—	0	72	337	231	112	59	
Haemophilus influenzae,†† invasive disease (age <5 yrs):									
serotype b	—	2	0	29	22	29	9	19	
nonserotype b	7	22	4	181	199	175	135	135	VT (1), CT (1), OH (1), WV (1), NC (1), FL (1), OK (1)
unknown serotype	1	23	5	188	180	179	217	177	CT (1)
Hansen disease§	1	7	1	73	101	66	87	105	FL (1)
Hantavirus pulmonary syndrome§	—	—	0	16	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	2	6	2	257	292	288	221	200	GA (1), CA (1)
Hepatitis C viral, acute	10	64	16	853	845	766	652	720	NY (1), OH (1), MI (1), NC (1), TN (1), CO (1), OR (1), CA (3)
HIV infection, pediatric (age <13 years)§§	—	—	5	—	—	—	380	436	
Influenza-associated pediatric mortality§,¶¶	6	10	2	88	78	43	45	—	AR (1), CO (1), FL (1), NC (2), PA (1)
Listeriosis	5	46	8	703	808	884	896	753	MI (1), GA (1), WA (2), CA (1)
Measles***	1	2	1	132	43	55	66	37	FL (1)
Meningococcal disease, invasive†††:									
A, C, Y, and W-135	1	14	7	315	325	318	297	—	AZ (1)
serogroup B	—	5	4	170	167	193	156	—	
other serogroup	—	2	1	30	35	32	27	—	
unknown serogroup	5	38	17	593	550	651	765	—	PA (1), MD (1), FL (1), CA (2)
Mumps	—	29	12	408	800	6,584	314	258	
Novel influenza A virus infections	—	—	—	2	4	N	N	N	
Plague	—	—	—	1	7	17	8	3	
Poliomyelitis, paralytic	—	—	—	—	—	—	1	—	
Polio virus infection, nonparalytic§	—	—	—	—	—	N	N	N	
Psittacosis§	—	—	0	10	12	21	16	12	
Q fever total§,§§§:	—	3	1	102	171	169	136	70	
acute	—	2	1	90	—	—	—	—	
chronic	—	1	—	12	—	—	—	—	
Rabies, human	1	1	0	1	1	3	2	7	NH (1)
Rubella¶¶¶	—	—	0	16	12	11	11	10	
Rubella, congenital syndrome	—	1	—	—	—	1	1	—	
SARS-CoV§,****	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	4	3	137	132	125	129	132	
Syphilis, congenital (age <1 yr)	—	—	6	—	430	349	329	353	
Tetanus	—	1	0	16	28	41	27	34	
Toxic-shock syndrome (staphylococcal)§	—	6	2	72	92	101	90	95	
Trichinellosis	—	4	0	37	5	15	16	5	
Tularemia	1	3	0	111	137	95	154	134	NE (1)
Typhoid fever	1	30	6	415	434	353	324	322	MO (1)
Vancomycin-intermediate *Staphylococcus aureus*§	—	3	0	42	37	6	2	—	
Vancomycin-resistant *Staphylococcus aureus*§	—	—	—	1	2	1	3	1	
Vibriosis (noncholera *Vibrio* species infections)§	2	14	1	459	549	N	N	N	OH (1), FL (1)
Yellow fever	—	—	—	—	—	—	—	—	

See Table I footnotes on next page.

TABLE I. (*Continued*) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending February 14, 2009 (6th week)*

—: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting year 2008 and 2009 are provisional, whereas data for 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 starting 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.

¶ 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. Nine influenza-associated pediatric deaths occurring during the 2008-09 influenza season have been reported.

*** The one measles case reported for the current week was indigenous.

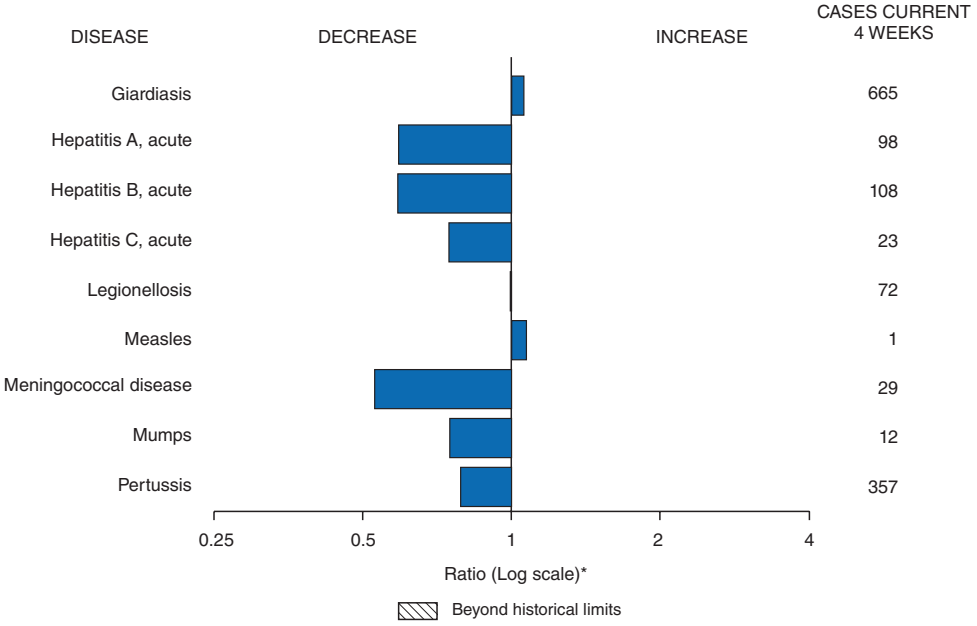
††† Data for meningococcal disease (all serogroups) are available in Table II.

§§§ 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 February 14, 2009, 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Chlamydia†					Coccidiodomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 week Med	Previous 52 week Max	Cum 2009	Cum 2008
United States	8,775	21,446	41,534	97,183	119,813	99	125	336	808	866	36	104	459	307	390
New England	911	709	1,636	4,552	3,423	—	0	0	—	1	1	5	20	8	58
Connecticut	290	215	1,282	971	467	N	0	0	N	N	—	0	3	3	38
Maine§	51	51	72	341	298	N	0	0	N	N	—	1	6	2	—
Massachusetts	462	327	1,018	2,663	2,026	N	0	0	N	N	—	1	9	—	9
New Hampshire	1	40	64	127	264	—	0	0	—	1	—	1	4	2	4
Rhode Island§	54	53	208	321	352	—	0	0	—	—	—	0	3	—	—
Vermont§	53	17	52	129	16	N	0	0	N	N	1	1	7	1	7
Mid. Atlantic	1,271	2,755	5,086	14,456	14,162	—	0	0	—	—	4	13	34	38	51
New Jersey	296	414	642	1,490	2,641	N	0	0	N	N	—	0	2	—	2
New York (Upstate)	609	542	2,858	2,698	1,916	N	0	0	N	N	3	4	17	18	8
New York City	—	1,099	3,410	6,230	4,686	N	0	0	N	N	—	1	6	5	15
Pennsylvania	366	789	1,074	4,038	4,919	N	0	0	N	N	1	5	15	15	26
E.N. Central	1,472	3,065	24,584	12,481	19,548	—	1	3	1	5	7	25	125	62	81
Illinois	—	631	22,152	2,519	3,833	N	0	0	N	N	—	2	13	2	11
Indiana	330	376	713	2,018	2,460	N	0	0	N	N	—	3	13	5	6
Michigan	942	843	1,226	5,234	5,098	—	0	3	—	4	1	5	13	15	21
Ohio	53	812	1,346	1,593	5,430	—	0	2	1	1	6	6	59	30	23
Wisconsin	147	295	488	1,117	2,727	N	0	0	N	N	—	9	46	10	20
W.N. Central	779	1,273	1,696	6,508	7,234	—	0	2	—	—	—	16	68	31	44
Iowa	—	178	239	910	984	N	0	0	N	N	—	4	30	5	15
Kansas	378	181	529	1,127	631	N	0	0	N	N	—	1	8	3	5
Minnesota	—	259	311	882	1,840	—	0	0	—	—	—	4	15	8	9
Missouri	345	490	566	2,782	2,700	—	0	2	—	—	—	3	13	7	3
Nebraska§	—	83	244	433	511	N	0	0	N	N	—	2	8	4	8
North Dakota	—	34	58	3	240	N	0	0	N	N	—	0	2	—	1
South Dakota	56	56	85	371	328	N	0	0	N	N	—	1	9	4	3
S. Atlantic	749	3,599	6,326	16,302	21,409	—	0	1	1	—	11	19	47	103	69
Delaware	151	70	150	668	376	—	0	1	—	—	—	0	1	—	3
District of Columbia	—	127	201	652	791	—	0	0	—	—	—	0	2	—	1
Florida	—	1,369	1,571	6,532	7,023	N	0	0	N	N	2	8	35	34	35
Georgia	9	577	1,307	1,263	3,254	N	0	0	N	N	8	5	13	48	17
Maryland§	—	434	693	1,446	2,156	—	0	1	1	—	—	1	4	3	—
North Carolina	—	0	478	—	1,757	N	0	0	N	N	1	0	16	15	2
South Carolina§	571	475	3,040	2,997	3,210	N	0	0	N	N	—	1	4	1	5
Virginia§	—	618	1,059	2,389	2,465	N	0	0	N	N	—	1	4	1	2
West Virginia	18	61	102	355	377	N	0	0	N	N	—	0	3	1	4
E.S. Central	859	1,579	2,022	8,502	9,231	—	0	0	—	—	—	2	9	8	14
Alabama§	—	433	535	1,428	2,898	N	0	0	N	N	—	1	6	2	8
Kentucky	315	240	373	1,487	1,292	N	0	0	N	N	—	0	4	1	3
Mississippi	—	413	704	2,149	2,037	N	0	0	N	N	—	0	2	3	1
Tennessee§	544	537	790	3,438	3,004	N	0	0	N	N	—	1	6	2	2
W.S. Central	313	2,820	3,525	10,895	15,866	—	0	1	—	—	—	6	164	2	16
Arkansas§	—	274	455	1,449	1,602	N	0	0	N	N	—	0	7	—	1
Louisiana	250	418	775	1,843	1,771	—	0	1	—	—	—	1	5	—	3
Oklahoma	63	197	392	496	1,282	N	0	0	N	N	—	1	16	2	5
Texas§	—	1,904	2,338	7,107	11,211	N	0	0	N	N	—	3	149	—	7
Mountain	463	1,278	1,949	4,369	8,219	75	88	181	585	527	2	8	37	20	28
Arizona	256	469	650	1,963	2,523	75	86	179	578	508	—	1	9	2	8
Colorado	—	242	588	756	2,157	N	0	0	N	N	2	1	12	5	5
Idaho§	—	61	314	34	439	N	0	0	N	N	—	1	5	2	6
Montana§	15	57	87	187	369	N	0	0	N	N	—	1	3	2	3
Nevada§	162	175	415	877	1,221	—	0	6	4	6	—	0	1	2	—
New Mexico§	—	127	455	194	738	—	0	3	1	6	—	2	23	5	3
Utah	—	107	253	155	696	—	0	1	2	7	—	0	6	—	3
Wyoming§	30	31	58	203	76	—	0	1	—	—	—	0	4	2	—
Pacific	1,958	3,696	4,465	19,118	20,721	24	35	165	221	333	11	8	29	35	29
Alaska	93	82	184	516	451	N	0	0	N	N	—	0	1	1	—
California	1,355	2,876	3,312	15,168	15,816	24	35	165	221	333	7	5	14	22	22
Hawaii	22	101	161	457	633	N	0	0	N	N	—	0	1	—	—
Oregon§	180	186	631	1,038	1,170	N	0	0	N	N	4	1	4	10	6
Washington	308	404	527	1,939	2,651	N	0	0	N	N	—	1	16	2	1
American Samoa	—	0	14	—	29	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	4	24	—	12	—	0	0	—	—	—	0	0	—	—
Puerto Rico	234	119	333	892	367	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	12	23	—	63	—	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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive All ages, all serotypes†				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	215	307	591	1,267	1,506	1,878	5,777	14,991	23,719	34,731	30	47	87	255	405
New England	10	23	49	62	150	112	100	299	590	489	6	2	8	10	26
Connecticut	—	5	14	21	35	46	51	272	205	102	5	0	7	5	—
Maine§	7	3	12	21	12	3	2	6	12	6	—	0	2	2	2
Massachusetts	—	7	17	—	57	52	38	124	322	326	—	0	4	—	20
New Hampshire	3	2	11	7	16	1	2	6	10	8	—	0	1	1	1
Rhode Island§	—	1	8	2	12	7	5	13	36	47	—	0	7	1	—
Vermont§	—	3	13	11	18	3	1	3	5	—	1	0	3	1	3
Mid. Atlantic	31	60	108	211	285	254	612	989	2,993	3,229	2	10	15	48	73
New Jersey	—	5	14	—	53	61	91	167	275	718	—	1	5	—	19
New York (Upstate)	18	21	67	93	73	126	115	462	562	530	1	3	11	20	15
New York City	3	16	30	59	81	—	207	633	1,178	717	—	1	6	2	11
Pennsylvania	10	16	46	59	78	67	211	268	978	1,264	1	4	10	26	28
E.N. Central	15	47	88	149	264	474	1,047	10,422	4,302	7,367	1	7	18	31	62
Illinois	—	11	32	11	72	—	185	9,613	884	1,255	—	2	7	2	25
Indiana	N	0	7	N	N	133	147	254	771	1,086	—	1	13	8	4
Michigan	2	12	22	43	47	270	313	657	1,825	2,113	—	0	2	2	4
Ohio	12	17	31	84	96	13	279	531	454	2,120	1	2	6	17	22
Wisconsin	1	8	20	11	49	58	77	141	368	793	—	0	2	2	7
W.N. Central	12	29	143	123	111	156	315	397	1,575	1,949	1	3	12	19	35
Iowa	2	6	18	28	32	—	29	50	112	194	—	0	1	—	1
Kansas	3	3	11	16	12	63	41	130	298	165	—	0	3	1	1
Minnesota	—	0	106	—	2	—	53	78	167	452	—	0	10	4	9
Missouri	6	8	22	53	38	88	148	193	812	933	1	1	4	9	18
Nebraska§	1	4	10	19	18	—	25	49	128	162	—	0	2	5	5
North Dakota	—	0	3	—	4	—	2	6	—	20	—	0	3	—	1
South Dakota	—	2	10	7	5	5	8	20	58	23	—	0	0	—	—
S. Atlantic	93	56	90	401	251	200	1,267	2,008	4,769	7,164	11	12	25	86	106
Delaware	—	1	3	3	3	34	19	44	134	137	—	0	2	—	1
District of Columbia	—	1	5	—	3	—	53	101	290	256	—	0	2	—	2
Florida	37	26	57	213	110	—	441	518	2,035	2,673	4	3	9	31	23
Georgia	56	9	34	136	57	3	229	481	401	1,225	2	2	9	20	29
Maryland§	—	5	12	19	24	—	116	212	349	700	1	1	6	11	24
North Carolina	N	0	0	N	N	—	0	831	—	193	1	1	9	10	6
South Carolina§	—	2	6	7	13	160	178	829	886	1,192	—	1	7	2	6
Virginia§	—	7	26	21	32	—	182	486	599	699	—	1	7	3	10
West Virginia	—	1	5	2	9	3	14	26	75	89	3	0	3	9	5
E.S. Central	—	8	22	9	41	235	544	764	2,702	3,456	—	3	8	14	22
Alabama§	—	4	12	2	27	—	164	217	505	1,207	—	0	2	1	4
Kentucky	N	0	0	N	N	105	89	153	477	522	—	0	1	1	—
Mississippi	N	0	0	N	N	—	140	285	694	764	—	0	2	—	2
Tennessee§	—	3	13	7	14	130	164	297	1,026	963	—	2	6	12	16
W.S. Central	4	8	21	24	19	113	946	1,297	3,330	5,834	4	2	17	11	7
Arkansas§	1	2	8	5	8	—	84	167	417	556	—	0	2	1	—
Louisiana	2	2	10	11	6	96	165	317	679	975	—	0	1	1	1
Oklahoma	1	3	11	8	5	17	71	141	169	581	4	1	16	9	6
Texas§	N	0	0	N	N	—	604	729	2,065	3,722	—	0	2	—	—
Mountain	15	26	62	103	137	73	199	337	520	1,349	5	5	12	31	56
Arizona	2	3	8	18	12	30	62	86	231	407	3	2	6	19	27
Colorado	12	10	27	33	51	—	56	101	104	342	2	1	5	5	11
Idaho§	—	3	14	8	14	—	3	13	—	21	—	0	4	1	—
Montana§	—	1	9	14	7	—	2	6	4	12	—	0	1	—	1
Nevada§	—	1	8	3	11	41	35	129	151	328	—	0	2	1	2
New Mexico§	—	1	7	2	13	—	22	47	19	175	—	1	4	3	7
Utah	1	6	18	19	25	—	8	19	5	58	—	0	5	2	8
Wyoming§	—	0	3	6	4	2	2	9	6	6	—	0	2	—	—
Pacific	35	55	138	185	248	261	593	716	2,938	3,894	—	2	6	5	18
Alaska	—	2	10	6	6	11	11	19	81	49	—	0	1	2	2
California	30	35	56	139	186	178	489	591	2,428	3,229	—	0	3	—	7
Hawaii	—	1	4	1	2	3	11	22	50	76	—	0	2	2	1
Oregon§	2	8	18	20	49	28	23	48	143	159	—	1	4	1	8
Washington	3	8	88	19	5	41	55	90	236	381	—	0	2	—	—
American Samoa	—	0	0	—	—	—	0	1	—	1	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	1	15	—	4	—	0	0	—	—
Puerto Rico	—	2	13	5	13	3	4	25	21	33	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	2	6	—	11	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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Hepatitis (viral, acute), by type†										Legionellosis				
	A					B									
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	29	44	76	159	303	35	68	99	262	394	12	45	145	162	211
New England	—	1	5	1	20	1	1	3	2	12	—	2	16	4	6
Connecticut	—	0	4	1	3	—	0	2	1	7	—	0	5	3	2
Maine§	—	0	2	—	2	1	0	2	1	1	—	0	2	—	—
Massachusetts	—	0	4	—	11	—	0	1	—	3	—	0	2	—	1
New Hampshire	—	0	2	—	—	—	0	2	—	1	—	0	5	—	—
Rhode Island§	—	0	2	—	4	—	0	1	—	—	—	0	14	1	1
Vermont§	—	0	1	—	—	—	0	1	—	—	—	0	1	—	2
Mid. Atlantic	1	5	12	17	47	1	8	14	16	60	5	14	59	43	54
New Jersey	—	1	4	2	10	—	1	7	—	24	—	1	8	2	8
New York (Upstate)	—	1	4	6	7	1	1	8	11	2	1	5	19	14	10
New York City	—	2	6	2	14	—	1	6	—	7	—	2	12	1	8
Pennsylvania	1	1	4	7	16	—	2	8	5	27	4	6	33	26	28
E.N. Central	2	6	16	23	50	4	8	16	41	47	1	9	40	36	62
Illinois	—	1	10	2	17	—	2	7	—	12	—	1	10	—	11
Indiana	—	0	4	2	2	—	1	7	4	1	—	1	6	2	1
Michigan	—	2	5	9	23	3	3	7	12	15	—	2	16	8	20
Ohio	2	1	4	9	5	1	2	13	25	16	1	3	18	24	28
Wisconsin	—	0	2	1	3	—	0	1	—	3	—	0	3	2	2
W.N. Central	1	4	16	7	34	1	2	7	17	8	—	2	9	1	9
Iowa	—	1	7	—	15	—	0	3	3	1	—	0	2	—	3
Kansas	—	0	3	—	3	—	0	3	—	1	—	0	1	1	—
Minnesota	—	0	8	1	2	—	0	7	1	—	—	0	4	—	—
Missouri	—	1	3	5	5	1	1	5	11	6	—	1	7	—	1
Nebraska§	1	0	5	1	8	—	0	2	2	—	—	0	4	—	4
North Dakota	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
South Dakota	—	0	1	—	1	—	0	0	—	—	—	0	1	—	1
S. Atlantic	7	7	15	47	44	19	17	34	101	117	1	8	22	43	36
Delaware	—	0	1	—	—	—	0	1	—	4	—	0	2	—	—
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	2	—	1
Florida	4	2	8	26	14	8	6	11	40	38	—	3	7	15	16
Georgia	1	1	4	7	7	1	3	8	17	17	1	0	5	10	3
Maryland§	—	1	4	7	7	1	2	4	10	11	—	2	10	7	9
North Carolina	1	0	9	5	9	8	0	17	27	18	—	0	7	11	3
South Carolina§	—	0	3	—	1	1	1	4	1	15	—	0	2	—	1
Virginia§	1	1	5	2	4	—	2	7	3	6	—	1	4	—	2
West Virginia	—	0	1	—	2	—	1	4	3	8	—	0	3	—	1
E.S. Central	—	1	9	4	6	2	7	13	23	43	—	2	10	8	9
Alabama§	—	0	2	1	1	—	1	6	2	14	—	0	2	—	—
Kentucky	—	0	3	—	3	—	2	5	6	17	—	1	4	2	6
Mississippi	—	0	2	2	—	—	1	3	4	2	—	0	1	—	—
Tennessee§	—	0	6	1	2	2	3	8	11	10	—	1	5	6	3
W.S. Central	—	5	12	4	14	3	13	24	21	49	—	1	9	1	4
Arkansas§	—	0	1	—	—	—	0	4	—	1	—	0	2	—	—
Louisiana	—	0	2	—	1	—	1	4	2	6	—	0	2	1	—
Oklahoma	—	0	5	1	—	3	2	10	7	—	—	0	6	—	—
Texas§	—	4	11	3	13	—	8	18	12	42	—	1	5	—	4
Mountain	1	4	12	7	20	1	3	12	9	20	—	2	8	10	11
Arizona	1	1	11	6	10	1	1	5	3	12	—	0	3	5	3
Colorado	—	0	3	1	4	—	0	3	1	2	—	0	2	—	2
Idaho§	—	0	3	—	2	—	0	2	—	—	—	0	1	—	1
Montana§	—	0	1	—	—	—	0	1	—	—	—	0	1	1	1
Nevada§	—	0	3	—	—	—	0	3	2	3	—	0	2	3	1
New Mexico§	—	0	3	—	2	—	0	2	3	2	—	0	1	—	—
Utah	—	0	2	—	1	—	0	3	—	1	—	0	2	1	3
Wyoming§	—	0	1	—	1	—	0	1	—	—	—	0	0	—	—
Pacific	17	9	25	49	68	3	6	39	32	38	5	4	10	16	20
Alaska	1	0	1	1	—	—	0	2	1	—	—	0	1	1	—
California	15	7	25	43	55	2	5	25	26	30	4	3	8	12	17
Hawaii	—	0	2	1	1	1	0	1	1	2	—	0	1	—	1
Oregon§	—	0	2	1	8	—	0	3	2	6	—	0	2	1	2
Washington	1	1	6	3	4	—	1	14	2	—	1	0	3	2	—
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	2	1	1	—	0	5	—	6	—	0	1	—	—
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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All serotypes				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	42	447	1,456	523	800	11	20	44	73	104	6	17	48	59	123
New England	1	45	260	32	119	—	0	6	1	4	—	0	3	—	4
Connecticut	—	0	0	—	—	—	0	3	—	—	—	0	1	—	—
Maine§	1	6	73	5	—	—	0	0	—	1	—	0	1	—	—
Massachusetts	—	7	114	—	84	—	0	2	—	3	—	0	3	—	4
New Hampshire	—	13	141	13	31	—	0	2	—	—	—	0	0	—	—
Rhode Island§	—	0	0	—	—	—	0	1	—	—	—	0	1	—	—
Vermont§	—	4	40	14	4	—	0	1	1	—	—	0	0	—	—
Mid. Atlantic	28	250	1,006	229	435	2	4	14	11	23	1	2	6	4	12
New Jersey	—	29	211	32	138	—	0	0	—	—	—	0	2	—	3
New York (Upstate)	19	99	939	55	23	1	0	10	6	2	—	0	3	—	2
New York City	—	1	6	—	8	—	3	10	2	16	—	0	2	1	2
Pennsylvania	9	95	533	142	266	1	1	3	3	5	1	1	5	3	5
E.N. Central	1	12	146	21	34	—	2	7	4	22	—	3	9	10	24
Illinois	—	1	12	—	2	—	1	5	—	12	—	1	5	—	11
Indiana	—	0	8	—	—	—	0	2	—	—	—	0	4	1	1
Michigan	1	1	10	3	2	—	0	2	1	3	—	0	3	2	5
Ohio	—	0	5	1	1	—	0	2	3	7	—	1	4	7	5
Wisconsin	—	9	129	17	29	—	0	3	—	—	—	0	2	—	2
W.N. Central	—	8	193	3	3	—	1	10	2	1	—	2	6	7	16
Iowa	—	1	8	2	3	—	0	3	—	—	—	0	3	1	3
Kansas	—	0	1	1	—	—	0	2	1	—	—	0	2	1	1
Minnesota	—	4	193	—	—	—	0	8	1	—	—	0	4	2	7
Missouri	—	0	1	—	—	—	0	3	—	—	—	0	3	3	3
Nebraska§	—	0	2	—	—	—	0	2	—	1	—	0	1	—	1
North Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	1
S. Atlantic	12	68	219	209	187	6	4	15	38	30	2	3	10	13	18
Delaware	3	12	37	33	42	—	0	1	1	—	—	0	1	—	—
District of Columbia	—	2	11	—	6	—	0	2	—	—	—	0	0	—	—
Florida	—	2	10	13	2	3	1	7	12	9	1	1	3	6	6
Georgia	—	0	3	1	—	—	1	5	3	6	—	0	2	1	2
Maryland§	8	31	158	144	117	3	1	7	11	12	1	0	4	1	1
North Carolina	1	0	7	6	2	—	0	7	8	2	—	0	3	3	3
South Carolina§	—	0	2	2	1	—	0	1	1	—	—	0	3	1	4
Virginia§	—	14	53	10	15	—	1	3	2	1	—	0	2	1	2
West Virginia	—	1	11	—	2	—	0	0	—	—	—	0	1	—	—
E.S. Central	—	1	5	2	1	1	0	2	4	2	—	1	6	—	8
Alabama§	—	0	2	—	—	—	0	1	—	1	—	0	2	—	—
Kentucky	—	0	2	—	—	—	0	1	—	1	—	0	1	—	4
Mississippi	—	0	1	—	—	—	0	1	—	—	—	0	2	—	—
Tennessee§	—	0	3	2	1	1	0	2	4	—	—	0	3	—	4
W.S. Central	—	2	8	—	1	—	1	11	—	4	—	2	7	3	12
Arkansas§	—	0	0	—	—	—	0	0	—	—	—	0	2	1	—
Louisiana	—	0	1	—	—	—	0	1	—	—	—	0	2	1	8
Oklahoma	—	0	1	—	—	—	0	2	—	1	—	0	3	—	2
Texas§	—	2	8	—	1	—	1	11	—	3	—	1	5	1	2
Mountain	—	0	16	3	3	—	0	3	—	3	1	1	4	7	8
Arizona	—	0	2	—	2	—	0	2	—	2	1	0	2	3	—
Colorado	—	0	1	1	—	—	0	1	—	1	—	0	1	1	1
Idaho§	—	0	1	1	1	—	0	1	—	—	—	0	1	1	1
Montana§	—	0	16	1	—	—	0	0	—	—	—	0	1	—	—
Nevada§	—	0	2	—	—	—	0	3	—	—	—	0	1	2	1
New Mexico§	—	0	2	—	—	—	0	1	—	—	—	0	1	—	1
Utah	—	0	1	—	—	—	0	1	—	—	—	0	1	—	3
Wyoming§	—	0	1	—	—	—	0	0	—	—	—	0	1	—	1
Pacific	—	4	18	24	17	2	3	10	13	15	2	5	19	15	21
Alaska	—	0	2	—	—	—	0	2	—	—	—	0	2	1	—
California	—	3	9	21	16	2	2	8	11	10	2	3	19	7	15
Hawaii	N	0	0	N	N	—	0	1	—	1	—	0	1	1	—
Oregon§	—	1	3	3	1	—	0	1	1	3	—	1	3	3	4
Washington	—	0	11	—	—	—	0	7	1	1	—	0	5	3	2
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	2	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	—	—	0	1	—	—
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 and 2009 are provisional.
† Data for meningococcal disease, invasive caused by serogroups A, C, Y, and 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	68	181	605	870	976	23	103	169	251	483	4	40	146	61	30
New England	—	9	26	23	156	4	6	20	18	17	—	0	2	—	1
Connecticut	—	0	4	—	12	1	3	17	9	9	—	0	0	—	—
Maine†	—	1	7	15	7	1	1	5	4	2	N	0	0	N	N
Massachusetts	—	6	17	—	126	N	0	0	N	N	—	0	0	—	1
New Hampshire	—	1	4	5	4	—	0	3	—	3	—	0	1	—	—
Rhode Island†	—	0	8	1	5	N	0	0	N	N	—	0	2	—	—
Vermont†	—	0	2	2	2	2	1	6	5	3	—	0	0	—	—
Mid. Atlantic	9	18	51	78	106	3	33	67	48	102	—	1	24	—	3
New Jersey	—	1	6	—	9	—	0	0	—	—	—	0	2	—	2
New York (Upstate)	2	7	40	14	23	3	9	20	28	28	—	0	23	—	—
New York City	—	0	4	—	17	—	0	2	—	4	—	0	2	—	1
Pennsylvania	7	9	35	64	57	—	21	52	20	70	—	0	2	—	—
E.N. Central	11	35	169	242	336	—	3	29	3	1	—	1	15	—	1
Illinois	—	9	44	45	19	—	1	21	1	1	—	1	11	—	1
Indiana	—	1	96	12	2	—	0	2	—	—	—	0	3	—	—
Michigan	3	6	20	67	21	—	1	9	2	—	—	0	1	—	—
Ohio	8	10	57	116	282	—	1	7	—	—	—	0	4	—	—
Wisconsin	—	2	7	2	12	N	0	0	N	N	—	0	1	—	—
W.N. Central	9	21	126	209	91	2	3	13	3	10	—	4	32	2	1
Iowa	—	3	21	2	14	—	0	5	—	1	—	0	2	—	—
Kansas	2	1	13	8	3	—	0	0	—	—	—	0	0	—	—
Minnesota	—	2	99	—	—	2	0	10	2	4	—	0	0	—	—
Missouri	4	6	50	168	64	—	1	8	—	—	—	4	31	2	1
Nebraska†	3	2	33	29	8	—	0	0	—	—	—	0	4	—	—
North Dakota	—	0	1	—	—	—	0	7	—	2	—	0	0	—	—
South Dakota	—	0	7	2	2	—	0	2	1	3	—	0	1	—	—
S. Atlantic	11	18	44	122	71	12	34	88	147	326	4	15	71	55	19
Delaware	—	0	3	4	—	—	0	0	—	—	—	0	5	—	—
District of Columbia	—	0	1	—	2	—	0	0	—	—	—	0	2	—	—
Florida	6	6	20	47	11	7	0	3	15	139	—	0	3	—	—
Georgia	—	1	8	1	3	—	6	47	61	34	—	1	8	1	2
Maryland†	—	2	8	8	14	—	7	17	6	47	—	1	7	4	4
North Carolina	2	0	16	37	27	5	9	16	23	42	4	5	55	47	11
South Carolina†	1	2	11	13	3	—	0	0	—	—	—	1	9	1	—
Virginia†	—	3	24	10	11	—	11	24	37	57	—	2	15	2	1
West Virginia	2	0	2	2	—	—	1	9	5	7	—	0	1	—	1
E.S. Central	7	8	29	69	36	1	3	7	9	10	—	3	23	2	2
Alabama†	—	1	5	3	10	—	0	0	—	—	—	1	8	1	1
Kentucky	5	3	12	47	5	1	0	4	9	3	—	0	1	—	—
Mississippi	2	2	5	11	16	—	0	1	—	1	—	0	3	—	—
Tennessee†	—	2	14	8	5	—	2	6	—	6	—	2	19	1	1
W.S. Central	1	31	161	39	34	—	1	11	3	5	—	2	41	1	2
Arkansas†	—	1	20	1	12	—	0	6	2	5	—	0	14	1	—
Louisiana	—	1	7	7	—	—	0	0	—	—	—	0	1	—	1
Oklahoma	1	0	29	5	1	—	0	10	1	—	—	0	26	—	—
Texas†	—	26	154	26	21	—	0	1	—	—	—	1	6	—	1
Mountain	5	15	34	49	90	1	1	8	11	5	—	1	3	1	1
Arizona	2	3	10	8	20	N	0	0	N	N	—	0	2	—	—
Colorado	2	3	13	25	33	—	0	0	—	—	—	0	1	—	—
Idaho†	1	1	5	6	1	—	0	0	—	—	—	0	1	—	—
Montana†	—	0	11	3	9	—	0	2	2	—	—	0	1	—	—
Nevada†	—	0	7	5	1	—	0	4	—	—	—	0	2	—	—
New Mexico†	—	1	8	1	1	1	0	3	3	4	—	0	1	—	1
Utah	—	4	17	1	22	—	0	6	—	—	—	0	1	1	—
Wyoming†	—	0	2	—	3	—	0	4	6	1	—	0	2	—	—
Pacific	15	25	80	39	56	—	4	13	9	7	—	0	1	—	—
Alaska	1	3	21	11	15	—	0	4	2	4	N	0	0	N	N
California	—	8	23	—	14	—	3	12	7	3	—	0	1	—	—
Hawaii	1	0	2	2	2	—	0	0	—	—	N	0	0	N	N
Oregon†	11	3	10	18	13	—	0	2	—	—	—	0	1	—	—
Washington	2	5	74	8	12	—	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	—	—	—	1	5	1	4	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

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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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Salmonellosis					Shiga toxin-producing E. coli (STEC)†					Shigellosis				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	299	910	1,486	2,793	3,469	32	84	251	201	262	151	432	611	1,405	1,563
New England	—	17	63	73	621	—	3	14	4	58	—	2	7	3	54
Connecticut	—	0	35	35	484	—	0	3	3	44	—	0	2	2	38
Maine§	—	3	8	10	14	—	0	3	—	2	—	0	6	—	—
Massachusetts	—	10	52	—	93	—	0	11	—	8	—	1	5	—	11
New Hampshire	—	2	10	13	11	—	1	3	1	2	—	0	1	1	1
Rhode Island§	—	2	9	10	12	—	0	3	—	—	—	0	1	—	3
Vermont§	—	1	7	5	7	—	0	3	—	2	—	0	2	—	1
Mid. Atlantic	27	90	177	261	392	2	6	192	12	23	6	45	96	164	121
New Jersey	—	11	30	2	86	—	0	3	1	5	—	14	38	57	41
New York (Upstate)	18	26	60	85	73	2	3	188	9	7	3	11	35	10	19
New York City	1	19	53	63	113	—	1	5	1	7	—	13	35	39	45
Pennsylvania	8	28	78	111	120	—	1	8	1	4	3	5	23	58	16
E.N. Central	26	93	194	323	386	2	11	75	24	31	48	80	123	352	374
Illinois	—	25	72	24	121	—	1	10	—	2	—	17	35	20	137
Indiana	—	9	53	15	19	—	1	14	3	2	—	10	39	6	100
Michigan	—	17	38	76	84	2	2	43	9	9	2	4	22	33	10
Ohio	26	27	65	175	100	—	3	17	9	4	41	42	80	261	81
Wisconsin	—	14	50	33	62	—	3	20	3	14	5	7	33	32	46
W.N. Central	18	49	151	162	168	2	12	60	26	21	8	16	40	55	87
Iowa	—	8	16	14	35	—	2	21	6	5	2	4	12	23	5
Kansas	9	7	31	25	18	—	1	7	1	2	3	1	5	14	2
Minnesota	5	13	70	44	34	1	3	21	7	5	—	5	25	7	5
Missouri	2	14	48	52	51	1	2	11	8	7	2	3	14	7	43
Nebraska§	2	4	13	16	18	—	2	30	4	2	1	0	3	3	—
North Dakota	—	0	7	—	2	—	0	1	—	—	—	0	4	—	9
South Dakota	—	2	9	11	10	—	1	4	—	—	—	0	9	1	23
S. Atlantic	104	246	456	932	875	5	13	49	57	43	27	58	100	234	350
Delaware	—	2	9	1	8	—	0	2	1	—	—	0	1	3	—
District of Columbia	—	1	4	—	8	—	0	1	—	1	—	0	3	—	2
Florida	69	97	174	426	462	2	2	11	21	16	9	14	34	72	135
Georgia	19	43	86	171	90	—	1	7	6	1	10	19	48	67	134
Maryland§	2	13	36	55	62	—	2	9	9	7	2	2	8	23	7
North Carolina	7	23	106	165	78	2	1	19	16	6	3	3	27	38	12
South Carolina§	5	18	55	64	78	—	1	4	1	4	3	8	32	13	51
Virginia§	2	19	68	43	59	—	3	25	2	2	—	4	50	17	9
West Virginia	—	3	6	7	30	1	0	3	1	6	—	0	3	1	—
E.S. Central	6	58	138	157	221	2	5	21	10	21	8	34	67	70	230
Alabama§	—	15	46	27	78	—	1	17	1	5	—	6	18	8	62
Kentucky	4	10	18	42	37	1	1	7	3	5	—	3	24	7	31
Mississippi	—	14	57	37	46	1	0	2	1	1	—	4	18	5	79
Tennessee§	2	14	60	51	60	—	2	7	5	10	8	19	47	50	58
W.S. Central	20	136	324	169	176	—	7	27	1	20	14	98	222	300	153
Arkansas§	1	11	40	32	22	—	1	3	—	1	—	11	27	16	7
Louisiana	3	17	50	29	48	—	0	1	—	1	5	11	26	26	32
Oklahoma	8	15	36	27	22	—	1	19	1	1	1	3	43	17	11
Texas§	8	92	264	81	84	—	5	12	—	17	8	65	195	241	103
Mountain	16	59	110	202	249	15	10	39	36	35	17	22	53	115	84
Arizona	5	20	45	77	78	—	1	5	5	3	14	13	34	78	38
Colorado	8	12	43	40	54	14	3	18	24	7	3	2	11	14	16
Idaho§	1	3	14	17	11	1	2	15	2	14	—	0	2	—	1
Montana§	—	2	8	9	4	—	0	3	—	4	—	0	1	—	—
Nevada§	—	3	9	24	25	—	0	2	1	2	—	4	13	14	18
New Mexico§	—	6	33	4	36	—	1	6	1	4	—	2	11	8	6
Utah	2	6	19	29	31	—	1	9	2	1	—	1	3	1	2
Wyoming§	—	1	4	2	10	—	0	1	1	—	—	0	1	—	3
Pacific	82	112	530	514	381	4	9	58	31	10	23	29	82	112	110
Alaska	—	1	4	6	4	—	0	1	—	—	—	0	1	1	—
California	71	80	516	410	311	3	6	38	26	9	15	25	74	94	97
Hawaii	2	5	15	34	27	—	0	2	1	1	—	1	3	1	5
Oregon§	1	7	20	27	31	—	1	8	—	—	—	1	10	7	7
Washington	8	12	150	37	8	1	2	42	4	—	8	1	26	9	1
American Samoa	—	0	1	—	1	—	0	0	—	—	—	0	1	1	1
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	—	1	—	0	0	—	—	—	0	3	—	1
Puerto Rico	3	9	29	21	67	—	0	1	—	—	—	0	4	—	2
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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Streptococcal diseases, invasive, group A					*Streptococcus pneumoniae*, invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	70	88	182	518	672	30	33	53	162	263
New England	11	4	31	18	34	—	1	11	3	19
Connecticut	11	0	26	11	—	—	0	11	—	—
Maine§	—	0	3	1	2	—	0	1	—	1
Massachusetts	—	1	8	—	28	—	0	3	—	15
New Hampshire	—	0	2	2	3	—	0	1	2	3
Rhode Island§	—	0	8	1	—	—	0	2	—	—
Vermont§	—	0	3	3	1	—	0	1	1	—
Mid. Atlantic	17	16	43	92	139	5	3	18	13	40
New Jersey	—	2	11	—	29	—	1	4	2	10
New York (Upstate)	9	6	21	37	39	5	2	18	11	13
New York City	—	3	10	11	29	—	0	5	—	17
Pennsylvania	8	7	16	44	42	N	0	2	N	N
E.N. Central	12	16	42	101	138	4	6	11	25	54
Illinois	—	4	16	19	37	—	1	5	—	17
Indiana	—	2	19	9	15	—	0	5	2	2
Michigan	2	3	9	18	32	1	1	5	5	14
Ohio	10	5	14	47	38	2	1	4	15	11
Wisconsin	—	1	10	8	16	1	0	2	3	10
W.N. Central	6	5	39	30	28	1	2	11	13	20
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	1	0	5	7	8	—	0	3	2	2
Minnesota	—	0	35	—	—	—	0	9	3	6
Missouri	4	2	10	12	14	—	1	2	6	9
Nebraska§	—	1	3	8	4	1	0	1	1	2
North Dakota	—	0	3	—	—	—	0	2	—	—
South Dakota	1	0	2	3	2	—	0	1	1	1
S. Atlantic	13	21	36	142	155	10	6	16	50	46
Delaware	1	0	1	5	2	—	0	0	—	—
District of Columbia	—	0	4	—	2	—	0	1	—	—
Florida	5	5	10	34	40	4	1	4	13	4
Georgia	1	5	14	37	38	4	1	6	18	13
Maryland§	4	3	9	25	32	2	1	4	9	14
North Carolina	2	2	10	13	9	N	0	0	N	N
South Carolina§	—	1	5	11	10	—	1	6	8	9
Virginia§	—	3	9	13	17	—	0	6	—	6
West Virginia	—	0	3	4	5	—	0	2	2	—
E.S. Central	2	3	9	23	18	—	2	6	1	10
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	3	5	4	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	—	3
Tennessee§	2	3	6	18	14	—	1	5	1	7
W.S. Central	4	9	50	50	39	6	5	28	27	23
Arkansas§	—	0	2	—	—	2	0	3	6	3
Louisiana	—	0	2	3	4	—	0	3	5	1
Oklahoma	3	2	13	25	13	3	1	7	6	8
Texas§	1	6	37	22	22	1	3	19	10	11
Mountain	4	9	21	48	103	4	4	11	29	46
Arizona	2	3	8	16	30	4	2	9	21	27
Colorado	2	2	10	20	30	—	1	4	5	9
Idaho§	—	0	2	—	3	—	0	1	—	1
Montana§	N	0	0	N	N	—	0	1	—	—
Nevada§	—	0	1	—	2	N	0	0	N	N
New Mexico§	—	1	8	10	26	—	0	3	2	4
Utah	—	1	4	1	12	—	0	4	1	5
Wyoming§	—	0	2	1	—	—	0	1	—	—
Pacific	1	3	8	14	18	—	0	2	1	5
Alaska	—	1	4	2	3	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	1	2	8	12	15	—	0	2	1	5
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	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	*Streptococcus pneumoniae*, invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages					Aged <5 years									
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	59	52	105	362	491	13	8	23	43	51	66	242	433	1,008	1,292
New England	—	1	48	3	9	—	0	5	—	1	10	5	14	39	27
Connecticut	—	0	48	—	—	—	0	5	—	—	2	0	4	6	—
Maine§	—	0	2	—	2	—	0	1	—	—	1	0	2	1	—
Massachusetts	—	0	0	—	—	—	0	0	—	—	7	4	11	28	24
New Hampshire	—	0	0	—	—	—	0	0	—	—	—	0	2	4	1
Rhode Island§	—	0	2	—	3	—	0	1	—	—	—	0	5	—	2
Vermont§	—	0	2	3	4	—	0	1	—	1	—	0	2	—	—
Mid. Atlantic	—	4	13	11	41	—	0	2	1	2	6	33	52	173	200
New Jersey	—	0	0	—	—	—	0	0	—	—	3	4	10	19	33
New York (Upstate)	—	1	6	3	6	—	0	1	1	—	3	2	7	7	6
New York City	—	1	5	—	15	—	0	0	—	—	—	21	36	124	120
Pennsylvania	—	1	9	8	20	—	0	2	—	2	—	5	12	23	41
E.N. Central	14	11	41	63	128	3	2	7	8	18	16	16	239	116	91
Illinois	—	0	7	—	44	—	0	2	—	9	—	1	230	18	21
Indiana	—	2	31	—	20	—	0	5	—	1	5	3	10	17	12
Michigan	—	0	3	3	4	—	0	1	—	1	6	3	18	31	13
Ohio	14	7	18	60	60	3	1	4	8	7	5	6	14	45	39
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	3	5	6
W.N. Central	1	2	9	10	40	1	0	2	4	1	—	7	14	28	55
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	—	—
Kansas	1	1	5	3	16	1	0	1	3	1	—	0	5	1	—
Minnesota	—	0	0	—	—	—	0	0	—	—	—	2	6	6	14
Missouri	—	1	4	7	24	—	0	1	1	—	—	4	10	19	40
Nebraska§	—	0	0	—	—	—	0	0	—	—	—	0	2	2	1
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	1	—	—	—	0	1	—	—	—	0	1	—	—
S. Atlantic	41	22	53	228	190	8	4	14	23	19	19	55	139	236	200
Delaware	1	0	1	2	—	—	0	0	—	—	—	0	4	6	—
District of Columbia	—	0	3	—	4	—	0	1	—	—	—	2	9	24	14
Florida	31	14	30	141	114	6	2	13	13	15	—	19	37	82	89
Georgia	9	7	23	72	62	2	1	5	10	3	5	13	117	20	6
Maryland§	—	0	2	1	2	—	0	0	—	1	—	7	14	10	23
North Carolina	N	0	0	N	N	N	0	0	N	N	14	5	19	64	30
South Carolina§	—	0	0	—	—	—	0	0	—	—	—	2	6	9	14
Virginia§	N	0	0	N	N	N	0	0	N	N	—	5	16	21	24
West Virginia	—	1	9	12	8	—	0	2	—	—	—	0	1	—	—
E.S. Central	2	5	20	30	56	—	1	4	4	3	6	21	37	107	120
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	17	31	56
Kentucky	2	1	6	14	10	—	0	2	3	1	1	1	10	8	7
Mississippi	—	0	2	—	—	—	0	1	—	—	—	3	18	15	13
Tennessee§	—	3	18	16	46	—	0	3	1	2	5	8	19	53	44
W.S. Central	1	2	7	11	15	1	0	2	2	3	3	43	75	149	220
Arkansas§	—	0	4	6	1	—	0	1	1	—	—	3	35	30	8
Louisiana	1	1	6	5	14	1	0	1	1	3	3	10	33	12	46
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	7	4	17
Texas§	—	0	0	—	—	—	0	0	—	—	—	26	46	103	149
Mountain	—	1	11	4	11	—	0	4	1	3	3	9	25	16	67
Arizona	—	0	0	—	—	—	0	0	—	—	—	4	13	2	32
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	5	2	15
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	2	—	—
Montana§	—	0	1	—	—	—	0	0	—	—	—	0	7	—	—
Nevada§	N	0	1	N	N	N	0	0	N	N	3	1	6	10	15
New Mexico§	—	0	1	—	—	—	0	0	—	—	—	1	4	2	5
Utah	—	1	10	1	11	—	0	4	1	3	—	0	18	—	—
Wyoming§	—	0	2	3	—	—	0	0	—	—	—	0	1	—	—
Pacific	—	0	1	2	1	—	0	1	—	1	3	44	73	144	312
Alaska	N	0	0	N	N	N	0	0	N	N	—	0	1	—	—
California	N	0	0	N	N	N	0	0	N	N	1	40	67	129	274
Hawaii	—	0	1	2	1	—	0	1	—	1	—	0	3	4	4
Oregon§	N	0	0	N	N	N	0	0	N	N	—	0	3	3	2
Washington	N	0	0	N	N	N	0	0	N	N	2	3	9	8	32
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	6	3	11	18	11
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 and 2009 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 February 14, 2009, and February 9, 2008 (6th week)*

Reporting area	Varicella (chickenpox)					West Nile virus disease†									
						Neuroinvasive					Nonneuroinvasive§				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2009	Cum 2008
United States	313	484	1,011	2,113	3,271	—	1	75	—	1	—	1	74	—	1
New England	1	10	22	38	88	—	0	2	—	—	—	0	1	—	—
Connecticut	—	0	0	—	—	—	0	2	—	—	—	0	1	—	—
Maine¶	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	4	10	22	51	—	0	0	—	—	—	0	0	—	—
Rhode Island¶	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
Vermont¶	1	4	17	16	37	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	32	41	81	221	338	—	0	8	—	—	—	0	4	—	—
New Jersey	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
New York (Upstate)	N	0	0	N	N	—	0	5	—	—	—	0	2	—	—
New York City	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
Pennsylvania	32	41	81	221	338	—	0	2	—	—	—	0	1	—	—
E.N. Central	123	143	312	856	901	—	0	8	—	—	—	0	3	—	—
Illinois	—	32	67	164	23	—	0	4	—	—	—	0	2	—	—
Indiana	—	0	0	—	—	—	0	1	—	—	—	0	1	—	—
Michigan	31	57	116	268	445	—	0	4	—	—	—	0	2	—	—
Ohio	89	46	106	397	429	—	0	3	—	—	—	0	1	—	—
Wisconsin	3	5	50	27	4	—	0	2	—	—	—	0	1	—	—
W.N. Central	26	19	71	134	192	—	0	6	—	1	—	0	21	—	—
Iowa	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
Kansas	15	5	40	29	76	—	0	2	—	1	—	0	3	—	—
Minnesota	—	0	0	—	—	—	0	2	—	—	—	0	4	—	—
Missouri	11	9	51	105	108	—	0	3	—	—	—	0	1	—	—
Nebraska¶	N	0	0	N	N	—	0	1	—	—	—	0	8	—	—
North Dakota	—	0	39	—	1	—	0	2	—	—	—	0	11	—	—
South Dakota	—	0	5	—	7	—	0	5	—	—	—	0	6	—	—
S. Atlantic	35	78	173	206	643	—	0	3	—	—	—	0	3	—	—
Delaware	—	1	5	1	2	—	0	0	—	—	—	0	1	—	—
District of Columbia	—	0	3	—	4	—	0	0	—	—	—	0	0	—	—
Florida	34	29	87	170	142	—	0	2	—	—	—	0	0	—	—
Georgia	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
Maryland¶	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
North Carolina	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
South Carolina¶	—	12	67	1	90	—	0	0	—	—	—	0	1	—	—
Virginia¶	—	19	60	—	279	—	0	0	—	—	—	0	1	—	—
West Virginia	1	11	33	34	126	—	0	1	—	—	—	0	0	—	—
E.S. Central	—	15	101	16	121	—	0	7	—	—	—	0	8	—	1
Alabama¶	—	15	101	16	120	—	0	3	—	—	—	0	3	—	—
Kentucky	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	2	—	1	—	0	4	—	—	—	0	7	—	—
Tennessee¶	N	0	0	N	N	—	0	2	—	—	—	0	3	—	1
W.S. Central	67	104	435	433	709	—	0	8	—	—	—	0	7	—	—
Arkansas¶	—	7	59	6	73	—	0	1	—	—	—	0	1	—	—
Louisiana	—	1	10	6	10	—	0	3	—	—	—	0	5	—	—
Oklahoma	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
Texas¶	67	99	422	421	626	—	0	6	—	—	—	0	4	—	—
Mountain	28	37	90	187	268	—	0	12	—	—	—	0	22	—	—
Arizona	—	0	0	—	—	—	0	10	—	—	—	0	8	—	—
Colorado	26	14	44	70	120	—	0	4	—	—	—	0	10	—	—
Idaho¶	N	0	0	N	N	—	0	1	—	—	—	0	6	—	—
Montana¶	—	6	27	56	30	—	0	0	—	—	—	0	2	—	—
Nevada¶	N	0	0	N	N	—	0	2	—	—	—	0	3	—	—
New Mexico¶	—	3	18	19	37	—	0	1	—	—	—	0	1	—	—
Utah	2	11	55	42	79	—	0	2	—	—	—	0	5	—	—
Wyoming¶	—	0	4	—	2	—	0	0	—	—	—	0	2	—	—
Pacific	1	3	8	22	11	—	0	38	—	—	—	0	23	—	—
Alaska	1	2	6	19	1	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	37	—	—	—	0	20	—	—
Hawaii	—	1	5	3	10	—	0	0	—	—	—	0	0	—	—
Oregon¶	N	0	0	N	N	—	0	2	—	—	—	0	4	—	—
Washington	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	2	17	—	4	—	0	0	—	—	—	0	0	—	—
Puerto Rico	3	6	20	13	61	—	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 and 2009 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 starting 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 February 14, 2009 (6th week)

Reporting area	All causes, by age (years)						P&I†
	All Ages	≥65	45–64	25–44	1–24	<1	Total
New England	489	345	106	23	5	10	59
Boston, MA	152	95	37	12	3	5	18
Bridgeport, CT	29	24	4	1	—	—	8
Cambridge, MA	23	18	5	—	—	—	—
Fall River, MA	31	22	9	—	—	—	1
Hartford, CT	67	49	14	2	—	2	3
Lowell, MA	28	22	5	1	—	—	5
Lynn, MA	8	5	3	—	—	—	1
New Bedford, MA	31	24	6	1	—	—	5
New Haven, CT	U	U	U	U	U	U	U
Providence, RI	U	U	U	U	U	U	U
Somerville, MA	3	2	1	—	—	—	1
Springfield, MA	36	18	11	2	2	3	3
Waterbury, CT	28	23	3	2	—	—	3
Worcester, MA	53	43	8	2	—	—	11
Mid. Atlantic	2,363	1,643	516	125	28	49	134
Albany, NY	52	36	9	5	—	2	3
Allentown, PA	33	25	4	2	1	1	1
Buffalo, NY	74	49	14	6	—	5	5
Camden, NJ	9	6	3	—	—	—	—
Elizabeth, NJ	19	11	6	2	—	—	1
Erie, PA	46	36	8	1	—	1	1
Jersey City, NJ	U	U	U	U	U	U	U
New York City, NY	1,120	789	248	38	20	23	53
Newark, NJ	26	7	12	5	—	2	2
Paterson, NJ	U	U	U	U	U	U	U
Philadelphia, PA	518	333	133	38	5	9	26
Pittsburgh, PA§	39	28	4	6	—	1	6
Reading, PA	41	30	7	4	—	—	2
Rochester, NY	155	121	22	11	1	—	18
Schenectady, NY	36	25	8	3	—	—	—
Scranton, PA	23	16	6	1	—	—	1
Syracuse, NY	76	62	13	1	—	—	6
Trenton, NJ	56	34	16	1	1	4	3
Utica, NY	14	13	—	—	—	1	3
Yonkers, NY	26	22	3	1	—	—	3
E.N. Central	2,295	1,538	548	118	43	48	131
Akron, OH	54	37	12	3	—	2	4
Canton, OH	42	28	11	3	—	—	2
Chicago, IL	341	204	101	28	3	5	25
Cincinnati, OH	102	59	25	7	4	7	6
Cleveland, OH	275	199	60	11	3	2	11
Columbus, OH	204	134	52	8	7	3	22
Dayton, OH	157	126	26	2	2	1	8
Detroit, MI	175	94	61	9	4	7	11
Evansville, IN	36	25	8	2	1	—	—
Fort Wayne, IN	77	57	13	4	3	—	3
Gary, IN	15	7	7	1	—	—	4
Grand Rapids, MI	49	38	6	3	—	2	3
Indianapolis, IN	268	181	62	12	8	5	11
Lansing, MI	63	40	12	4	3	4	6
Milwaukee, WI	100	68	22	7	1	2	2
Peoria, IL	50	30	11	2	2	5	2
Rockford, IL	69	51	13	3	—	2	5
South Bend, IN	38	28	7	2	—	1	1
Toledo, OH	106	75	26	3	2	—	2
Youngstown, OH	74	57	13	4	—	—	3
W.N. Central	662	424	150	46	20	22	40
Des Moines, IA	65	47	11	4	1	2	2
Duluth, MN	21	14	7	—	—	—	1
Kansas City, KS	30	20	4	5	1	—	3
Kansas City, MO	181	120	38	11	3	9	12
Lincoln, NE	27	23	4	—	—	—	2
Minneapolis, MN	72	39	22	4	4	3	5
Omaha, NE	66	51	13	—	1	1	7
St. Louis, MO	55	14	20	13	6	2	2
St. Paul, MN	57	32	14	5	2	4	2
Wichita, KS	88	64	17	4	2	1	4
S. Atlantic	1,517	984	363	99	35	35	95
Atlanta, GA	160	102	37	17	1	3	11
Baltimore, MD	204	134	46	13	7	4	22
Charlotte, NC	126	82	32	6	3	3	12
Jacksonville, FL	182	116	50	12	2	2	10
Miami, FL	98	61	28	3	4	1	9
Norfolk, VA	73	41	20	4	3	5	5
Richmond, VA	90	56	21	5	5	3	3
Savannah, GA	90	57	23	6	1	3	5
St. Petersburg, FL	51	39	6	3	3	—	1
Tampa, FL	225	160	49	11	—	5	9
Washington, D.C.	199	123	47	17	6	6	3
Wilmington, DE	19	13	4	2	—	—	5
E.S. Central	784	523	176	47	14	24	70
Birmingham, AL	180	114	36	13	2	15	15
Chattanooga, TN	81	59	14	5	1	2	2
Knoxville, TN	103	62	29	6	4	2	12
Lexington, KY	68	41	22	4	1	—	7
Memphis, TN	168	117	37	8	3	3	16
Mobile, AL	105	75	21	5	3	1	7
Montgomery, AL	79	55	17	6	—	1	11
Nashville, TN	U	U	U	U	U	U	U
W.S. Central	1,571	1,003	392	111	30	35	85
Austin, TX	94	60	27	6	1	—	3
Baton Rouge, LA	67	54	10	3	—	—	—
Corpus Christi, TX	60	41	14	4	—	1	2
Dallas, TX	256	151	74	17	4	10	19
El Paso, TX	101	75	21	1	2	2	3
Fort Worth, TX	U	U	U	U	U	U	U
Houston, TX	418	249	113	31	9	16	25
Little Rock, AR	82	45	27	7	2	1	1
New Orleans, LA	U	U	U	U	U	U	U
San Antonio, TX	276	175	67	22	8	4	21
Shreveport, LA	56	33	14	7	2	—	4
Tulsa, OK	161	120	25	13	2	1	7
Mountain	1,100	725	242	71	32	30	75
Albuquerque, NM	94	64	14	11	2	3	6
Boise, ID	47	34	12	—	1	—	4
Colorado Springs, CO	64	33	18	8	1	4	7
Denver, CO	97	59	30	3	2	3	10
Las Vegas, NV	289	209	56	13	5	6	20
Ogden, UT	26	20	2	2	1	1	2
Phoenix, AZ	162	96	39	15	6	6	5
Pueblo, CO	32	24	7	1	—	—	1
Salt Lake City, UT	133	81	30	10	8	4	11
Tucson, AZ	156	105	34	8	6	3	9
Pacific	1,605	1,127	345	82	29	22	151
Berkeley, CA	10	8	2	—	—	—	1
Fresno, CA	U	U	U	U	U	U	U
Glendale, CA	38	32	6	—	—	—	6
Honolulu, HI	69	57	10	2	—	—	9
Long Beach, CA	70	47	13	6	4	—	10
Los Angeles, CA	256	160	65	21	4	6	37
Pasadena, CA	30	23	5	1	—	1	3
Portland, OR	125	86	30	8	—	1	6
Sacramento, CA	190	130	45	10	1	4	18
San Diego, CA	164	116	35	5	6	2	11
San Francisco, CA	137	96	28	6	5	2	10
San Jose, CA	208	146	47	10	4	1	18
Santa Cruz, CA	26	16	7	2	1	—	1
Seattle, WA	106	76	18	7	1	4	4
Spokane, WA	64	51	11	1	—	1	9
Tacoma, WA	112	83	23	3	3	—	8
Total¶	**12,386**	**8,312**	**2,838**	**722**	**236**	**275**	**840**

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.

¶ Total includes unknown ages.

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