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National Cholesterol Education Month — September 2001

High blood cholesterol is a major risk factor for heart disease, the leading cause of death in the United States. Lowering cholesterol levels reduces the incidence of heart disease and death among persons with or without coronary heart disease. To increase awareness of the importance of monitoring cholesterol levels and taking steps to achieve or maintain healthy levels, the National Cholesterol Education Program (NCEP) sponsors National Cholesterol Education Month every September. This year, the theme is "Know your cholesterol numbers; know your risk."

In May 2001, NCEP released the *Third Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults, Adult Treatment Panel III* (ATP III), which recommends that adults aged ≥20 years have their cholesterol checked at least once every 5 years. Cholesterol levels can be lowered through lifestyle changes such as dietary improvement, increased physical activity, weight control, drug therapy, or a combination of these (*1*).

During September, CDC-funded state cardiovascular health programs and their collaborators will conduct programs aimed at increasing awareness and understanding of high blood cholesterol and its impact on heart disease. For example, the Montana state health department and Blue Cross Blue Shield of Montana have developed and broadcast radio public service announcements providing cholesterol education. The Arkansas state health department will provide cholesterol educational information sheets to the public and health-care professionals.

Additional information about how cholesterol may affect health and about the new ATP III guidelines is available at <http://www.nhlbi.nih.gov/guidelines/cholesterol>*, <http://www.americanheart.org/cld>, and <http://www.cdc.gov/nccdphp/cvd>.

References

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State-Specific Trends in High Blood Cholesterol Awareness Among Persons Screened — United States, 1991–1999

High blood cholesterol (HBC) is a major risk factor for heart disease. One of the national health objectives for 2010 is to reduce the percentage of adults aged ≥20 years with total blood cholesterol levels of ≥240 mg/dL (objective 12–14) (*1*). One strategy for achieving this objective is to increase awareness of HBC. State-specific data allow state health departments to monitor progress in educating the public about awareness of cholesterol levels and the need for persons to maintain low levels of blood cholesterol. To examine state-specific trends in the proportion of screened adults who reported that they were told that they had HBC, CDC analyzed data from the Behavioral Risk Factor Surveillance System (BRFSS) for 1991 through 1999. This report summarizes the results of that analysis and indicates that approximately one fourth of screened survey participants were aware that they had HBC; this proportion increased slightly from 1991 through 1999. Awareness of HBC is a necessary step to help persons take action to lower their cholesterol level and their risk for coronary heart disease.

BRFSS is a random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years. For this report, BRFSS data from 1991, 1993, 1995, 1997, and 1999 were analyzed for 412,322 persons aged ≥20 years from 50 states and the District of Columbia (DC). Survey participants were asked whether they had ever had their blood cholesterol checked and, if so, had a physician or other health-care provider ever told them their blood cholesterol was high. Those who reported having ever had their blood cholesterol checked were included in the analysis and those who reported they had been told they had HBC were classified as being aware they had HBC (n=120,450). Data were weighted to account for the age, race/ethnicity, and sex distribution and nonresponse in each state. Analyses were conducted using SUDAAN 7.0 to account for the complex sampling design and to obtain accurate variance estimates. To allow for comparisons between states, the results were age-standardized with the direct method using the U.S. 2000 standard population (*2*). Participation rates in BRFSS ranged from 71.4% in 1993 to 55.2% in 1999. The prevalence of cholesterol screening during the preceding 5 years increased from 67.3% in 1991 to 70.8% in 1999 (*3*).

Among all 50 states and DC that participated in BRFSS during 1999, the age-standardized prevalence of persons screened who were ever told that they had HBC ranged from 20.5% in Oklahoma to 33.7% in Nevada (Table 1). For the 47 states that participated in BRFSS in all years from 1991 through 1999, the age-standardized prevalence of HBC awareness among persons screened increased from 25.7% in 1991 to 28.6% in 1999 (Table 1). The age-standardized prevalence of HBC awareness among persons screened increased in DC and 38 states and ranged from a 0.1 percentage point increase in Delaware to a 7.3 percentage point increase in Florida. The increase in HBC awareness was significant in Alabama, Arkansas, California, Florida, Georgia, Iowa, Maryland, Minnesota, Mississippi, Missouri, New York, North Carolina, Ohio, South Dakota, Tennessee, Texas, and West Virginia. For eight states (Alaska, Arizona, Connecticut, Hawaii, Oklahoma, Rhode Island, South Carolina, and Vermont), the prevalence of persons screened who reported HBC decreased from 1991 to 1999 and ranged from a 5.8 percentage point decline in Oklahoma to a 0.7 percentage point decline in Connecticut. The decrease was significant in Oklahoma. In Virginia, the prevalence of reported HBC among persons who ever had their cholesterol tested remained constant at 31.0% during 1991–1999.

Trends in High Blood Cholesterol — Continued

TABLE 1. Prevalence of screened persons who were ever told they had high blood cholesterol, by reporting area — Behavioral Risk Factor Surveillance System, United States, 1991–1999

Area	1991*	1993†	1995§	1997¶	1999**	% point change 1991 to 1999	(95% CI††)
Alabama	25.3	27.6	26.1	27.9	31.3	5.9	(2.6– 9.3)
Alaska	32.9	30.4	28.6	27.5	29.3	–3.6	(–7.5– 0.3)
Arizona	26.4	24.2	26.5	30.7	23.4	–3.0	(–6.6– 0.6)
Arkansas	25.0	27.5	26.7	28.7	29.7	4.7	(1.2– 8.3)
California	25.7	28.4	27.8	29.3	28.9	3.3	(0.8– 5.8)
Colorado	24.9	26.7	28.4	27.8	25.1	0.1	(–2.9– 3.2)
Connecticut	27.4	29.0	24.8	23.2	26.7	–0.7	(–3.7– 2.3)
Delaware	29.6	29.2	29.4	27.8	29.7	0.1	(–3.4– 3.6)
District of Columbia	20.3	18.2	NA	18.2	22.1	1.8	(–1.8– 5.4)
Florida	22.8	30.4	28.6	29.8	30.1	7.3	(4.8– 9.8)
Georgia	23.4	26.9	22.5	24.3	28.7	5.3	(2.0– 8.6)
Hawaii	29.7	33.2	26.7	30.0	26.7	–3.0	(–6.4– 0.3)
Idaho	25.3	29.1	26.9	28.4	28.1	2.8	(–0.2– 5.7)
Illinois	27.1	27.8	26.6	31.7	29.6	2.5	(–1.2– 6.3)
Indiana	27.2	30.3	29.6	27.6	30.3	3.1	(–0.1– 6.3)
Iowa	24.3	28.2	27.4	26.5	28.5	4.2	(1.0– 7.5)
Kansas	NA	31.5	31.0	26.1	25.8	NA	
Kentucky	29.5	31.3	29.1	29.0	31.1	1.7	(–1.2– 4.5)
Louisiana	25.4	26.6	25.9	26.4	26.2	0.8	(–2.9– 4.5)
Maine	26.3	27.4	28.9	31.1	29.9	3.6	(–0.3– 7.5)
Maryland	24.8	26.6	25.2	28.3	29.5	4.7	(1.8– 7.7)
Massachusetts	26.5	27.9	31.0	24.6	28.8	2.3	(–0.9– 5.5)
Michigan	30.6	29.6	30.8	30.0	31.2	0.6	(–2.4– 3.7)
Minnesota	24.8	26.8	26.8	29.5	29.4	4.6	(2.3– 6.9)
Mississippi	25.1	31.0	23.9	27.5	29.4	4.3	(0.7– 7.9)
Missouri	24.7	30.8	27.8	28.8	28.4	3.8	(0.6– 6.9)
Montana	27.5	25.8	27.2	29.2	28.1	0.6	(–3.4– 4.7)
Nebraska	23.9	26.2	26.9	28.6	25.7	1.8	(–1.6– 5.2)
Nevada	NA	31.6	28.8	26.7	33.7	NA	
New Hampshire	29.5	29.3	26.8	30.6	32.0	2.5	(–1.5– 6.6)
New Jersey	24.7	27.8	24.9	27.3	25.4	0.7	(–2.5– 3.8)
New Mexico	22.3	28.8	28.3	27.1	25.7	3.4	(–0.2– 7.0)
New York	24.1	28.4	25.6	26.8	27.8	3.7	(0.6– 6.7)
North Carolina	24.9	25.7	23.9	25.7	30.2	5.4	(2.2– 8.5)
North Dakota	26.0	30.6	28.5	28.0	28.3	2.3	(–1.1– 5.8)
Ohio	23.4	27.0	27.3	26.0	31.0	7.6	(3.7–11.4)
Oklahoma	26.4	27.9	27.2	21.7	20.5	–5.8	(–9.1–[–2.6])
Oregon	26.1	28.5	27.9	30.3	26.5	0.4	(–2.6– 3.4)
Pennsylvania	25.6	26.2	28.8	24.3	26.1	0.5	(–2.2– 3.2)
Rhode Island	28.1	26.8	27.1	27.3	27.3	–0.8	(–3.7– 2.2)
South Carolina	27.2	27.1	26.5	23.9	26.3	–0.9	(–3.8– 2.1)
South Dakota	24.1	25.7	23.2	24.3	27.1	3.0	(0.1– 6.0)
Tennessee	24.0	28.4	26.7	28.9	28.1	4.1	(1.4– 6.8)
Texas	26.5	28.7	33.4	28.4	29.7	3.3	(0.1– 6.5)
Utah	24.8	28.2	23.0	26.7	27.7	2.9	(–0.3– 6.1)
Vermont	28.7	26.1	27.5	24.8	26.2	–2.5	(–5.7– 0.8)
Virginia	31.0	27.3	29.1	29.3	31.0	0.0	(–3.4– 3.3)
Washington	26.5	28.8	28.7	24.7	26.8	0.4	(–2.5– 3.2)
West Virginia	29.6	32.0	29.7	29.8	34.2	4.6	(1.5– 7.7)
Wisconsin	26.4	31.4	28.9	25.0	29.4	3.0	(–0.7– 6.7)
Wyoming	NA	NA	27.2	29.0	29.5	NA	
Total§§	**25.7**	**28.3**	**27.8**	**27.6**	**28.6**	**2.9**	**(2.5– 3.4)**

* Sample sizes for individual states ranged from 686 to 2387 adults aged ≥20 years who had their cholesterol screened in 1991.
† Sample sizes for individual states ranged from 770 to 3083 adults aged ≥20 years who had their cholesterol screened in 1993.
§ Sample sizes for individual states ranged from 830 to 3810 adults aged ≥20 years who had their cholesterol screened in 1995.
¶ Sample sizes for individual states ranged from 1024 to 3449 adults aged ≥20 years who had their cholesterol screened in 1997.
** Sample sizes for individual states ranged from 958 to 5274 adults aged ≥20 years who had their cholesterol screened in 1999.
†† Confidence interval.
§§ Includes 47 states with complete data from 1991 to 1999.

Trends in High Blood Cholesterol — Continued

From 1991 to 1999, HBC awareness increased among all demographic groups (Table 2). The percentage of persons who had ever had their cholesterol tested and who reported having been told that they had HBC was consistently higher for successive age groups (from 18.6% among those aged 20–44 years to 42.7% among those aged ≥65 years for 1999). Reported HBC awareness was higher in 1999 than in 1991 among non-Hispanic whites, non-Hispanic blacks, and Hispanics. Numbers for American Indians/Alaska Natives and Asians/Pacific Islanders were too low for meaningful analysis. Awareness of HBC was higher among women than men until 1999 and increased for both men and women.

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Editorial Note: The findings in this report indicate that among persons who had their cholesterol level screened, the percentage who were told by a health-care provider that they had HBC increased significantly from 1991 to 1999. BRFSS data on cholesterol screening trends indicated an increase in the proportion of U.S. adults aged ≥20 years who were screened during the preceding 5 years for HBC from 67.3% in 1991 to 70.8% in 1999 (*3*). Possible reasons for this increase include improved efforts by public health

TABLE 2. Prevalence of screened persons who were ever told they had high blood cholesterol, by selected characteristics — Behavioral Risk Factor Surveillance System, United States*, 1991–1999

Characteristic	1991	1993	1995	1997	1999	% point change 1991–1999	(95% CI†)
Age group (yrs)							
20–44	17.9	19.7	19.2	18.3	18.6	0.7	(0.2–1.4)
45–64	33.8	36.2	35.4	35.7	37.0	3.2	(2.3–4.0)
≥65	34.0	38.8	38.9	40.3	42.7	8.7	(7.7–9.7)
Race/Ethnicity§							
Non-Hispanic white	25.8	28.2	28.1	27.6	28.9	3.1	(2.6–3.6)
Non-Hispanic black	24.6	28.2	25.9	26.1	27.2	2.6	(1.0–4.3)
Hispanic	23.7	28.5	26.5	29.6	27.4	3.7	(1.6–5.7)
Other¶	28.9	30.1	26.8	27.5	30.6	1.7	(–0.8–4.3)
Sex§							
Women	25.7	28.3	27.6	27.8	28.1	2.4	(1.8–2.9)
Men	25.4	27.9	27.7	27.2	29.0	3.6	(2.9–4.3)

*Included 47 states with no missing data (excluded District of Columbia, Kansas, Nevada, and Wyoming).
† Confidence interval.
§ Age-standardized to the 2000 population.
¶ Numbers for other race groups were too small for meaningful analysis.

Trends in High Blood Cholesterol — Continued

programs to increase awareness of cholesterol levels, increased counseling by health-care providers, or an increase in HBC prevalence. However, data from the National Health and Nutrition Examination Survey (NHANES) suggest that cholesterol levels are declining (*4*).

No national data allow state-level estimates of HBC based on actual blood cholesterol measurements. NHANES used directly measured cholesterol and observed decreasing cholesterol levels among adults between the 1971–1974 and 1988–1994 surveys (*4*). More recent data from NHANES are not available. The differences in reported HBC across demographic variables (age, sex, and race/ethnicity) in BRFSS are consistent with those measured in NHANES III (*4*).

The findings in this report are subject to at least two limitations. First, BRFSS data are self-reported, and some respondents may have over or underestimated their HBC status. Patients may not have been told that they had high cholesterol and may have underestimated their HBC status. However, the actual cut-point used by health-care providers is unknown, and patients with borderline high cholesterol may have been told that their cholesterol was high, which might have resulted in an overestimate of true prevalence. Second, because BRFSS is a telephone-based survey, and persons with lower socioeconomic status are less likely than more affluent persons to have a telephone, persons with lower socioeconomic status may be underrepresented.

Control of HBC requires successful implementation of multiple steps among both patients and health-care providers, including ongoing screening for HBC, knowing one's cholesterol levels, and treating and managing HBC through lifestyle changes (e.g., reduced dietary intake of saturated fat and cholesterol, increased dietary intake of viscous fiber, increased exercise, and weight control) and medical treatment as appropriate. The National Cholesterol Education Program of the National Heart, Lung, and Blood Institute recommends that all persons aged ≥20 years have their cholesterol checked at least once every 5 years (*5*). In May 2001, NCEP released the third Adult Treatment Panel (ATP III) Report, which includes updated clinical guidelines for cholesterol testing and management (*6,7*). The new features of ATP III focus on primary prevention among those with multiple risk factors, including an assessment of the 10-year risk for a heart attack, modifications in lipid and lipoprotein classification levels, and implementation of the treatment recommendations.

HBC is a modifiable risk factor for heart disease. The benefits of cholesterol lowering include a decrease in the incidence of coronary heart disease and a decline in mortality among those with or without coronary heart disease (*8–10*). HBC can be prevented or controlled with increased physical activity, adoption of diets low in saturated fats and cholesterol and high in fruits and vegetables, and with the use of drugs that lower cholesterol.

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Trends in High Blood Cholesterol — Continued

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Prevalence of Healthy Lifestyle Characteristics — Michigan, 1998 and 2000

Most persons with chronic diseases such as cardiovascular disease, cancer, diabetes, and chronic lung disease share multiple common risk factors and lifestyle behaviors (*1*). Tobacco use, poor diet, and physical inactivity have been identified as the leading contributors to overall mortality in the United States, accounting for one third of all deaths (*2*); Michigan has a particularly high burden of chronic disease-related mortality (*3*). To characterize the prevalence of four healthy lifestyle characteristics (HLCs) (i.e., healthy weight, adequate fruit and vegetable consumption, regular leisure-time physical activity [LTPA], and not smoking) in Michigan residents, data were analyzed from Michigan's Behavioral Risk Factor Surveillance System (BRFSS) for 1998 and 2000. This report summarizes the results of the analysis, which indicate that the proportion of Michigan residents who engaged in all four healthy lifestyle practices was extremely low, and that the prevalence was influenced by sex, education and self-reported health status. The comprehensive assessment of HLCs may be a useful adjunct to chronic disease surveillance.

BRFSS is a random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years. Data were analyzed from 4816 adults for 1998 and 2000 combined. Missing data from 502 persons resulted in a sample size of 4314. Healthy weight was defined as having a body mass index between 18.5 and 25.0. Adequate fruit and vegetable consumption was defined as eating five or more fruits and vegetables daily. Regular LTPA was defined as at least 30 minutes of physical activity five or more times per week. Not smoking was defined according to self-reported absence of current cigarette use (i.e., former or never versus current). Data were weighted to adjust for the probability of selection and the distribution of the state's population by age, race/ethnicity, and sex. Descriptive analyses, including age-adjusted prevalence estimates, were

Healthy Lifestyle Characteristics — Continued

generated for each demographic variable (age, race/ethnicity, education, and household income) and self-reported health status using SUDAAN. Data were standardized by age to the projected 2000 U.S. population. Significant differences in the adjusted odds ratios (AORs) for engaging in all four HLCs were identified using a multiple logistic regression model that contained all independent variables.

An estimated 37.9% (95% confidence interval [CI]=36.3%–39.5%) of Michigan adults had a healthy body weight, 22.8% (95% CI=21.4%–24.2%) ate the recommended amount of fruits and vegetables, 25.9% (95% CI=24.4%–27.4%) engaged in regular LTPA, and 72.3% (95% CI=70.8%–73.8%) did not smoke. Overall, 11.2% (95% CI=10.1%–12.3%) of adults engaged in none of these practices, 38.6% (95% CI=37.0%–40.2%) in one, 33.3% (95% CI=31.7%–34.9%) in two, 13.9 % (95% CI=12.8%–15.0%) in three, and 3.0% (95% CI=2.5%–3.5%) in all four.

The prevalence of engaging in all four HLCs was significantly different by sex, education, and health status ($p<0.05$) (Table 1). The prevalence of engaging in all four HLCs was lower in men (age-adjusted prevalence=1.6%) than in women (age-adjusted prevalence=4.5%; AOR=0.3; 95% CI=0.2–0.5). The prevalence of engaging in all four HLCs increased with education. The prevalence in college graduates was more than three times higher than in those with a high school education or less (AOR=3.2; 95% CI=1.7–6.1). However, the age-adjusted prevalences were still very low in all three education groups (Table 1). The prevalence of engaging in all four HLCs decreased with decreasing health status. Persons reporting excellent health had a much higher age-adjusted prevalence (7.1% [95% CI=5.3%–8.9%]) than adults with fair or poor health (1.0% [95% CI=0.1%–1.9%; AOR=0.1; 95% CI=0.04–0.4]). However, the prevalence rates in all four groups were low (Table 1).

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Editorial Note: The findings in this report document the low prevalence of healthy lifestyles in Michigan. The prevalence of HLCs in this report is consistent with that in the Nurses Health Study for a similar grouping of five healthy lifestyle behaviors (*4*) and is indentical to that from the overall 2000 BRFSS data. When compared with other states, obesity and smoking in Michigan are higher than the national average (*5*). However, the daily consumption of five fruits and vegetables in Michigan is consistent with the national average, and Michigan ranked among the top 10 states for participation in regular and sustained physical activity in 2000.

Disease risk, especially that related to cardiovascular disease, has usually been examined separately. Some studies have measured disease risk more comprehensively by combining factors such as smoking, obesity, hypertension, and high blood cholesterol (*6*). This study used a similar approach by assessing the combination of healthy factors that reduce disease risk, which may be a useful adjunct to the more traditional risk factor surveillance method.

The findings in this report are subject to five limitations. First, data were self-reported and some responses may be considered socially undesirable. As a result, respondents may both underreport weight (*7*) and overreport LTPA or fruit and vegetable consumption. Second, BRFSS collects information about LTPA only and may underestimate total activity. Third, BRFSS estimates of daily fruit and vegetable consumption are similar to

Healthy Lifestyle Characteristics — Continued

TABLE 1. Age-specific and age-adjusted* prevalence of all four healthy lifestyle characteristics (HLCs)†, and adjusted prevalence odds ratios§ among persons aged 18–74 years — Behavioral Risk Factor Surveillance System, Michigan, 1998 and 2000

Characteristic	No.¶	(%)	(95% CI**)	Odds ratio	(95% CI)
Age group (yrs)					
18–34	1313	(3.1)	(2.0–4.2)	—	
35–54	1996	(2.7)	(2.0–3.4)	0.8	(0.5–1.3)
55–74	1005	(3.6)	(2.4–4.8)	1.4	(0.8–2.4)
Sex††					
Women	2397	(4.5)	(3.6–5.4)	—	
Men	1917	(1.6)	(1.0–2.2)	0.3	(0.2–0.5)
Race					
White	3603	(3.2)	(2.6–3.8)	—	
Black	500	(1.7)	(0.6–2.8)	0.9	(0.4–1.9)
Education§§					
≤High school	1701	(1.2)	(0.7–1.7)	—	
Some college	1374	(4.0)	(2.8–5.2)	3.1	(1.7–5.9)
College graduate	1232	(4.9)	(3.6–6.2)	3.2	(1.7–6.1)
Household income					
<$35,000	1634	(2.6)	(1.7–3.5)	—	
$35,000–$50,000	738	(2.6)	(1.4–3.8)	0.7	(0.4–1.4)
>$50,000	1516	(3.5)	(2.5–4.5)	0.9	(0.5–1.4)
Health status¶¶					
Excellent	952	(7.1)	(5.3–8.9)	—	
Very good	1639	(2.6)	(1.8–3.4)	0.3	(0.2–0.6)
Good	1178	(1.5)	(0.8–2.2)	0.2	(0.1–0.3)
Fair or poor	538	(1.0)	(0.1–1.9)	0.1	(0.04–0.4)

* Prevalence estimates were age-adjusted using the 2000 projected U.S. population.
† The four HLCs were defined as having a healthy body weight (body mass index between 18.5 and 25.0), getting regular leisure-time physical activity (≥30 minutes, five or more times per week), eating fruits and vegetables five or more times per day, and not smoking.
§ Based on results of a multiple logistic regression model containing age, sex, education, household income, and health status.
¶ Unweighted sample size for subgroups and total.
** Confidence interval.
†† HLC significantly different by sex after adjusting for all variables ($p<0.0001$).
§§ HLC significantly different by education after adjusting for all variables ($p<0.0001$).
¶¶ Response to the question, "Would you say that in general your health is excellent, very good, good, fair, or poor?" HLC significantly different by health status after adjusting for all variables ($p<0.0001$).

estimates based on multiple records but are smaller than estimates based on more extensive food-frequency questionnaires (*8*). Fourth, the number of black respondents in this study was too small for meaningful analysis. Finally, noncoverage and nonresponse biases related to telephone survey data may affect estimates.

Findings from previous epidemiologic studies (*6,9*) underscore the need for comprehensive primary prevention activities to reduce the prevalence of common chronic disease risk factors. Primary prevention may be a useful strategy in promoting the adoption and maintenance of HLCs (*10*). Primary prevention includes addressing the underlying social determinants that lead to behavioral and physiologic risk factors by mobilizing both health-care providers and the general population to adopt new policies. These policies include regulatory, educational, and environmental changes designed to facilitate the implementation of prevention programs.

Healthy Lifestyle Characteristics — Continued

In Michigan, two initiatives sponsored by the Michigan Department of Community Health (MDCH) and the Governor's Council on Physical Fitness promote physical activity and healthy weight. First, a voluntary Exemplary Physical Education Curriculum provides school-aged children with the fitness levels, motor skills, activity-related knowledge, and personal/social skills needed for an active life. Second, environmental changes that make it easier and safer for persons to be physically active are encouraged through the "Promoting Active Communities Award," which recognizes communities that enact policies to promote physical activity. To promote a healthy diet, MDCH's 5-A-Day program provides technical support, information, and materials to local agencies to assist them in conducting local programs. MDCH also works with grocery stores to provide education materials and grocery rewards to consumers to encourage them to eat fruits and vegetables.

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Outbreak of Powassan Encephalitis — Maine and Vermont, 1999–2001

Powassan (POW) virus, a North American tickborne flavivirus related to the Eastern Hemisphere's tickborne encephalitis viruses (*1*), was first isolated from a patient with encephalitis in 1958 (*1,2*). During 1958–1998, 27 human POW encephalitis cases were reported from Canada and the northeastern United States (*3*). During September 1999–July 2001, four Maine and Vermont residents with encephalitis were found to be infected with POW virus. These persons were tested for other arbovirus infections found in the northeast after testing for West Nile virus (WNV) infection was negative. This report describes these four cases, summarizes the results of ecologic investigations, and discusses a potential association between ticks that infest medium-sized mammals and the risk for human exposure to POW virus. The findings underscore the need for personal protective measures to prevent tick bites and continued encephalitis surveillance.

Powassan Encephalitis — Continued

Case Reports

Case 1. In June 2001, a 70-year-old man from Kennebec County, Maine, was taken to a local hospital with generalized muscle weakness, somnolence, diarrhea, and anorexia. On clinical examination, he had a fever of 104.7 F (40.4 C), leukocytosis of 11,500/mm^3 (normal: 4,300–10,800/mm^3), decreased renal function, and anemia. He subsequently developed left-sided hemiplegia and marked confusion. Cerebrospinal fluid (CSF) contained 40 white blood cells (WBCs)/mm^3 (normal: <4/mm^3) (87% lymphocytes) with elevated protein (96 mg/dL; normal: 20–50 mg/dL). Magnetic resonance imaging (MRI) revealed parietal changes consistent with microvascular ischemia or demyelinating disease. No causes for his apparent stroke were found. After 22 days of hospitalization, he was discharged to a rehabilitation facility. Nearly 3 months after symptom onset, he remains in the facility and is unable to move his left arm or leg. Serum specimens and CSF collected 3 days after hospitalization revealed POW virus-specific IgM; neutralizing antibody (1:640 titer) also was found in serum specimens. Although some cross-reaction with WNV and St. Louis encephalitis (SLE) virus occurred in the IgM assay, no neutralizing antibody was found.

The patient had not left Maine for 25 years. On ecologic investigation, overgrown bushes, leaf piles, and stacks of old lumber and scrap metal covered his property. Family members reported seeing woodchucks, skunks, and squirrels on the property. During the 2 weeks before illness, the patient's main activities were lying on the ground repairing a boat hull and yard work. Approximately 6 weeks after illness onset, nine medium-sized mammals were trapped on or near the patient's property. Collections from these mammals and the grassy and brushy areas of the property yielded 31 ticks (*Ixodes cookei*). Tests for POW virus infection were conducted at CDC. Of the nine mammal serum samples, four (two woodchucks and two skunks) contained neutralizing antibody to POW virus, but no virus was isolated from the ticks.

Case 2. In September 2000, a 53-year-old woman from York County, Maine, sought medical care at a local hospital for loss of balance, visual disturbance, and fever of 103 F (39.4 C). Her clinical examination showed agitation without confusion, ataxia, bilateral lateral gaze palsy, and dysarthria. CSF contained 148 WBCs/mm^3 (46% neutrophils, 40% lymphocytes). During hospitalization, she developed altered mental status, generalized muscle weakness, and complete ophthalmoplegia. An electroencephalogram (EEG) indicated diffuse encephalitis, and a MRI showed bilateral temporal lobe abnormalities consistent with microvascular ischemia or demyelinating disease. After 13 days, she was transferred to a rehabilitation facility where she remained for 2 months. Nine months after onset of symptoms, she was walking and had regained her strength, but the ophthalmoplegia continued. A serum specimen collected 19 days after illness onset was positive for POW virus-specific IgM and neutralizing antibody (1:640 titer) and negative for WNV and SLE virus antibodies.

The patient had not left Maine in several months before illness onset. During two visits to a rural vacation home in the month before illness onset, the patient removed several squirrel nests but reported no contact with ticks or rodents. One month after illness onset, an ecologic evaluation of her primary home noted a well-manicured suburban property near brush and woodlands. No evidence of medium-sized mammals was found, and only three *Ix. scapularis* were collected; no POW virus was isolated. Nine months after illness onset, an ecologic evaluation of the patient's vacation home found several mammals, but none had ticks, and no serology samples were collected.

Powassan Encephalitis — Continued

Case 3. In July 2000, a 25-year-old man from Waldo County, Maine, sought medical care at a local hospital for fever of 101.3 F (38.5 C), headache, vomiting, somnolence, and confusion. On clinical examination, the patient had difficulty answering simple questions and was intermittently uncooperative. He had bilateral hand twitching, muscle weakness, and pronounced lip smacking. CSF contained 920 WBCs/mm^3 (74% lymphocytes) with elevated protein (77 mg/dL). EEG showed diffuse background slowing consistent with encephalitis. After 11 days of hospitalization, he was transferred to a rehabilitation facility. When discharged home 44 days later, the patient required assistance to stand and perform daily activities. Serum specimens and CSF collected 3 days after illness onset were negative for antibody to WNV and SLE virus but positive for POW virus-specific IgM antibody. The serum sample also had neutralizing antibody (1:80 titer) to POW virus. At the time of illness onset, the patient worked as a logger and lived in rural Maine where he raised livestock.

Case 4. In September 1999, a 66-year-old man from Washington County, Vermont, sought medical care at a hospital for somnolence, severe headache, increasing confusion, and bilateral leg weakness that developed over 6 days. On clinical examination, he was afebrile but had slow speech, memory loss, a wide-based gait, and bilateral weakness in proximal lower extremities. CSF contained 54 WBCs/mm^3 (95% lymphocytes) and elevated protein (67 mg/dL). An EEG showed diffuse background slowing consistent with encephalitis. When discharged home 11 days later, he could walk but had cognitive difficulties, including severe memory lapses. Serum specimens collected 19 days after illness onset contained POW virus-specific IgM and neutralizing antibody (1:640 titer) but no antibody to WNV and SLE virus. During the month before illness onset, the patient traveled frequently to a vacation home where he saw numerous squirrels and skunks.

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Editorial Note: These four cases of POW encephalitis are the first reported in Maine and Vermont and the first in the United States since 1994 (*4*). Since the introduction of WNV into the northeastern United States in 1999 (*5*), testing for POW virus and other arboviruses that cause encephalitis has increased (CDC, unpublished data, 2001). These cases were identified as a direct result of requests for WNV testing. As surveillance continues, knowledge of the epidemiology of POW virus in the United States may increase.

In North America, POW virus has been isolated from four tick species, including *Ix. cookei*, *Ix. marxi*, *Ix. spinipalpus*, and *Dermacentor andersoni*; a variant POW virus also has been isolated from *Ix. scapularis*; and evidence of infection has been found in 38 mammal species, primarily woodchucks (*1,6*). Unlike *Ix. scapularis*, the primary vector for Lyme disease, *Ix. cookei* rarely search for hosts on vegetation and are often found in or near the nests or burrows of medium-sized mammals. Infections have occurred from May to December, with a peak during June–September when ticks are most active (*1*). Although neither the first or second patients recalled tick bites, ecologic investigations suggest that their illnesses resulted from visiting or living in areas where ticks are common. As with many infectious agents transmitted by *Ixodid* ticks, few infected persons recalled tick bites because these ticks are small and can be easily missed (*3*).

Powassan Encephalitis — Continued

POW encephalitis is associated with significant long-term morbidity and has a case-fatality rate of 10%–15% (*1,3*). Because there is no vaccine or specific therapy for POW encephalitis, the best means of prevention is protection from tick bite. This includes using insect repellents, wearing light-colored clothing with long sleeves and pants tucked into socks or boots, avoiding or clearing brushy areas, and removing ticks before they attach or as soon after attachment as possible. Checking family pets also can prevent ticks from entering the home. Because *Ix. cookei* are often found on woodchucks and skunks and may be the primary vector of POW virus, environmental controls reducing human contact with small and medium-sized mammals should reduce risk for exposure to POW virus-infected ticks. Persons should keep areas adjacent to their home clear of brush, weeds, trash, and other elements that could support small and medium-sized mammals. When removing rodent nests, avoid direct contact with nesting materials and use sealed plastic bags for disposal and to prevent direct contact with ticks.

Because of the lack of awareness and the need for specialized laboratory tests to confirm diagnosis, the frequency of POW encephalitis may be greater than previously suspected. POW encephalitis should be included in the differential diagnosis of all encephalitis cases occurring in the northern United States, especially the northeast. Laboratory tests for POW virus infection are not commercially available but can be requested through state public health laboratories for testing at CDC. Awareness should be promoted among clinicians and public health staff, and tick-bite prevention strategies emphasized for the general public.

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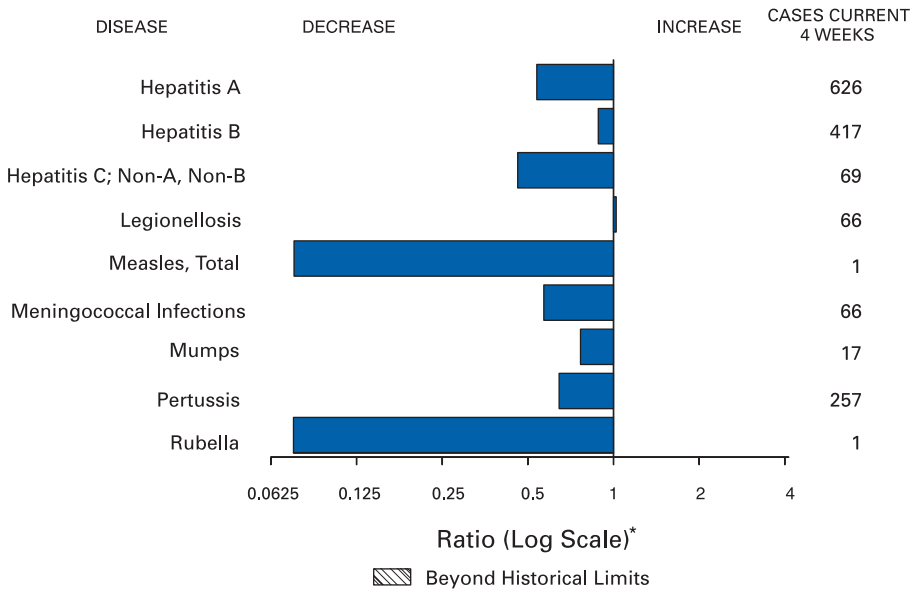
FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending September 1, 2001, with historical data



* 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.

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending September 1, 2001 (35th Week)*

	Cum. 2001		Cum. 2001
Anthrax	-	Poliomyelitis, paralytic	-
Brucellosis†	53	Psittacosis†	9
Cholera	3	Q fever†	15
Cyclosporiasis†	108	Rabies, human	1
Diphtheria	1	Rocky Mountain spotted fever (RMSF)	319
Ehrlichiosis: human granulocytic (HGE)†	127	Rubella, congenital syndrome	-
human monocytic (HME)†	54	Streptococcal disease, invasive, group A	2,572
Encephalitis: California serogroup viral†	26	Streptococcal toxic-shock syndrome†	44
eastern equine†	4	Syphilis, congenital ¶	161
St. Louis†	1	Tetanus	17
western equine†	-	Toxic-shock syndrome	82
Hansen disease (leprosy)†	51	Trichinosis	14
Hantavirus pulmonary syndrome†	5	Tularemia†	71
Hemolytic uremic syndrome, postdiarrheal†	76	Typhoid fever	170
HIV infection, pediatric†§	98	Yellow fever	-
Plague	2		

-: No reported cases.
*Incidence data for reporting year 2001 are provisonal and cumulative (year-to-date).
† Not notifiable in all states.
§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP). Last update June 26, 2001.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 1, 2001, and September 2, 2000 (35th Week)*

Reporting Area	AIDS		Chlamydia§		Cryptosporidiosis		*Escherichia coli* O157:H7†			
							NETSS		PHLIS	
	Cum. 2001¶	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	19,145	26,250	449,858	463,520	1,422	1,534	1,565	2,925	1,343	2,552
NEW ENGLAND	746	1,420	14,977	15,576	69	84	164	260	157	286
Maine	20	25	668	965	11	13	21	18	22	25
N.H.	17	25	809	678	4	11	24	23	21	31
Vt.	10	27	399	358	25	18	11	27	5	29
Mass.	411	890	6,857	6,616	22	27	84	123	77	126
R.I.	53	62	1,942	1,700	3	2	9	11	7	12
Conn.	235	391	4,302	5,259	4	13	15	58	25	63
MID. ATLANTIC	3,974	5,811	49,973	43,325	164	230	113	304	122	210
Upstate N.Y.	322	607	8,902	976	66	61	87	187	85	39
N.Y. City	1,996	3,136	19,132	17,836	65	120	8	19	8	14
N.J.	960	1,153	8,038	7,872	4	11	18	98	29	95
Pa.	696	915	13,901	16,641	29	38	N	N	-	62
E.N. CENTRAL	1,408	2,458	67,466	79,649	418	433	374	706	282	541
Ohio	237	388	13,962	20,725	103	68	97	144	84	157
Ind.	165	250	9,177	8,820	50	28	50	82	32	68
Ill.	665	1,365	17,349	22,500	1	59	93	145	80	117
Mich.	261	331	19,591	16,741	106	59	56	86	50	73
Wis.	80	124	7,387	10,863	158	219	78	249	36	126
W.N. CENTRAL	454	614	22,864	26,080	207	158	251	421	233	421
Minn.	85	115	4,261	5,308	99	21	92	101	98	127
Iowa	47	66	1,858	3,566	53	46	50	118	39	109
Mo.	218	286	9,007	8,892	26	22	33	85	49	77
N. Dak.	1	2	599	597	7	9	12	14	21	16
S. Dak.	18	6	1,201	1,201	6	9	18	35	19	40
Nebr.	39	43	2,054	2,478	15	43	32	50	-	40
Kans.	46	96	3,884	4,038	1	8	14	18	7	12
S. ATLANTIC	6,167	7,196	86,104	86,827	206	248	141	224	99	217
Del.	116	131	1,912	1,916	2	5	3	1	4	1
Md.	751	842	7,634	9,226	28	9	14	19	1	1
D.C.	465	499	1,838	2,122	10	6	-	-	U	U
Va.	501	461	11,965	10,768	15	11	38	47	30	45
W. Va.	49	42	1,544	1,434	1	3	5	11	6	7
N.C.	402	431	13,769	14,905	19	18	30	50	26	54
S.C.	350	530	7,750	5,916	-	-	7	16	9	13
Ga.	757	872	16,870	18,430	74	95	19	34	13	36
Fla.	2,776	3,388	22,822	22,110	57	101	25	46	10	60
E.S. CENTRAL	977	1,295	31,630	33,983	31	37	85	87	79	79
Ky.	201	146	5,999	5,335	3	5	41	26	39	25
Tenn.	293	531	9,680	9,554	8	9	25	38	30	41
Ala.	224	337	8,269	10,806	11	12	12	5	6	5
Miss.	259	281	7,682	8,288	9	11	7	18	4	8
W.S. CENTRAL	2,058	2,672	68,974	69,793	22	85	44	193	59	233
Ark.	104	126	4,742	4,457	5	7	6	49	-	34
La.	472	445	11,314	12,345	7	10	3	13	24	37
Okla.	107	219	7,147	5,821	8	7	18	13	20	11
Tex.	1,375	1,882	45,771	47,170	2	61	17	118	15	151
MOUNTAIN	714	1,007	25,981	26,868	105	77	176	286	100	213
Mont.	12	10	1,305	1,016	7	8	10	26	-	-
Idaho	15	16	1,209	1,241	12	4	29	44	-	26
Wyo.	1	7	564	526	2	5	7	12	1	9
Colo.	140	239	5,284	7,988	29	33	69	108	54	77
N. Mex.	56	107	3,622	3,278	18	7	10	15	8	14
Ariz.	295	319	9,684	8,642	6	7	20	36	12	27
Utah	63	97	1,279	1,569	27	10	22	37	24	50
Nev.	132	212	3,034	2,608	4	3	9	8	1	10
PACIFIC	2,647	3,777	81,889	81,419	200	182	217	444	212	352
Wash.	290	334	9,111	8,714	37	U	59	131	62	159
Oreg.	112	113	3,108	4,630	22	13	32	94	27	90
Calif.	2,204	3,229	65,435	64,073	137	169	113	183	119	91
Alaska	13	15	1,796	1,633	1	-	3	24	-	2
Hawaii	28	86	2,439	2,369	3	-	10	12	4	10
Guam	9	13	-	335	-	-	N	N	U	U
P.R.	580	759	1,764	U	-	-	1	5	U	U
V.I.	2	25	53	-	-	-	-	-	U	U
Amer. Samoa	-	-	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	85	U	-	U	-	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.

*Incidence data for reporting year 2001 are provisonal and cumulative (year-to-date). Incidence data for reporting year 2000 are finalized and cumulative (year-to-date).

† Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

§ Chlamydia refers to genital infections caused by *C. trachomatis*.

¶ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update June 26, 2001.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending September 1, 2001, and September 2, 2000 (35th Week)*

Reporting Area	Gonorrhea		Hepatitis C; Non-A, Non-B		Legionellosis		Listeriosis	Lyme Disease	
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2001	Cum. 2000
UNITED STATES	207,338	233,931	2,323	2,205	606	658	292	6,829	10,932
NEW ENGLAND	4,202	4,424	14	21	29	38	32	1,989	3,316
Maine	79	55	-	2	4	2	-	-	-
N.H.	107	69	-	-	7	2	2	88	41
Vt.	48	43	6	4	4	3	2	4	23
Mass.	2,089	1,791	8	10	5	15	16	409	982
R.I.	501	412	-	5	2	3	1	233	213
Conn.	1,378	2,054	-	-	7	13	11	1,255	2,057
MID. ATLANTIC	25,210	25,017	978	485	122	178	45	3,492	5,761
Upstate N.Y.	5,458	4,677	40	25	39	47	19	1,912	2,174
N.Y. City	8,016	7,553	-	-	10	26	8	2	153
N.J.	4,958	4,964	896	425	5	16	7	448	2,142
Pa.	6,778	7,823	42	35	68	89	11	1,130	1,292
E.N. CENTRAL	36,350	47,155	123	173	149	177	34	379	666
Ohio	7,674	12,449	8	8	82	69	11	83	46
Ind.	3,842	4,128	1	-	14	26	4	16	19
Ill.	10,832	14,062	11	17	-	24	1	-	33
Mich.	11,441	11,841	103	148	33	30	16	1	21
Wis.	2,561	4,675	-	-	20	28	2	279	547
W.N. CENTRAL	9,762	11,575	472	398	40	44	9	248	178
Minn.	1,375	2,131	7	5	9	3	-	202	99
Iowa	428	804	-	1	6	11	-	24	21
Mo.	5,364	5,636	455	382	15	21	5	17	41
N. Dak.	19	44	-	-	1	-	-	-	-
S. Dak.	186	194	-	-	3	2	-	-	-
Nebr.	695	959	3	3	5	3	1	3	3
Kans.	1,695	1,807	7	7	1	4	3	2	14
S. ATLANTIC	53,225	61,002	81	67	132	108	50	585	834
Del.	1,122	1,120	-	2	3	5	-	31	163
Md.	4,231	6,271	14	8	27	40	9	379	495
D.C.	1,644	1,649	-	3	7	-	-	8	3
Va.	7,019	6,666	-	3	18	19	9	98	103
W. Va.	423	440	9	13	N	N	5	10	22
N.C.	11,257	12,173	16	13	7	9	2	27	35
S.C.	5,344	5,572	5	1	6	4	4	3	3
Ga.	9,248	11,741	-	3	9	6	7	-	-
Fla.	12,937	15,370	37	21	55	25	14	29	10
E.S. CENTRAL	20,278	24,433	159	328	42	25	15	33	33
Ky.	2,371	2,334	6	29	9	14	4	18	6
Tenn.	6,436	7,689	51	67	21	8	6	9	19
Ala.	6,415	8,298	2	7	10	2	5	6	5
Miss.	5,056	6,112	100	225	2	1	-	-	3
W.S. CENTRAL	33,805	36,583	162	547	5	20	6	7	58
Ark.	2,932	2,538	3	7	-	-	1	-	5
La.	7,848	8,981	75	303	2	7	-	1	5
Okla.	3,302	2,494	3	6	3	2	2	-	-
Tex.	19,723	22,570	81	231	-	11	3	6	48
MOUNTAIN	6,695	7,020	238	54	40	25	26	10	7
Mont.	78	28	1	4	-	1	-	-	-
Idaho	53	59	2	3	2	4	1	4	1
Wyo.	46	36	191	2	4	-	1	3	3
Colo.	2,054	2,110	16	11	11	8	6	1	-
N. Mex.	592	726	11	11	2	1	6	-	-
Ariz.	2,677	2,916	9	13	11	6	6	-	-
Utah	104	162	2	-	7	5	1	1	1
Nev.	1,091	983	6	10	3	-	5	1	2
PACIFIC	17,811	16,722	96	132	47	43	75	86	79
Wash.	2,024	1,509	16	23	6	14	6	6	5
Oreg.	456	622	10	22	N	N	3	6	6
Calif.	14,669	14,060	70	85	37	29	62	72	66
Alaska	266	217	-	-	-	-	-	2	2
Hawaii	396	314	-	2	4	-	4	N	N
Guam	-	34	-	2	-	-	-	-	-
P.R.	399	352	1	1	2	1	-	N	N
V.I.	6	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	-	U	U
C.N.M.I.	7	U	-	U	-	U	-	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.
*Incidence data for reporting year 2001 are provisonal and cumulative (year-to-date). Incidence data for reporting year 2000 are finalized and cumulative (year-to-date).

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending September 1, 2001, and September 2, 2000 (35th Week)*

Reporting Area	Malaria		Rabies, Animal		Salmonellosis†			
					NETSS		PHLIS	
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	748	936	4,145	4,739	21,878	24,679	18,195	21,635
NEW ENGLAND	39	49	460	537	1,536	1,547	1,518	1,594
Maine	4	5	47	90	140	92	121	77
N.H.	2	1	16	9	129	94	120	97
Vt.	-	2	47	43	50	86	45	88
Mass.	12	20	175	183	927	913	801	907
R.I.	3	5	41	36	82	83	114	115
Conn.	18	16	134	176	208	279	317	310
MID. ATLANTIC	198	233	827	847	2,816	3,315	2,554	3,501
Upstate N.Y.	45	44	532	541	795	773	816	893
N.Y. City	104	124	20	8	719	844	790	873
N.J.	21	39	130	113	589	806	527	673
Pa.	28	26	145	185	713	892	421	1,062
E.N. CENTRAL	70	103	88	113	3,146	3,375	2,690	2,374
Ohio	20	13	33	33	942	799	795	1,014
Ind.	14	5	1	-	354	410	310	435
Ill.	1	53	14	19	767	1,074	704	1
Mich.	22	21	34	50	551	609	566	654
Wis.	13	11	6	11	532	483	315	270
W.N. CENTRAL	27	39	243	409	1,417	1,595	1,518	1,765
Minn.	6	13	29	65	381	369	474	481
Iowa	5	2	55	60	216	230	209	240
Mo.	9	9	32	35	404	484	549	585
N. Dak.	-	2	29	94	43	47	59	56
S. Dak.	-	-	25	76	110	62	92	78
Nebr.	2	7	4	1	100	146	-	111
Kans.	5	6	69	78	163	257	135	214
S. ATLANTIC	207	205	1,454	1,648	5,455	4,789	3,818	3,948
Del.	1	3	25	31	58	80	61	92
Md.	89	74	179	292	555	527	603	480
D.C.	13	13	-	-	57	39	U	U
Va.	40	41	292	398	931	653	678	640
W. Va.	1	2	102	89	80	107	92	106
N.C.	9	19	404	403	759	657	723	734
S.C.	5	2	86	107	556	480	459	373
Ga.	12	8	224	218	855	796	884	1,188
Fla.	37	43	142	110	1,604	1,450	318	335
E.S. CENTRAL	22	31	149	135	1,474	1,458	1,057	1,180
Ky.	8	9	15	18	236	259	143	186
Tenn.	8	8	87	72	389	389	452	527
Ala.	4	13	47	44	426	393	328	387
Miss.	2	1	-	1	423	417	134	80
W.S. CENTRAL	10	58	510	634	1,562	3,100	1,297	1,878
Ark.	3	2	20	20	468	433	92	362
La.	4	10	-	3	270	514	458	416
Okla.	2	4	48	44	278	262	236	196
Tex.	1	42	442	567	546	1,891	511	904
MOUNTAIN	35	35	180	196	1,444	1,841	1,080	1,769
Mont.	2	1	31	52	49	69	-	-
Idaho	3	2	13	9	96	90	4	81
Wyo.	-	-	21	42	44	48	43	40
Colo.	18	18	-	-	406	502	360	491
N. Mex.	3	-	11	16	181	164	146	152
Ariz.	3	6	96	66	415	442	368	483
Utah	3	4	7	9	155	341	136	346
Nev.	3	4	1	2	98	185	23	176
PACIFIC	140	183	234	220	3,028	3,659	2,663	3,626
Wash.	4	19	-	-	337	346	491	471
Oreg.	9	30	1	6	165	213	230	270
Calif.	119	125	196	189	2,250	2,906	1,701	2,700
Alaska	1	-	37	25	28	39	2	25
Hawaii	7	9	-	-	248	155	239	160
Guam	-	2	-	-	-	20	U	U
P.R.	3	4	67	56	405	427	U	U
V.I.	-	-	-	-	-	-	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	8	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.

*Incidence data for reporting year 2001 are provisional and cumulative (year-to-date). Incidence data for reporting year 2000 are finalized and cumulative (year-to-date).

† Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending September 1, 2001, and September 2, 2000 (35th Week)*

Reporting Area	Shigellosis†				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	10,648	14,589	5,227	8,183	3,721	4,099	7,908	9,408
NEW ENGLAND	185	274	172	263	37	55	290	286
Maine	6	8	2	11	-	1	7	12
N.H.	4	4	2	7	1	1	11	15
Vt.	7	3	2	-	2	-	2	4
Mass.	131	199	116	179	19	38	164	168
R.I.	15	19	19	22	7	4	24	25
Conn.	22	41	31	44	8	11	82	62
MID. ATLANTIC	933	1,890	582	1,209	314	190	1,555	1,539
Upstate N.Y.	378	526	93	177	19	7	221	209
N.Y. City	258	776	267	514	161	81	811	823
N.J.	146	398	157	332	77	46	337	359
Pa.	151	190	65	186	57	56	186	148
E.N. CENTRAL	2,770	3,011	1,331	871	616	866	832	920
Ohio	1,948	232	923	206	58	55	142	198
Ind.	153	1,133	28	129	111	257	66	87
Ill.	271	855	204	2	160	298	406	430
Mich.	202	544	156	491	269	217	171	146
Wis.	196	247	20	43	18	39	47	59
W.N. CENTRAL	1,051	1,621	851	1,375	50	48	303	339
Minn.	286	518	341	594	21	8	158	108
Iowa	316	361	261	260	1	10	18	25
Mo.	199	505	140	356	11	25	91	129
N. Dak.	20	12	21	21	-	-	3	2
S. Dak.	122	4	59	3	-	-	8	13
Nebr.	54	76	-	61	2	2	25	14
Kans.	54	145	29	80	15	3	-	48
S. ATLANTIC	1,583	1,871	517	701	1,331	1,351	1,618	1,937
Del.	7	12	7	15	8	7	9	10
Md.	106	134	57	73	162	201	141	169
D.C.	42	41	U	U	28	29	51	16
Va.	202	311	110	238	76	95	162	188
W. Va.	8	4	8	3	-	3	21	21
N.C.	245	124	125	95	307	353	236	257
S.C.	202	95	91	68	178	143	134	186
Ga.	154	167	91	134	222	260	290	425
Fla.	617	983	28	75	350	260	574	665
E.S. CENTRAL	932	656	400	361	406	595	499	596
Ky.	340	236	175	52	30	59	78	70
Tenn.	66	249	75	278	215	358	192	224
Ala.	175	37	124	28	87	83	164	197
Miss.	351	134	26	3	74	95	65	105
W.S. CENTRAL	1,062	2,337	714	712	478	560	712	1,404
Ark.	415	147	155	43	26	75	100	143
La.	112	199	132	125	100	150	-	122
Okla.	32	77	15	30	48	82	100	109
Tex.	503	1,914	412	514	304	253	512	1,030
MOUNTAIN	640	713	372	506	167	156	301	346
Mont.	2	6	-	-	-	-	6	10
Idaho	25	41	-	25	-	1	8	6
Wyo.	3	5	1	3	1	1	2	2
Colo.	157	129	140	91	31	7	78	56
N. Mex.	79	87	45	63	13	12	21	29
Ariz.	284	290	137	194	111	130	115	139
Utah	44	57	41	64	7	1	24	32
Nev.	46	98	8	66	4	4	47	72
PACIFIC	1,492	2,216	288	2,185	322	278	1,798	2,041
Wash.	139	345	167	321	37	47	167	162
Oreg.	58	121	74	80	8	10	74	64
Calif.	1,241	1,717	-	1,757	269	220	1,431	1,649
Alaska	5	7	1	3	-	-	31	74
Hawaii	49	26	46	24	8	1	95	92
Guam	-	34	U	U	-	3	-	37
P.R.	8	25	U	U	172	116	76	109
V.I.	-	-	U	U	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	4	U	U	U	-	U	20	U

N: Not notifiable. U: Unavailable. -: No reported cases.

*Incidence data for reporting year 2001 are provisional and cumulative (year-to-date). Incidence data for reporting year 2000 are finalized and cumulative (year-to-date).

† Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending September 1, 2001, and September 2, 2000 (35th Week)*

Reporting Area	*H. influenzae*, Invasive		Hepatitis (Viral), By Type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 2001§	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	2001	Cum. 2001	2001	Cum. 2001	Cum. 2001	Cum. 2000
UNITED STATES	937	875	6,399	8,588	4,275	4,640	-	45	-	40	85	64
NEW ENGLAND	58	67	361	262	61	77	-	4	-	1	5	6
Maine	1	1	8	14	5	5	-	-	-	-	-	-
N.H.	4	12	12	18	11	12	U	-	U	-	-	3
Vt.	3	5	8	8	4	6	-	1	-	-	1	3
Mass.	34	32	146	100	-	10	-	2	-	1	3	-
R.I.	3	2	26	16	17	14	-	-	-	-	-	-
Conn.	13	15	161	106	24	30	-	1	-	-	1	-
MID. ATLANTIC	131	162	667	949	657	814	-	4	-	10	14	21
Upstate N.Y.	52	65	170	151	93	86	-	1	-	4	5	10
N.Y. City	34	44	204	329	312	399	-	2	-	1	3	10
N.J.	30	31	159	178	64	127	-	-	-	1	1	-
Pa.	15	22	134	291	188	202	-	1	-	4	5	1
E.N. CENTRAL	124	135	671	1,133	602	486	-	-	-	10	10	7
Ohio	52	41	164	188	79	77	-	-	-	3	3	2
Ind.	36	22	63	51	35	36	-	-	-	4	4	-
Ill.	10	46	183	505	100	84	-	-	-	3	3	3
Mich.	7	9	222	328	388	266	-	-	-	-	-	2
Wis.	19	17	39	61	-	23	-	-	-	-	-	-
W.N. CENTRAL	46	46	274	541	128	203	-	4	-	-	4	1
Minn.	25	23	24	152	13	26	-	2	-	-	2	1
Iowa	-	-	25	54	16	20	-	-	-	-	-	-
Mo.	13	15	72	226	67	104	-	2	-	-	2	-
N. Dak.	6	2	2	2	-	2	-	-	-	-	-	-
S. Dak.	-	-	1	-	1	1	-	-	-	-	-	-
Nebr.	1	3	28	23	17	30	U	-	U	-	-	-
Kans.	1	3	122	84	14	20	-	-	-	-	-	-
S. ATLANTIC	271	202	1,507	900	896	800	-	4	-	1	5	2
Del.	-	-	-	10	-	10	-	-	-	-	-	-
Md.	63	57	187	123	95	88	-	2	-	1	3	-
D.C.	-	-	33	20	11	27	-	-	-	-	-	-
Va.	19	32	89	105	101	103	-	1	-	-	1	2
W. Va.	10	5	8	49	20	10	-	-	-	-	-	-
N.C.	40	19	124	109	133	160	-	-	-	-	-	-
S.C.	5	7	59	39	24	8	-	-	-	-	-	-
Ga.	67	52	584	170	216	142	-	1	-	-	1	-
Fla.	67	30	423	275	296	252	-	-	-	-	-	-
E.S. CENTRAL	61	37	265	307	300	328	-	2	-	-	2	-
Ky.	2	12	83	39	31	61	-	2	-	-	2	-
Tenn.	31	16	105	108	155	157	-	-	-	-	-	-
Ala.	26	7	63	43	61	35	-	-	-	-	-	-
Miss.	2	2	14	117	53	75	-	-	-	-	-	-
W.S. CENTRAL	35	52	635	1,643	455	705	-	1	-	-	1	-
Ark.	-	1	53	109	66	72	-	-	-	-	-	-
La.	3	15	53	56	29	106	-	-	-	-	-	-
Okla.	32	34	96	183	70	103	-	-	-	-	-	-
Tex.	-	2	433	1,295	290	424	U	1	U	-	1	-
MOUNTAIN	129	87	582	621	403	360	-	-	-	1	1	12
Mont.	-	1	9	4	2	4	U	-	U	-	-	-
Idaho	1	3	50	19	10	6	-	-	-	1	1	-
Wyo.	17	1	25	4	31	1	-	-	-	-	-	-
Colo.	29	20	61	140	79	55	-	-	-	-	-	2
N. Mex.	15	18	26	56	112	108	-	-	-	-	-	-
Ariz.	51	34	304	313	115	137	-	-	-	-	-	-
Utah	6	7	61	40	23	17	-	-	-	-	-	3
Nev.	10	3	46	45	31	32	U	-	U	-	-	7
PACIFIC	82	87	1,437	2,232	773	867	-	26	-	17	43	15
Wash.	2	5	92	192	88	67	-	13	-	2	15	3
Oreg.	17	24	62	139	50	72	-	3	-	-	3	-
Calif.	34	30	1,268	1,877	613	710	U	8	U	10	18	9
Alaska	6	6	14	11	7	9	-	-	-	-	-	1
Hawaii	23	22	1	13	15	9	-	2	-	5	7	2
Guam	-	1	-	1	-	9	U	-	U	-	-	-
P.R.	1	3	75	189	127	191	-	-	-	-	-	2
V.I.	-	-	-	-	-	-	U	-	U	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	26	U	U	-	U	-	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.

*Incidence data for reporting year 2001 are provisional and cumulative (year-to-date). Incidence data for reporting year 2000 are finalized and cumulative (year-to-date).

† For imported measles, cases include only those resulting from importation from other countries.

§ Of 194 cases among children aged <5 years, serotype was reported for 95, and of those, 17 were type b.

TABLE III. (Cont'd) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending September 1, 2001, and September 2, 2000 (35th Week)*

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000
UNITED STATES	1,560	1,558	2	150	247	78	2,988	4,194	-	17	107
NEW ENGLAND	83	92	-	-	4	-	263	1,085	-	-	11
Maine	1	7	-	-	-	-	-	31	-	-	-
N.H.	10	9	U	-	-	U	25	79	U	-	2
Vt.	5	2	-	-	-	-	25	173	-	-	-
Mass.	47	54	-	-	1	-	194	751	-	-	8
R.I.	2	7	-	-	1	-	5	14	-	-	-
Conn.	18	13	-	-	2	-	14	37	-	-	1
MID. ATLANTIC	166	176	-	17	19	1	216	389	-	5	8
Upstate N.Y.	46	47	-	3	6	1	117	179	-	1	1
N.Y. City	31	35	-	9	6	-	34	54	-	3	7
N.J.	39	33	-	2	3	-	13	30	-	1	-
Pa.	50	61	-	3	4	-	52	126	-	-	-
E.N. CENTRAL	200	268	-	14	18	5	367	486	-	3	1
Ohio	70	63	-	1	7	1	217	228	-	-	-
Ind.	29	31	-	1	-	-	46	62	-	1	-
Ill.	20	68	-	10	6	2	41	54	-	2	1
Mich.	46	76	-	2	4	2	39	55	-	-	-
Wis.	35	30	-	-	1	-	24	87	-	-	-
W.N. CENTRAL	104	109	-	8	14	14	168	306	-	3	1
Minn.	15	17	-	3	-	11	58	180	-	-	-
Iowa	21	22	-	-	6	-	17	34	-	1	-
Mo.	39	51	-	-	4	-	69	48	-	1	-
N. Dak.	5	2	-	-	-	-	-	2	-	-	-
S. Dak.	4	5	-	-	-	-	3	3	-	-	-
Nebr.	10	5	U	1	1	U	4	9	U	-	1
Kans.	10	7	-	4	3	3	17	30	-	1	-
S. ATLANTIC	301	223	2	26	37	7	163	310	-	4	60
Del.	3	-	-	-	-	-	-	8	-	-	-
Md.	35	22	-	4	8	1	21	78	-	-	-
D.C.	-	-	-	-	-	-	1	3	-	-	-
Va.	31	35	-	6	8	3	31	44	-	-	-
W. Va.	11	10	-	-	-	-	2	1	-	-	-
N.C.	58	32	2	3	5	3	51	74	-	-	52
S.C.	31	18	-	2	10	-	26	23	-	2	6
Ga.	36	37	-	7	2	-	7	27	-	-	-
Fla.	96	69	-	4	4	-	24	52	-	2	2
E.S. CENTRAL	103	109	-	3	4	5	85	88	-	-	5
Ky.	18	23	-	1	-	1	18	44	-	-	1
Tenn.	44	45	-	-	2	2	37	25	-	-	1
Ala.	30	30	-	-	2	2	27	16	-	-	3
Miss.	11	11	-	2	-	-	3	3	-	-	-
W.S. CENTRAL	176	166	-	8	25	2	248	223	-	-	7
Ark.	16	11	-	1	1	2	11	31	-	-	1
La.	56	38	-	2	5	-	2	15	-	-	1
Okla.	24	22	-	-	-	-	1	12	-	-	-
Tex.	80	95	U	5	19	U	234	165	U	-	5
MOUNTAIN	76	71	-	9	16	38	1,039	494	-	1	2
Mont.	3	4	U	1	1	U	21	24	U	-	-
Idaho	7	6	-	1	-	-	165	45	-	-	-
Wyo.	6	-	-	1	1	-	2	3	-	-	-
Colo.	27	23	-	1	-	12	205	271	-	1	1
N. Mex.	11	6	-	2	1	2	89	76	-	-	-
Ariz.	11	22	-	1	4	23	491	51	-	-	1
Utah	7	7	-	1	4	1	57	15	-	-	-
Nev.	4	3	U	1	5	U	9	9	U	-	-
PACIFIC	351	344	-	65	110	6	439	813	-	1	12
Wash.	53	36	-	1	5	5	104	239	-	-	7
Oreg.	30	45	N	N	N	1	35	88	-	-	-
Calif.	257	249	U	29	77	U	268	437	U	-	5
Alaska	2	6	-	1	8	-	3	18	-	-	-
Hawaii	9	8	-	34	20	-	29	31	-	1	-
Guam	-	-	U	-	12	U	-	3	U	-	1
P.R.	4	8	-	-	-	-	2	5	-	-	-
V.I.	-	-	U	-	-	U	-	-	U	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	U	-	U	U	-	U	U	-	U

N: Not notifiable. U: Unavailable. -: No reported cases.
*Incidence data for reporting year 2001 are provisional and cumulative (year-to-date). Incidence data for reporting year 2000 are finalized and cumulat (year-to-date).

TABLE IV. Deaths in 122 U.S. cities,* week ending September 1, 2001 (35th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	510	363	99	33	6	9	51
Boston, Mass.	145	88	38	12	2	5	18
Bridgeport, Conn.	U	U	U	U	U	U	U
Cambridge, Mass.	12	9	3	-	-	-	1
Fall River, Mass.	26	23	2	1	-	-	1
Hartford, Conn.	45	35	9	-	-	1	3
Lowell, Mass.	25	20	4	1	-	-	2
Lynn, Mass.	5	5	-	-	-	-	2
New Bedford, Mass.	19	18	-	1	-	-	3
New Haven, Conn.	47	30	13	3	1	-	4
Providence, R.I.	53	39	8	6	-	-	2
Somerville, Mass.	3	2	1	-	-	-	-
Springfield, Mass.	34	23	5	4	1	1	3
Waterbury, Conn.	43	29	10	2	1	1	6
Worcester, Mass.	53	42	6	3	1	1	6
MID. ATLANTIC	1,608	1,131	304	122	28	23	78
Albany, N.Y.	49	33	8	1	2	5	4
Allentown, Pa.	19	13	4	1	1	-	-
Buffalo, N.Y.	60	35	17	3	3	2	3
Camden, N.J.	15	6	3	4	2	-	-
Elizabeth, N.J.	11	8	-	2	1	-	-
Erie, Pa.§	39	34	4	1	-	-	4
Jersey City, N.J.	24	16	6	1	1	-	-
New York City, N.Y.	1,076	742	212	90	16	16	43
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	15	9	4	1	1	-	-
Philadelphia, Pa.	U	U	U	U	U	U	U
Pittsburgh, Pa.§	29	19	6	3	1	-	1
Reading, Pa.	15	12	3	-	-	-	2
Rochester, N.Y.	99	79	14	6	-	-	8
Schenectady, N.Y.	18	17	-	1	-	-	1
Scranton, Pa.§	41	31	8	2	-	-	-
Syracuse, N.Y.	68	53	11	4	-	-	11
Trenton, N.J.	17	12	3	2	-	-	1
Utica, N.Y.	13	12	1	-	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,422	986	281	86	34	34	80
Akron, Ohio	37	24	8	3	1	1	2
Canton, Ohio	52	42	8	1	1	-	4
Chicago, Ill.	U	U	U	U	U	U	U
Cincinnati, Ohio	85	58	17	5	2	3	2
Cleveland, Ohio	163	99	37	14	9	4	6
Columbus, Ohio	204	136	44	15	4	5	10
Dayton, Ohio	108	82	18	6	1	1	5
Detroit, Mich.	U	U	U	U	U	U	U
Evansville, Ind.	40	33	5	2	-	-	4
Fort Wayne, Ind.	70	51	11	4	3	1	3
Gary, Ind.	14	6	6	1	1	-	1
Grand Rapids, Mich.	43	33	7	1	-	2	4
Indianapolis, Ind.	183	111	50	10	4	8	8
Lansing, Mich.	34	23	8	1	1	1	4
Milwaukee, Wis.	120	77	27	10	2	3	13
Peoria, Ill.	32	25	4	2	-	1	2
Rockford, Ill.	50	35	8	3	2	2	3
South Bend, Ind.	48	39	6	2	-	1	1
Toledo, Ohio	76	60	10	3	2	1	7
Youngstown, Ohio	63	52	7	3	1	-	1
W.N. CENTRAL	798	542	160	55	25	16	41
Des Moines, Iowa	77	49	19	4	2	3	6
Duluth, Minn.	27	20	6	1	-	-	1
Kansas City, Kans.	41	29	10	2	-	-	4
Kansas City, Mo.	110	74	17	7	9	3	7
Lincoln, Nebr.	46	37	5	2	1	1	1
Minneapolis, Minn.	143	102	25	12	4	-	9
Omaha, Nebr.	79	55	16	6	1	1	3
St. Louis, Mo.	110	65	29	10	5	1	-
St. Paul, Minn.	74	52	15	2	1	4	2
Wichita, Kans.	91	59	18	9	2	3	8
S. ATLANTIC	1,187	731	260	114	39	43	57
Atlanta, Ga.	177	96	47	20	5	9	5
Baltimore, Md.	165	104	34	18	4	5	14
Charlotte, N.C.	81	49	18	5	4	5	6
Jacksonville, Fla.	136	96	20	13	3	4	12
Miami, Fla.	97	59	16	17	2	3	7
Norfolk, Va.	55	22	16	5	4	8	-
Richmond, Va.	74	40	19	3	9	3	2
Savannah, Ga.	50	30	11	5	1	3	-
St. Petersburg, Fla.	68	49	13	5	1	-	5
Tampa, Fla.	180	118	45	11	5	1	4
Washington, D.C.	104	68	21	12	1	2	2
Wilmington, Del.	U	U	U	U	U	U	U
E.S. CENTRAL	706	488	145	42	18	13	60
Birmingham, Ala.	148	100	31	10	4	3	18
Chattanooga, Tenn.	64	44	12	4	3	1	5
Knoxville, Tenn.	90	62	24	3	1	-	5
Lexington, Ky.	27	22	4	1	-	-	2
Memphis, Tenn.	169	124	30	7	4	4	17
Mobile, Ala.	94	63	19	9	2	1	4
Montgomery, Ala.	U	U	U	U	U	U	U
Nashville, Tenn.	114	73	25	8	4	4	9
W.S. CENTRAL	1,433	883	312	134	71	33	79
Austin, Tex.	73	38	19	11	4	1	4
Baton Rouge, La.	56	31	11	9	4	1	-
Corpus Christi, Tex.	59	40	15	3	1	-	4
Dallas, Tex.	200	107	55	17	12	9	11
El Paso, Tex.	89	53	21	5	7	3	4
Ft. Worth, Tex.	103	70	22	7	3	1	4
Houston, Tex.	336	203	65	47	13	8	21
Little Rock, Ark.	53	33	10	5	4	1	4
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	201	132	37	14	15	3	12
Shreveport, La.	111	71	26	8	3	3	9
Tulsa, Okla.	152	105	31	8	5	3	6
MOUNTAIN	985	647	191	95	31	19	64
Albuquerque, N.M.	111	73	21	14	1	2	10
Boise, Idaho	40	29	10	1	-	-	3
Colo. Springs, Colo.	55	41	4	7	1	2	2
Denver, Colo.	104	61	24	13	4	2	8
Las Vegas, Nev.	209	130	51	21	5	2	12
Ogden, Utah	29	20	3	4	1	1	2
Phoenix, Ariz.	160	101	29	14	8	7	7
Pueblo, Colo.	33	20	8	3	2	-	1
Salt Lake City, Utah	120	77	24	10	7	1	10
Tucson, Ariz.	124	95	17	8	2	2	9
PACIFIC	1,652	1,172	309	102	41	27	124
Berkeley, Calif.	10	10	-	-	-	-	-
Fresno, Calif.	133	98	18	10	4	3	10
Glendale, Calif.	37	29	7	-	-	1	3
Honolulu, Hawaii	65	48	14	2	-	1	3
Long Beach, Calif.	39	19	15	1	2	2	3
Los Angeles, Calif.	527	360	100	43	15	9	34
Pasadena, Calif.	30	20	7	1	-	2	-
Portland, Oreg.	U	U	U	U	U	U	U
Sacramento, Calif.	179	132	26	12	6	3	17
San Diego, Calif.	147	97	31	10	5	4	16
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	162	119	31	6	4	2	13
Santa Cruz, Calif.	26	21	4	1	-	-	3
Seattle, Wash.	134	92	26	13	3	-	6
Spokane, Wash.	61	49	9	2	1	-	11
Tacoma, Wash.	102	78	21	1	1	-	5
TOTAL	10,301¶	6,943	2,061	783	293	217	634

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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