

**MMWR**<sup>TM</sup>  
**MORBIDITY AND MORTALITY  
WEEKLY REPORT**

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**National Diabetes Awareness Month — November 1999**

November is National Diabetes Awareness Month. In the United States, an estimated 15.7 million persons have diabetes (1). During November, CDC, its 59 state and territorial diabetes-control programs, and other partners will highlight activities that emphasize preventing complications in persons with diabetes and assessing their level of care.

CDC's 1999 Diabetes and Flu/Pneumococcal Campaign is part of the ongoing "Diabetes. One Disease. Many Risks." campaign, which encourages persons with diabetes to receive influenza and pneumococcal vaccines because they are more likely than persons without diabetes to die with complications of influenza and pneumonia (2). Approximately half of persons with diabetes receive an annual influenza vaccination, and one third have received pneumococcal vaccine (3).

Better management by health-care teams and self-care can slow or prevent many complications of diabetes. The Diabetes Quality Improvement Project (DQIP) developed a set of diabetes-specific performance and outcome measures to assess care provided within health-care systems (i.e., health plans, physicians, and clinics) to persons with diabetes. The measures allow comparison of diabetes care between health systems.

Information about DQIP is available on the World-Wide Web at <http://www.diabetes.org/dqip.asp>. \* Information about diabetes is available from CDC by toll-free telephone, (877) 232-3422; e-mail, [diabetes@cdc.gov](mailto:diabetes@cdc.gov); on the World-Wide Web at <http://www.cdc.gov/diabetes>; by mail, Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC, P.O. Box 8728, Silver Spring, MD 20910; and from CDC's state and territorial diabetes-control programs.

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\*References to sites of non-CDC organizations on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

## Diabetes Preventive-Care Practices in Managed-Care Organizations — Rhode Island, 1995–1996

Diabetes mellitus affects 8% of the U.S. adult population and can lead to debilitating complications, including blindness, renal failure, cardiovascular disease, mobility impairment, and lower extremity amputation (1). Preventive care such as glycemic control and regular foot and eye examinations are recommended because of their efficacy in reducing diabetes-related complications (2–6). In the United States, managed care is an important provider of medical services for persons with diabetes (7–9). Persons with diabetes receiving care from a major health-maintenance organization (HMO) or a major preferred provider organization (PPO) in Rhode Island were surveyed in 1995 and 1996 to assess the level of care for three recommended preventive-care practices (2) for diabetes: an annual dilated eye examination, semi-annual foot examination, and annual glycosylated hemoglobin (GHb) assessment. This report summarizes the findings from this survey, which indicated that 87% of persons with diabetes received eye examinations and approximately 55% received semi-annual foot examinations and annual GHb assessments.

A total of 455 persons with diabetes were sampled randomly from lists of persons with diabetes assembled using administrative data from two large Rhode Island managed-care organizations (MCOs)\*; 375 persons aged 20–85 years (mean: 57 years) were interviewed (82% response rate), and complete data were present for 351 persons (77%). Respondents were asked how many times in the 12 months before the survey their health-care provider examined their feet, and how many times they received GHb assessments and dilated eye examinations (interviewers defined the term “dilated” for each respondent). Proportions and confidence intervals for each preventive-care practice were computed and stratified by sex, age, type of health-care organization, insulin use, and years since diagnosis of diabetes. Multiple logistic regression was used to evaluate associations among sex, age group, insulin use, diabetes duration, and health service, with preventive-care practices controlling for all other variables. Analyses were conducted using Statistical Package for the Social Sciences.

Of the 351 respondents, 198 (56%) were men, 141 (40%) were insulin users, 95 (27%) were aged  $\geq 65$  years (Table 1), 305 (87%) reported receiving annual dilated eye examinations, 204 (58%) reported semi-annual foot examinations, and 190 (54%) received an annual GHb assessment. Among persons aged  $\geq 65$  years, 86 (91%) persons reported eye examinations and 57 (60%) reported foot examinations. Among persons aged 20–44 years, 35 (73%) reported eye examinations and 26 (54%) reported foot examinations. Among persons using insulin, 130 (92%) and 102 (72%) received eye examinations and foot examinations, respectively; 174 (83%) and 103 (49%) persons not using insulin reported eye examinations and foot examinations, respectively. Older persons were less likely than younger persons to have reported receiving GHb assessments (48% for persons aged  $\geq 65$  years compared with 71% for persons aged 20–44 years). These trends were maintained after multivariate adjustment for sex, age group, insulin use, diabetes duration, and health service.

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\*Persons with diabetes were identified from sources such as hospital discharge diagnoses, outpatient diagnoses, laboratory test records, pharmacy records, and self-identification.

## Diabetes — Continued

**TABLE 1. Percentage of person with diabetes who received one or more dilated eye examinations per year, two or more foot examinations per year, or one or more glycosylated hemoglobin (GHb) assessments per year, by sex, age group, insulin use, and type of health service — Rhode Island, 1995–1996**

| Group                      | No. respondents | ≥1 dilated eye exams per year |                  | ≥2 foot exams per year |                  | ≥1 GHb assessment per year |                  |
|----------------------------|-----------------|-------------------------------|------------------|------------------------|------------------|----------------------------|------------------|
|                            |                 | %                             | (95% CI*)        | %                      | (95% CI)         | %                          | (95% CI)         |
| <b>Sex</b>                 |                 |                               |                  |                        |                  |                            |                  |
| Men                        | 198             | 86%                           | (81%–91%)        | 59%                    | (52%–66%)        | 56%                        | (49%–63%)        |
| Women                      | 153             | 87%                           | (82%–92%)        | 57%                    | (49%–65%)        | 53%                        | (45%–61%)        |
| <b>Age group (yrs)</b>     |                 |                               |                  |                        |                  |                            |                  |
| 20–44                      | 48              | 73%                           | (60%–86%)        | 54%                    | (40%–68%)        | 71%                        | (58%–84%)        |
| 45–64                      | 208             | 88%                           | (84%–92%)        | 58%                    | (51%–65%)        | 53%                        | (46%–60%)        |
| ≥65                        | 95              | 91%                           | (85%–97%)        | 60%                    | (50%–70%)        | 48%                        | (38%–58%)        |
| <b>Insulin use</b>         |                 |                               |                  |                        |                  |                            |                  |
| Yes                        | 141             | 92%                           | (88%–96%)        | 72%                    | (65%–79%)        | 68%                        | (60%–76%)        |
| No                         | 210             | 83%                           | (78%–88%)        | 49%                    | (42%–56%)        | 45%                        | (38%–52%)        |
| <b>Yrs since diagnosis</b> |                 |                               |                  |                        |                  |                            |                  |
| <5                         | 124             | 82%                           | (75%–89%)        | 48%                    | (39%–57%)        | 48%                        | (39%–57%)        |
| 5–14                       | 153             | 88%                           | (83%–93%)        | 60%                    | (52%–68%)        | 57%                        | (49%–65%)        |
| ≥15                        | 74              | 93%                           | (87%–99%)        | 72%                    | (62%–82%)        | 60%                        | (49%–71%)        |
| <b>Health service</b>      |                 |                               |                  |                        |                  |                            |                  |
| HMO <sup>†</sup>           | 123             | 89%                           | (83%–95%)        | 46%                    | (37%–55%)        | 59%                        | (50%–68%)        |
| PPO <sup>§</sup>           | 228             | 85%                           | (80%–90%)        | 65%                    | (59%–71%)        | 52%                        | (46%–58%)        |
| <b>Total</b>               | <b>351</b>      | <b>87%</b>                    | <b>(85%–91%)</b> | <b>58%</b>             | <b>(53%–63%)</b> | <b>54%</b>                 | <b>(49%–59%)</b> |

\* Confidence interval.

<sup>†</sup> Health-maintenance organization.<sup>§</sup> Preferred provider organization.

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**Editorial Note:** For persons with diabetes, eye and foot examinations and GHb assessments are important because these measures are efficacious and cost effective in identifying opportunities to prevent vision loss, renal failure, and lower extremity disease (3–6). However, for persons with diabetes, the levels of preventive-care practices vary widely across settings, with 23%–83% receiving eye examinations, 25%–65% receiving foot examinations, and 38%–81% receiving GHb assessments (9).

The finding that 87% of patients received eye examinations (5) is higher than findings reported previously (10) and may reflect efforts to enhance retinopathy screening. During the late 1970s, the Rhode Island Diabetes Control Program supported multiple initiatives to promote regular dilated eye examinations for persons with diabetes. These efforts included statewide and locally targeted media campaigns to educate both patients and providers. With various health-care delivery organizations, the Rhode Island program also funded no-cost eye examinations for low income persons,

*Diabetes — Continued*

and developed and implemented physician reminders to encourage them to refer patients for routine eye care.

Although the rates of eye examinations are high, 42% of persons with diabetes did not receive semi-annual foot examinations and 46% did not receive GHb assessments. The use of these services in the MCO setting in this survey is similar to previous estimates in fee-for-service and other MCO settings (9), and indicate a need for MCOs to increase efforts to educate patients and providers and to remove barriers to preventive care.

Findings of higher retinopathy screening but lower GHb assessment rates for persons aged  $\geq 65$  years may indicate that providers consider vision loss a greater concern for the elderly and glycemic control a greater concern for younger persons with diabetes. The findings that insulin users were more likely to receive preventive-care practices may be because insulin use is a marker of disease severity, triggering providers to provide more comprehensive preventive care. Although risk for complications is higher among persons who require insulin, the long-term risk for complications also is considerable and may warrant provider and patient awareness about the value of preventive-care practices for persons with diabetes who do not require insulin therapy.

The three recommended preventive-care practices on which the study focused had existed for 7 years before the survey (1); however, diabetes treatment in Rhode Island conformed only moderately with those recommendations. An approach to improving the level of care may be to work directly with insurers, health-care systems, providers, and patients to promote the use of these services.

The findings in this report are subject to at least three limitations. First, preventive-care practices were measured by self-reports, which can result in recall bias for foot and dilated eye examinations and for GHb assessments. Second, persons were sampled from two major MCOs proportional to the MCO size, therefore, these findings may not represent all segments of the population or all MCO practices in Rhode Island. Third, the survey was conducted in 1996, and MCO practices may have changed since then.

CDC and the Rhode Island Diabetes Control Program are collaborating with community-based organizations and health-care providers in the state. The Rhode Island Diabetes Control Program is piloting an electronic diabetes-care surveillance system to assist health-care providers and insurers to monitor conformity to standards of diabetes care. These efforts should improve diabetes care and help to reduce the burden of diabetes complications.

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*Diabetes — Continued*

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### **Influenza and Pneumococcal Vaccination Rates Among Persons with Diabetes Mellitus — United States, 1997**

Vaccination is an important public health intervention for reducing morbidity and mortality from influenza and pneumonia among persons with diabetes (1,2). A national health objective for 2000 is to increase influenza and pneumococcal vaccination rates to  $\geq 60\%$  among persons at high risk for complications from influenza and pneumonia, including persons with diabetes (objective 20.11) (3). Although the Advisory Committee on Immunization Practices (ACIP) recommends that all persons with diabetes be vaccinated, data from the 1993 Behavioral Risk Factor Surveillance System (BRFSS) showed that 40% of persons with diabetes reported receiving an influenza vaccination within the previous year, and 21% reported ever receiving a pneumococcal vaccination (4). To assess the vaccination rates among persons with diabetes in 52 reporting areas (i.e., 50 states, the District of Columbia, and Puerto Rico), CDC and the Council of State and Territorial Epidemiologists (CSTE) analyzed data from the 1997 BRFSS. This report summarizes the findings of this analysis, which indicate that most states did not reach the national health objectives for influenza and pneumococcal vaccination in their populations with diabetes.

BRFSS is an ongoing, state-based, random-digit-dialed telephone survey of non-institutionalized civilian adults aged  $\geq 18$  years. The analysis included only respondents who answered “yes” to the question, “Has a doctor ever told you that you have diabetes?” Women who were told they had diabetes only during pregnancy were not classified as having diabetes. In 1997, influenza and pneumococcal vaccination rates for the 52 reporting areas were examined; 7011 respondents with diabetes from the reporting areas were included in this analysis. Responses for two questions related to vaccination status were analyzed: “During the past 12 months, have you had a flu shot?” and “Have you ever had a pneumonia vaccination?” Of the 7011 respondents, 181 (2.6%) and 384 (5.5%) did not report or did not know their influenza and pneumococcal vaccination status, respectively, and were excluded from the analysis. Data from all of the reporting areas were analyzed to determine sociodemographic characteristics associated with receipt of influenza and pneumococcal vaccinations. Racial/ethnic groups other than non-Hispanic whites, non-Hispanic blacks, and Hispanics were not included because numbers, when presented separately, were too small for meaningful analysis. Data were weighted by age, sex, and racial/ethnic distribution to reflect the adult population of each of the 52 reporting areas. SUDAAN was used to calculate point estimates, 95% confidence intervals (CIs), and significant differences ( $p < 0.05$ ).

*Influenza and Pneumococcal Vaccination — Continued*

Among adults with diabetes, 52.1% reported receiving influenza vaccine during the previous 12 months, and 33.2% reported ever receiving pneumococcal vaccine (Table 1). Non-Hispanic whites were significantly more likely to report receiving influenza and pneumococcal vaccines (56.6% and 38.8%, respectively) than non-Hispanic blacks (48.1% and 24.9%, respectively) and Hispanics (41.0% and 20.9%, respectively). Women were slightly more likely than men to report vaccination, but this difference was significant only for pneumococcal vaccine. As age increased, report of vaccination significantly increased, from 27.7% (ages 18–44 years) to 69.6% (ages  $\geq 75$  years) for influenza vaccination and from 11.2% (ages 18–44 years) to 53.4% (ages  $\geq 75$  years) for pneumococcal vaccination. No significant association was noted between receipt of vaccination and level of education.

Receipt of influenza and pneumococcal vaccinations varied by reporting area (Figures 1 and 2, Table 2). Rates for influenza vaccination ranged from 29.1% in Puerto Rico to 79.9% in Maine (Table 2). Twelve of the reporting areas met the national health objective of  $\geq 60\%$  for influenza vaccination, and another 23 areas were within 5 per-

**TABLE 1. Percentage of persons aged  $\geq 18$  years with diabetes in the 50 states, the District of Columbia, and Puerto Rico who reported receiving influenza or pneumococcal vaccine, by selected characteristics — United States, Behavioral Risk Factor Surveillance System, 1997**

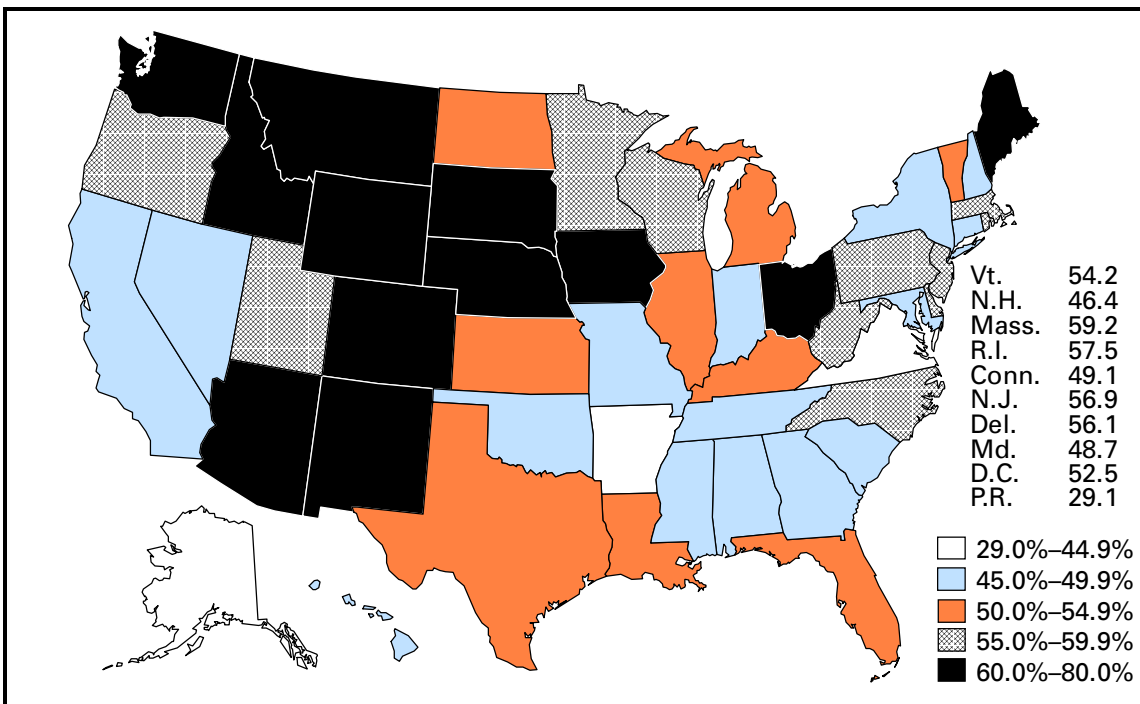
| Characteristic         | Influenza vaccine |                      |  | Pneumococcal vaccine |                      |  |
|------------------------|-------------------|----------------------|--|----------------------|----------------------|--|
|                        | %                 | (95% CI*)            | % point difference from 2000 objective | %                    | (95% CI)             | % point difference from 2000 objective |
| <b>Race/Ethnicity</b>  |                   |                      |  |                      |                      |  |
| Non-Hispanic white     | 56.6              | (54.6%–58.7%)        | – 3.4                                  | 38.8                 | (36.8%–40.9%)        | –21.2                                  |
| Non-Hispanic black     | 48.1              | (43.3%–52.8%)        | –11.9                                  | 24.9                 | (20.6%–29.2%)        | –35.1                                  |
| Hispanic               | 41.0              | (33.9%–48.2%)        | –19.0                                  | 20.9                 | (15.1%–26.7%)        | –39.1                                  |
| Other†                 | 38.3              | (30.3%–46.4%)        | –21.7                                  | 20.6                 | (13.8%–27.3%)        | –39.4                                  |
| <b>Sex</b>             |                   |                      |  |                      |                      |  |
| Men                    | 50.5              | (47.6%–53.4%)        | – 9.5                                  | 31.1                 | (28.5%–33.8%)        | –28.9                                  |
| Women                  | 53.5              | (51.0%–55.9%)        | – 6.5                                  | 35.0                 | (32.6%–37.3%)        | –25.0                                  |
| <b>Age group (yrs)</b> |                   |                      |  |                      |                      |  |
| 18–44                  | 27.7              | (23.7%–31.7%)        | –32.3                                  | 11.2                 | ( 8.6%–13.8%)        | –48.8                                  |
| 45–64                  | 45.4              | (42.3%–48.4%)        | –14.6                                  | 24.9                 | (22.2%–27.6%)        | –35.1                                  |
| 65–74                  | 67.6              | (64.4%–70.8%)        | 7.6                                    | 47.8                 | (44.3%–51.3%)        | –12.2                                  |
| $\geq 75$              | 69.6              | (65.6%–73.6%)        | 9.6                                    | 53.4                 | (49.0%–57.8%)        | – 6.6                                  |
| <b>Education level</b> |                   |                      |  |                      |                      |  |
| Less than high school  | 50.8              | (47.1%–54.6%)        | – 9.2                                  | 30.6                 | (27.3%–33.9%)        | –29.4                                  |
| High school            | 52.0              | (48.8%–55.2%)        | – 8.0                                  | 33.6                 | (30.5%–36.7%)        | –26.4                                  |
| More than high school  | 53.1              | (50.2%–56.1%)        | – 6.9                                  | 34.7                 | (32.0%–37.5%)        | –25.3                                  |
| <b>Total</b>           | <b>52.1</b>       | <b>(50.2%–54.0%)</b> | <b>– 7.9</b>                           | <b>33.2</b>          | <b>(31.4%–35.0%)</b> | <b>–26.8</b>                           |

\*Confidence interval.

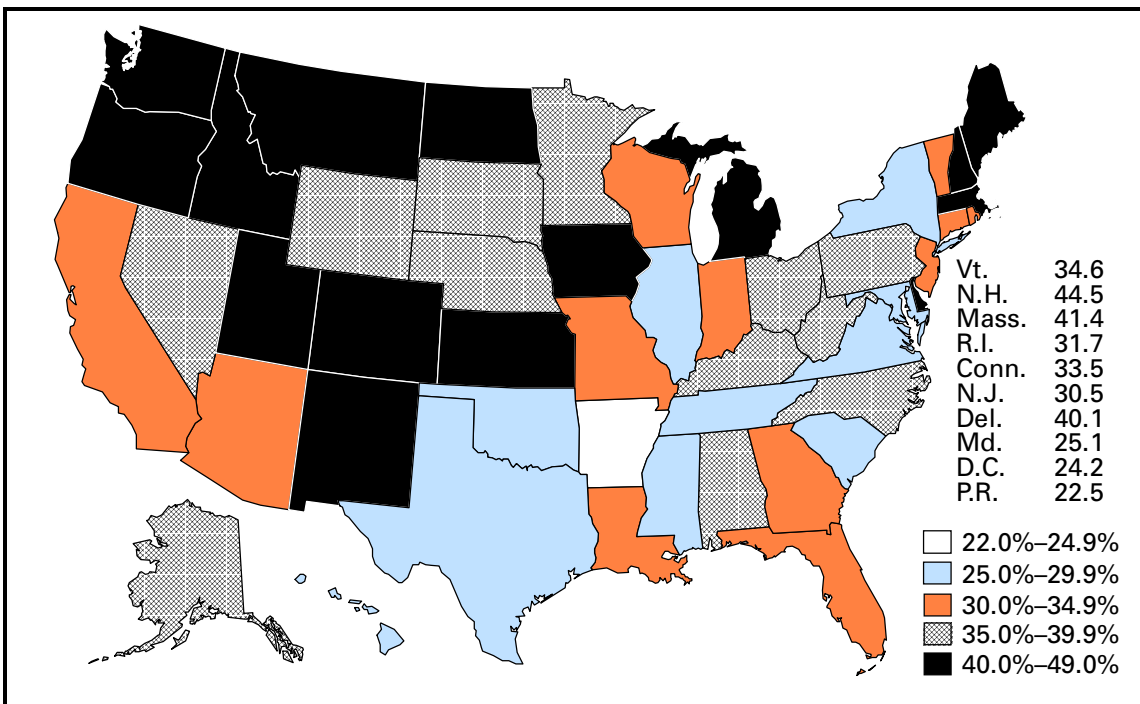
†Numbers for other racial/ethnic groups, when presented separately, were too small for meaningful analysis.

*Influenza and Pneumococcal Vaccination — Continued*

**FIGURE 1. Influenza vaccination rates among adults with self-reported diabetes, by reporting area — United States, Behavioral Risk Factor Surveillance System, 1997**



**FIGURE 2. Pneumococcal vaccination rates among adults with self-reported diabetes, by reporting area — United States, Behavioral Risk Factor Surveillance System, 1997**



*Influenza and Pneumococcal Vaccination — Continued***TABLE 2. Percentage of persons aged  $\geq 18$  years with diabetes in the 50 states, the District of Columbia, and Puerto Rico who reported receiving influenza or pneumococcal vaccine, by reporting area — United States, Behavioral Risk Factor Surveillance System, 1997**

| Reporting area       | Influenza vaccine |               |  | Pneumococcal vaccine |               |  |
|----------------------|-------------------|---------------|--|----------------------|---------------|--|
|                      | %                 | (95% CI*)     | % point difference from 2000 objective | %                    | (95% CI)      | % point difference from 2000 objective |
| Alabama              | 47.2              | (38.5%–55.9%) | –12.8                                  | 38.1                 | (29.6%–46.6%) | –21.9                                  |
| Alaska               | 37.7              | (19.0%–56.4%) | –22.3                                  | 36.2                 | (17.6%–54.9%) | –23.8                                  |
| Arizona              | 70.6              | (55.6%–85.6%) | 10.6                                   | 34.9                 | (19.1%–50.6%) | –25.1                                  |
| Arkansas             | 44.0              | (32.9%–55.1%) | –16.0                                  | 22.0                 | (12.3%–31.8%) | –38.0                                  |
| California           | 48.9              | (41.2%–56.7%) | –11.1                                  | 33.6                 | (26.1%–41.0%) | –26.4                                  |
| Colorado             | 61.4              | (47.1%–75.7%) | 1.4                                    | 41.8                 | (27.3%–56.3%) | –18.2                                  |
| Connecticut          | 49.1              | (37.6%–60.6%) | –10.9                                  | 33.5                 | (23.1%–43.9%) | –26.5                                  |
| Delaware             | 56.1              | (48.1%–64.1%) | – 3.9                                  | 40.1                 | (31.9%–48.2%) | –19.9                                  |
| District of Columbia | 52.5              | (38.1%–66.9%) | – 7.5                                  | 24.2                 | (12.7%–35.7%) | –35.8                                  |
| Florida              | 53.4              | (45.8%–60.9%) | – 6.6                                  | 34.5                 | (27.4%–41.5%) | –25.5                                  |
| Georgia              | 48.4              | (37.1%–59.7%) | –11.6                                  | 31.2                 | (20.8%–41.7%) | –28.8                                  |
| Hawaii               | 47.1              | (35.7%–58.5%) | –12.9                                  | 26.9                 | (17.7%–36.2%) | –33.1                                  |
| Idaho                | 70.2              | (63.5%–77.0%) | 10.2                                   | 43.0                 | (35.1%–51.0%) | –17.0                                  |
| Illinois             | 51.4              | (39.8%–62.9%) | – 8.6                                  | 29.6                 | (19.2%–39.9%) | –30.4                                  |
| Indiana              | 48.9              | (38.8%–59.1%) | –11.1                                  | 32.0                 | (22.8%–41.1%) | –28.0                                  |
| Iowa                 | 66.0              | (57.6%–74.3%) | 6.0                                    | 42.4                 | (34.2%–50.7%) | –17.6                                  |
| Kansas               | 54.2              | (41.2%–67.2%) | – 5.8                                  | 41.2                 | (27.8%–54.6%) | –18.8                                  |
| Kentucky             | 52.4              | (45.1%–59.7%) | – 7.6                                  | 35.2                 | (28.0%–42.4%) | –24.8                                  |
| Louisiana            | 53.5              | (42.5%–64.6%) | – 6.5                                  | 31.9                 | (21.9%–42.0%) | –28.1                                  |
| Maine                | 79.9              | (70.4%–89.5%) | 19.9                                   | 41.1                 | (29.1%–53.1%) | –18.9                                  |
| Maryland             | 48.7              | (40.7%–56.6%) | –11.3                                  | 25.1                 | (18.7%–31.6%) | –34.9                                  |
| Massachusetts        | 59.2              | (46.0%–72.3%) | – 0.8                                  | 41.4                 | (28.3%–54.5%) | –18.6                                  |
| Michigan             | 51.9              | (43.5%–60.3%) | – 8.1                                  | 40.1                 | (31.8%–48.5%) | –19.9                                  |
| Minnesota            | 56.7              | (49.3%–64.1%) | – 3.3                                  | 39.4                 | (32.2%–46.7%) | –20.6                                  |
| Mississippi          | 46.7              | (35.9%–57.6%) | –13.3                                  | 27.8                 | (18.3%–37.4%) | –32.2                                  |
| Missouri             | 48.6              | (37.3%–59.8%) | –11.4                                  | 33.0                 | (22.4%–43.6%) | –27.0                                  |
| Montana              | 65.8              | (53.3%–78.4%) | 5.8                                    | 48.6                 | (35.1%–62.2%) | –11.4                                  |
| Nebraska             | 61.6              | (51.4%–71.7%) | 1.6                                    | 35.7                 | (25.9%–45.5%) | –24.3                                  |
| Nevada               | 49.5              | (27.9%–71.2%) | –10.5                                  | 38.1                 | (18.3%–58.0%) | –21.9                                  |
| New Hampshire        | 46.4              | (32.2%–60.5%) | –13.6                                  | 44.5                 | (30.6%–58.5%) | –15.5                                  |
| New Jersey           | 56.9              | (47.2%–66.5%) | – 3.1                                  | 30.5                 | (21.6%–39.4%) | –29.5                                  |
| New Mexico           | 67.4              | (56.3%–78.5%) | 7.4                                    | 42.3                 | (31.0%–53.5%) | –17.7                                  |
| New York             | 49.0              | (40.0%–58.0%) | –11.0                                  | 25.9                 | (17.9%–34.0%) | –34.1                                  |
| North Carolina       | 56.7              | (49.2%–64.2%) | – 3.3                                  | 39.7                 | (32.1%–47.2%) | –20.3                                  |
| North Dakota         | 54.6              | (42.2%–67.0%) | – 5.4                                  | 41.4                 | (28.9%–53.9%) | –18.6                                  |
| Ohio                 | 62.2              | (53.6%–70.8%) | 2.2                                    | 38.9                 | (30.0%–47.8%) | –21.1                                  |
| Oklahoma             | 49.0              | (39.0%–59.0%) | –11.0                                  | 27.0                 | (18.8%–35.1%) | –33.0                                  |
| Oregon               | 56.7              | (47.9%–65.4%) | – 3.3                                  | 41.6                 | (32.6%–50.5%) | –18.4                                  |
| Pennsylvania         | 55.3              | (47.3%–63.3%) | – 4.7                                  | 38.4                 | (30.4%–46.5%) | –21.6                                  |
| Puerto Rico          | 29.1              | (23.1%–35.1%) | –30.9                                  | 22.5                 | (16.8%–28.3%) | –37.5                                  |
| Rhode Island         | 57.5              | (46.2%–68.7%) | – 2.5                                  | 31.7                 | (21.1%–42.2%) | –28.3                                  |
| South Carolina       | 49.8              | (39.5%–60.0%) | –10.2                                  | 25.9                 | (17.6%–34.1%) | –34.1                                  |
| South Dakota         | 62.5              | (50.5%–74.6%) | 2.5                                    | 36.7                 | (25.1%–48.3%) | –23.3                                  |
| Tennessee            | 49.8              | (41.1%–58.6%) | –10.2                                  | 29.0                 | (20.9%–37.1%) | –31.0                                  |
| Texas                | 50.2              | (41.2%–59.3%) | – 9.8                                  | 27.0                 | (19.2%–34.8%) | –33.0                                  |
| Utah                 | 56.4              | (43.7%–69.0%) | – 3.6                                  | 40.2                 | (28.0%–52.5%) | –19.8                                  |
| Vermont              | 54.2              | (41.0%–67.4%) | – 5.8                                  | 34.6                 | (24.1%–45.1%) | –25.4                                  |
| Virginia             | 44.4              | (35.5%–53.2%) | –15.6                                  | 29.6                 | (21.7%–37.6%) | –30.4                                  |
| Washington           | 63.0              | (54.5%–71.5%) | 3.0                                    | 43.7                 | (34.7%–52.7%) | –16.3                                  |
| West Virginia        | 56.6              | (47.9%–65.3%) | – 3.4                                  | 36.1                 | (27.9%–44.4%) | –23.9                                  |
| Wisconsin            | 56.6              | (42.7%–70.6%) | – 3.4                                  | 31.7                 | (20.4%–42.9%) | –28.3                                  |
| Wyoming              | 61.3              | (49.5%–73.0%) | 1.3                                    | 38.0                 | (26.3%–49.7%) | –22.0                                  |

\* Confidence interval.



*Influenza and Pneumococcal Vaccination — Continued*

centage points of the objective. Rates for pneumococcal vaccination ranged from 22.0% in Arkansas and Puerto Rico to 48.6% in Montana (Table 2); no reporting areas reached the national health objective. Overall, rates for both vaccines were lowest in the southeast regions and highest in the northwest regions.

*Reported by: SM Benjamin, PhD, Council of State and Territorial Epidemiologists, Atlanta, Georgia. The following BRFSS coordinators: J Cook, MBA, Alabama; P Owen, Alaska; B Bender, MBA, Arizona; T Clark, Arkansas; B Davis, PhD, California; M Leff, MSPH, Colorado; M Adams, MPH, Connecticut; F Breukelman, Delaware; I Bullo, District of Columbia; S Hoecherl, Florida; L Martin, MS, Georgia; A Onaka, PhD, Hawaii; J Aydelotte, MA, Idaho; B Steiner, MS, Illinois; K Horvath, Indiana; K MacIntyre, Iowa; J Tasheff, Kansas; T Sparks, Kentucky; B Bates, MSPH, Louisiana; D Maines, Maine; A Weinstein, MA, Maryland; D Brooks, MPH, Massachusetts; H McGee, MPH, Michigan; N Salem, PhD, Minnesota; D Johnson, MS, Mississippi; T Murayi, PhD, Missouri; P Feigley, PhD, Montana; L Andelt, PhD, Nebraska; E DeJan, MPH, Nevada; L Powers, MA, New Hampshire; G Boeselager, MS, New Jersey; W Honey, MPH, New Mexico; C Baker, New York; P Buescher, PhD, North Carolina; L Shireley, MPH, North Dakota; P Pullen, Ohio; N Hann, MPH, Oklahoma; J Grant-Worley, MS, Oregon; L Mann, Pennsylvania; Y Cintron, MPH, Puerto Rico; J Hesser, PhD, Rhode Island; M Wu, MD, South Carolina; M Gildemaster, South Dakota; D Ridings, Tennessee; K Condon, Texas; K Marti, Utah; C Roe, MS, Vermont; K Carswell, MPH, Virginia; K Wynkoop-Simmons, PhD, Washington; F King, West Virginia; P Imm, MS, Wisconsin; M Futa, MA, Wyoming. Epidemiology and Statistics Br, Div of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, CDC.*

**Editorial Note:** Although the vaccination rates in this report are higher than those reported in 1993, a large gap remains between influenza and pneumococcal vaccination rates among persons with diabetes and the national health objective for 2000. Pneumonia and influenza are more likely to be listed as a cause of death for persons with diabetes than for persons without diabetes, and many deaths associated with pneumonia and influenza can be attributed to diabetes (1). For persons with diabetes, influenza and pneumococcal vaccines can reduce the number of respiratory infections, the number and length of hospitalizations for respiratory infections, the number of deaths from these infections, and medical expenses associated with influenza and pneumonia (2).

The national health objective for 2000 was reached only for influenza vaccination among persons aged  $\geq 65$  years with diabetes. Since the ACIP recommends that everyone aged  $\geq 65$  years receive influenza and pneumococcal vaccinations (5,6), it may be routine for providers to offer vaccinations to persons aged  $\geq 65$  years with diabetes. The findings indicate that many patients and providers may not be aware of the ACIP guidelines for persons with diabetes. Increased efforts are necessary to heighten awareness of the need for increased vaccination and to improve routine use of vaccination among persons of all ages with diabetes. These efforts should include incorporating recommendations for influenza and pneumococcal vaccinations into standard-of-care guidelines for persons with diabetes.

The findings that Hispanics and non-Hispanic blacks had lower vaccination rates than non-Hispanic whites are consistent with the 1993 examination of vaccination rates among persons with diabetes (4). These disparities may result from differences in access to vaccination services across these groups, differences in the quality of care received by different racial/ethnic groups, or social and cultural factors that impact vaccine acceptance. These disparities must be investigated further to improve vaccination rates in these populations.

Vaccination rates varied substantially among reporting areas, perhaps because of differences in demographic distribution, provision of adult vaccination programs,

*Influenza and Pneumococcal Vaccination — Continued*

physician practice patterns, access to health care, and patient attitudes. CDC is evaluating these patterns to learn why they occur and how reporting areas with low coverage levels can improve them.

The findings in this analysis are subject to at least two limitations. First, persons residing in nursing homes and in households without telephones were not included in this survey; therefore, these results cannot be generalized to these segments of the population. Second, because data were self-reported, they are subject to recall bias. Self-report of diabetes and of influenza vaccination are highly accurate (7,8), but self-report of pneumococcal vaccination may be less accurate than self-report of influenza vaccination (9).

Most reporting areas did not meet the national vaccination objectives among their populations with diabetes. Recognizing the importance of preventive-care practices in reducing morbidity and mortality among persons with diabetes, CSTE has recommended that receipt of preventive-care practices among persons with diabetes, including influenza and pneumococcal vaccination, be placed under national public health surveillance.

CDC and other federal agencies have implemented the racial/ethnic disparities initiative. One objective is to eliminate racial/ethnic health disparities in vaccination rates by 2010. Additional information about the initiative is available from the World-Wide Web at <http://raceandhealth.hhs.gov/>\* and [http://www.cdc.gov/diabetes/projs/racial\\_init.htm](http://www.cdc.gov/diabetes/projs/racial_init.htm).

In 1998, to improve vaccination rates among persons with diabetes, CDC implemented the Diabetes Flu/Pneumococcal Campaign entitled "Diabetes. One Disease. Many Risks." Through state-based diabetes-control programs (DCPs), the campaign encourages persons with diabetes to receive influenza and pneumococcal vaccinations. DCPs are implementing health systems-based interventions to encourage health-care professionals to recommend influenza and pneumococcal vaccinations. Because persons with diabetes report a high rate of routine medical care, these interventions can have a large impact on improving vaccination rates. Interventions that include standing orders for vaccination, using provider and patient recalls and reminders, and feedback on vaccination levels have been shown to be effective in increasing vaccination rates (10). In addition, opportunities for vaccination outside of traditional health-care settings should be extended to persons with diabetes who routinely do not have access to traditional health-care facilities (10). Additional information about the Diabetes Flu/Pneumococcal Campaign is available from the World-Wide Web at <http://www.cdc.gov/diabetes/projs/cdc-flu.htm> and <http://www.cdc.gov/diabetes/states/states.htm>.

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*Influenza and Pneumococcal Vaccination — Continued*

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**Progress Toward Poliomyelitis Eradication — Myanmar, 1996–1999**

Myanmar borders polio-free countries (China, Laos, and Thailand) and countries with widespread poliovirus transmission (India and Bangladesh). Myanmar began to intensify its efforts toward polio eradication in 1996, when National Immunization Days (NIDs)\* were initiated. That year, wild polioviruses (one type 1 virus and two type 3 viruses) were isolated from Myanmar children with acute poliomyelitis seeking care in Yunnan Province, China. The importation of poliovirus from Myanmar into China stimulated the establishment of surveillance for acute flaccid paralysis (AFP) in 1996 and discussions between Myanmar and China on cross-border management of poliomyelitis eradication. This report summarizes polio eradication efforts in Myanmar, which focus primarily on supplemental vaccination activities and AFP surveillance.

**Routine Vaccination**

The national Expanded Program on Immunization was initiated in April 1978, and activities were accelerated in 1986 to meet the goal of universal childhood vaccination in 1990. Reported routine coverage of infants with three doses of oral poliovirus vaccine (OPV3) in 1995 was 84% and in 1997 was 90%; however, survey<sup>†</sup> results indicated that coverage was 75% and 82%, respectively (1).

Results of the 1997 survey revealed large differences within states/divisions; lowest OPV3 coverage was observed in rural Myanmar (border and hill areas): Shan East (50%), Kayah (52%), Chin (58%), Kayin (62%), Kokang/Wa in Shan North (45%), and Kabaw/Naga in Sagaing (65%). Another survey<sup>†</sup> in Rakhine showed OPV3 coverage in 1996 to be 19% in Maungdaw and 30% in Buthidaung (compared with reported cover-

\* Nationwide mass campaigns over a short period (days to weeks), in which two doses of oral poliovirus vaccine are administered to all children in the target age group (usually aged <5 years), regardless of vaccination history, with an interval of 4–6 weeks between doses.

† Reported coverage may be affected by uncertainties of the numerator (doses of vaccine administered) and denominator (actual target population). Because these uncertainties do not affect population-based surveys, data from such surveys usually provide more precise estimates of the actual vaccination coverage.

*Poliomyelitis Eradication — Continued*

age of 78.9% and 75.2%, respectively) (2). These townships share a border with Bangladesh.

**NIDs and Supplemental (“Mopping-Up”) Vaccination Activities**

NIDs were first conducted in February and March 1996, and since then Myanmar has organized two rounds of NIDs (one day each) in December and January during 1996–1999, targeting all children aged <5 years. Reported coverage during those years has been >95%. However, no post-NID coverage surveys have been conducted. Since the winter of 1996, NIDs in Myanmar have been synchronized with those in neighboring countries, including Bangladesh, China, India, and Thailand. The fifth NIDs will be conducted on December 12, 1999, and January 16, 2000.

Mopping-up vaccination campaigns<sup>§</sup> are being planned for October and November 1999, targeting 917,000 children in high-risk areas (those along the border with India and Bangladesh, with recent wild virus circulation or known low vaccination coverage, or with minorities and migrating groups). These campaigns will be carried out by mobile teams over approximately 5 days, focusing on reaching previously unvaccinated children by going house to house. Volunteers also will collect information on the number of children who have never received OPV (“zero dose” children) and ascertain recent cases of paralysis.

**AFP Surveillance**

In 1996, when AFP became a reportable condition in Myanmar, intensive training and advocacy sessions were organized for clinicians and public health staff. Reporting rates for AFP and nonpolio AFP improved from 1997 to 1998, from 0.75 to 0.91 per 100,000 children aged <15 years (Table 1). Approximately 2000 health facilities (health centers and hospitals) participate in a routine reporting system of “zero-case reporting,” submitting weekly reports, even if no cases are seen. In addition, surveillance staff make weekly visits to 30 large hospitals to search actively for AFP cases. Since

<sup>§</sup>Focal mass campaigns in high-risk areas during a short period (days to weeks) in which two doses of oral poliovirus vaccine are administered during house-to-house visits to all children in the target age groups, regardless of vaccination history, with an interval of 4–6 weeks between doses.

**TABLE 1. Acute flaccid paralysis (AFP) and confirmed poliomyelitis cases — Myanmar, 1995–1999**

| Year              | Reported polio or AFP cases | Confirmed polio cases | Wild virus isolated | Total AFP rate* | Nonpolio AFP rate* | % AFP cases with 2 stool specimens |
|-------------------|-----------------------------|-----------------------|---------------------|-----------------|--------------------|------------------------------------|
| 1995              | 7                           | 7                     | 0                   | 0.04            | 0.00               | NA <sup>†</sup>                    |
| 1996              | 13                          | 8                     | 0 <sup>§</sup>      | 0.08            | 0.03               | 62%                                |
| 1997              | 172                         | 55                    | 0                   | 1.11            | 0.75               | 58%                                |
| 1998              | 183                         | 40                    | 0                   | 1.18            | 0.91               | 72%                                |
| 1999 <sup>¶</sup> | 92                          | 16                    | 4                   | 0.78            | 0.39               | 73%                                |

\* Per 100,000 children aged <15 years.

<sup>†</sup> Not available.

<sup>§</sup> One polio type 1 and two polio type 3 viruses were isolated from Myanmar patients hospitalized in Yunnan, China.

<sup>¶</sup> As of October 15, 1999. Rates annualized.

*Poliomyelitis Eradication — Continued*

early 1999, the AFP surveillance system also has been used for reporting of measles and neonatal tetanus cases.

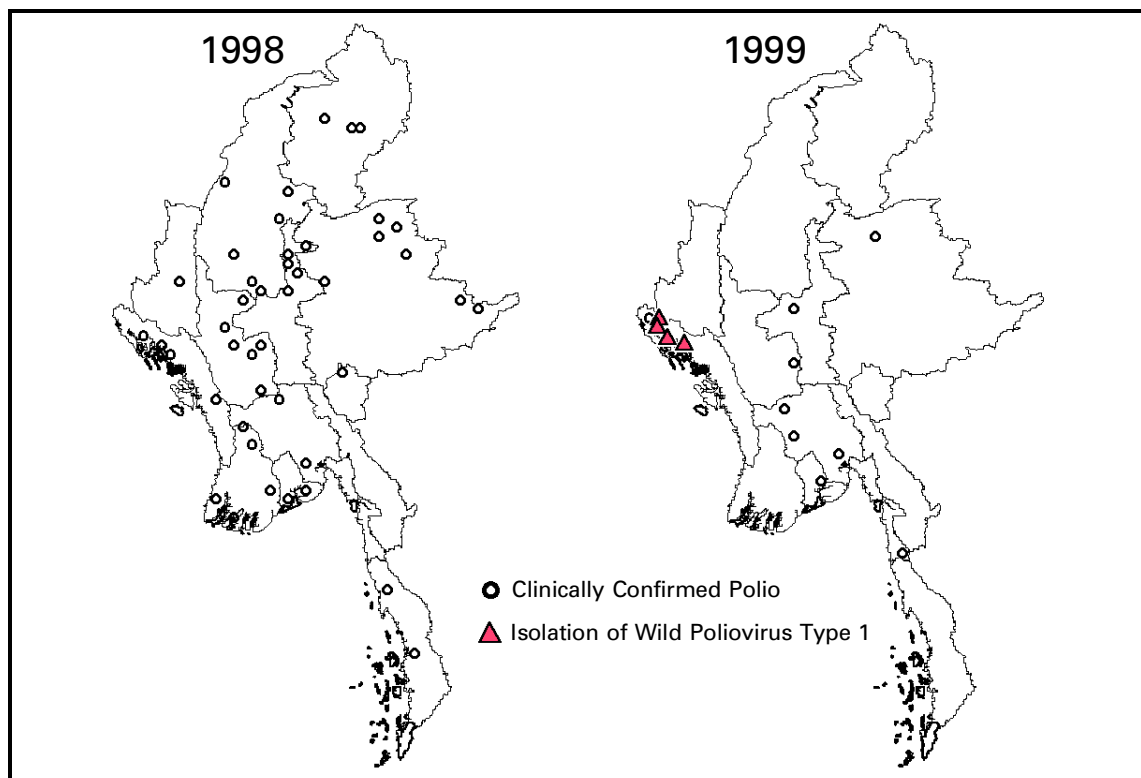
Of 92 AFP cases reported during January 1–October 15, 1999, 91 (99%) had at least one stool specimen taken, and 62 (67%) had two specimens taken within 14 days after onset of paralysis (i.e., “adequate specimens”). Of 37 (40%) persons with AFP for whom follow-up results were available, three (8%) had died, one (3%) was lost to follow-up, 20 (54%) had no residual paralysis, and 13 (35%) had residual paralysis.

Myanmar classifies AFP cases using the clinical classification scheme<sup>¶</sup>. In 1999, wild poliovirus type 1 was isolated from four persons with AFP (Figure 1), all of whom were children among the Muslim minority living in Rakhine state, near the border with Bangladesh.

Stool specimens from persons with AFP are processed at the national health laboratories in Yangon, which have been accredited provisionally as a National Polio Laboratory. Intra-typic differentiation is performed by the Regional Reference Laboratory at the National Institute of Health in Bangkok, Thailand. A national certification committee has been established and monitors progress in the polio eradication program.

<sup>¶</sup>An AFP case is confirmed as polio if wild poliovirus was isolated from stool specimens; in the absence of wild poliovirus isolation, the following criteria confirm a case of polio: 1) residual paralysis at follow-up examination; 2) lost to follow-up; and 3) died.

**FIGURE 1. Acute flaccid paralysis (AFP) cases clinically confirmed as poliomyelitis cases and AFP cases with isolation of wild poliovirus type 1 — Myanmar, 1998 and 1999\***



\*As of October 15, 1999.

*Poliomyelitis Eradication — Continued*

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**Editorial Note:** In 1999, Myanmar, situated between countries with endemic polio and polio-free countries, has confirmed four cases of polio based on isolation of wild poliovirus type 1. This is the first evidence of ongoing transmission of wild poliovirus since 1996. All AFP cases with wild poliovirus isolation occurred in persons who resided in areas adjacent to the Bangladesh border, illustrating the importance of border areas in polio eradication activities and the continuing vulnerability of countries to a resurgence of polio unless eradication strategies are fully implemented and sustained.

Vaccination coverage in Myanmar is not uniform across the country. Border and mountain areas with difficult access are underserved, allowing pockets of low coverage to develop. Low coverage in these areas can be explained by difficulties in access, cultural differences between health staff and local sub-populations, and lack of awareness among the population. Children who have not been reached by routine services also are likely to be missed during NIDs. The planned mopping-up operations in high-risk areas are an appropriate response to the situation provided that these supplemental campaigns succeed in reaching all children, including those missed by NIDs.

AFP surveillance in Myanmar has not yet reached the level that would define the extent of poliovirus transmission. The nonpolio AFP rate approached the target of one case per 100,000 children aged <15 years in 1998, but declined in 1999. The rate of collection of two stool specimens in 14 days of onset of paralysis also is lower than the 80% target.

Although mopping-up campaigns and high-quality NIDs are needed to eliminate the remaining foci of poliovirus circulation, AFP surveillance needs to be strengthened to support these activities. Ongoing advocacy, supervision, feedback, and monitoring are needed to sustain the momentum achieved since 1997. The successful approach taken by India (3) (i.e., the establishment of a team dedicated to AFP surveillance), may provide some guidance to improve AFP surveillance in Myanmar. With fewer than 16 months remaining to reach the target of polio eradication, Myanmar is stepping up efforts to vaccinate previously unreached children. This effort must be supported by high-quality surveillance.

The priorities for the Myanmar program\*\* for the next year include 1) continuing to improve the quality of the upcoming NIDs in 1999 and 2000; 2) vaccinating a high proportion of previously unreached children during the mopping-up campaigns this fall; and 3) improving the sensitivity of AFP surveillance rapidly to identify high-risk areas for special programmatic action and, eventually, to meet the certification requirements. Further progress in these priority areas should enable Myanmar to reach the polio eradication target.

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\*\* Polio eradication in Myanmar is supported by the national government and a coalition of organizations and governments, including WHO, UNICEF, Rotary International, and Japan.

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**Public Health Response to a Potentially Rabid Bear Cub — Iowa, 1999**

On August 27, 1999, a 5–6 month-old black bear cub in a petting zoo in Clermont, Iowa, died after developing acute central nervous system signs; the initial direct fluorescent-antibody (DFA) test results available on August 28 indicated the bear had rabies. On August 29, in response to the positive laboratory report, the Iowa Department of Public Health (IDPH) initiated a campaign to identify and inform persons potentially exposed to the bear's saliva. Within 72 hours, IDPH staff verified contact and exposure information for approximately 350 persons. Subsequent testing found no evidence of rabies virus in brain or spinal cord tissues. This report describes the public health response to this potential rabies outbreak and reviews testing procedures and protocols for rabies.

On August 27, the bear developed acute neurologic signs, progressing from mild tremors and anisocoria to coma and death within 4 hours. The attending veterinarian submitted the bear to Iowa State University's Veterinary Diagnostic Laboratory (ISU VDL) for a full postmortem examination. On August 28, ISU VDL notified the veterinarian that the bear had tested positive for rabies\*. The veterinarian immediately alerted IDPH. After consultation with CDC, IDPH established a conservative estimate of the period of potential rabies exposure to humans as 28 days before the bear's death. IDPH contacted media statewide to help publicize the potential exposures of the zoo visitors.

The local county health department and the area hospital established a rabies exposure assessment and treatment clinic in the emergency department. Based on information from a voluntary sign-in log for visitors, IDPH used a variety of tools (i.e., media campaign, Internet locator sites, directory assistance, and law enforcement) to reach persons from 10 states (Arizona, California, Florida, Illinois, Iowa, Minnesota, New Mexico, New York, Ohio, and Wisconsin) and Australia; 200 visitors were identified. On August 29, IDPH personnel began contacting the 200 visitors. In addition, efforts were made to contact 150 potentially exposed persons who attended an August 14 "barnwarming" at which the bear was present. On September 3, a dispatch was published in *MMWR* (1) to notify other health departments of efforts to locate zoo visitors. By September 1, an estimated 99% of potentially exposed persons had been contacted.

On August 30, IDPH, the Iowa State Veterinarian's Office, and the U.S. Department of Agriculture visited the petting zoo to assess exposure factors and implement quarantine measures. On August 31, the ISU VDL reported a positive reverse transcriptase

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\*This was subsequently described as a weak DFA positive test. A repeat DFA test was again described as weakly positive and ISU VDL set up reverse transcriptase polymerase chain reaction (RT-PCR) testing.

*Potentially Rabid Bear — Continued*

polymerase chain reaction (RT-PCR) for rabies<sup>†</sup> and submitted brain tissues to CDC to identify the potential wildlife reservoir species associated with the virus. During the ISU VDL necropsy, no alternative cause of death was identified; however, pathologic studies were limited by the advanced state of postmortem autolysis. On the evening of September 1, IDPH was notified by CDC that the DFA of the tissues submitted for virus typing were negative for rabies virus. On September 2, brain and spinal cord tissues were submitted to University Hygienic Laboratory (UHL) and CDC. On September 3, DFA testing at UHL was reported as negative; DFA, RT-PCR, and nested PCR tests at CDC on brain and spinal cord tissues also were reported negative.

On September 3, the available information included the bear's clinical presentation of acute death atypical for but consistent with rabies; the initial positive DFA test and the positive PCR test at ISU VDL; the negative tests conducted by CDC on the bear's brain and spinal cord; the negative DFA test conducted by UHL on the bear's brain; a documented case of a rabid bear with a DFA-negative test on brain tissue (2); the paucity of literature on rabies and rabies testing in bears, and follow-up of humans after exposure to animals with negative laboratory results; and the lack of a reasonable alternative explanation for the bear's neurologic illness and death. IDPH also was aware that the risk for death from symptomatic rabies was 100% and the risk for receiving vaccine was minimal. Consultation with national clinical infectious disease specialists and other medical experts, including epidemiologists, resulted in the conclusion that the vaccine series be continued. IDPH then issued a press release stating that the negative tests made it less likely the bear died from rabies (3). By the end of September, an estimated 150 persons had completed the rabies vaccination series. On approximately October 18, ISU VDL reported mouse inoculation studies negative for rabies.

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**Editorial Note:** The false-positive test result for rabies in a bear in Iowa affords an opportunity to review testing procedures and protocols for rabies virus infection, the public health record in the United States resulting from these procedures and protocols, and recommendations for handling inconsistent test results.

The DFA test for detection of rabies virus antigen in brain tissue is used as the primary diagnostic test in all public health laboratories in the United States. The test has a sensitivity approaching 100% (4,5). Rabies diagnosis and administration of prophylaxis to potential human exposures are based on the observation that, in all mammals, rabies virus reaches the salivary glands and is excreted in saliva only after replication in the central nervous system. Absence of rabies virus antigen in the brain of an animal by DFA (i.e., a negative diagnostic test result) essentially precludes the presence of virus in saliva, the risk for rabies transmission, and the need for postexposure prophylaxis. Clinical signs leading to a suspicion of rabies occur only after substantial virus replication. At that time, most tests for rabies reveal considerable amounts of viral antigen in all areas of the brain.

DFA test results in which staining of antigen is weak or that reveals sparse or focal inclusions often are caused by nonspecific antibody binding or less-than-optimum

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<sup>†</sup>This test was subsequently determined to be a positive nested PCR obtained following a negative primary RT-PCR. Sequencing of the amplified product from the nested PCR did not reveal a rabies gene product.



*Potentially Rabid Bear — Continued*

test conditions. Cross-contamination of negative samples at necropsy with material from strong positive samples tested earlier also can cause sporadic staining in a negative sample. DFA tests that are not clearly positive or negative should be repeated by remaking slides from reserved brain tissue and repeating the test, using reagents from two different commercial sources and using additional specificity controls. If test results remain equivocal, alternative confirmatory tests, such as virus isolation (through cell culture or mouse inoculation) or PCR assays, should be performed (5). Additional amplification, such as a nested RT-PCR assay, is unnecessary and inappropriate for routine diagnostic applications. Postexposure prophylaxis can be initiated during the diagnostic testing process and discontinued if negative results are obtained.

In 1997, approximately 100,000 animal brains were tested for rabies virus antigen by DFA; of these, 8509 (8.5%) were positive (6). The absolute number of persons potentially exposed to an animal with suspected rabies and who did not receive prophylaxis because of a negative diagnostic test result is unknown. Nevertheless, since the initiation of current rabies testing procedures in 1958, there is no evidence that a false negative laboratory test has ever led to rabies in a person subsequently left untreated.

Each laboratory that provides rabies diagnostic services should plan routine evaluation of its DFA test procedures and should participate in national rabies virus proficiency testing. Negative test results obtained by appropriate and systematic examination of specimens can be interpreted reliably by public health practitioners so that no postexposure prophylaxis is required or postexposure prophylaxis that was initiated pending laboratory evaluation can be curtailed (7). To assist state and local health departments, national and international reference laboratories, such as the World Health Organization Collaborating Center for Reference and Research on Rabies at CDC, are available to clarify and interpret rabies test results.

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### Notice to Readers

#### **National Epilepsy Month — November 1999**

November is National Epilepsy Month. Epilepsy is a central nervous system disorder, characterized by unprovoked recurrent seizures, that affects approximately 2.3 million persons in the United States. Of these, approximately 300,000 are school-aged children.

Many persons in the United States do not know how to appropriately assist a person having a seizure; some incorrectly believe they should place something in the seizing person's mouth or restrain movements. However, both actions can be harmful. Instead, anyone assisting a seizing person should loosen clothing, remove objects the person may bump against or hit, and remain nearby to help the person move to a chair or couch when the seizure ends.

The Epilepsy Foundation has launched the "Be Seizure Smart" campaign as the focus of this month's activities. The campaign is a nationwide initiative directed at schools to dispel myths and to educate school staff about effectively responding to students during seizures.

Additional information about epilepsy or the "Be Seizure Smart" campaign is available from the Epilepsy Foundation, telephone (800) 332-1000, or on the World-Wide Web, <http://www.seizuresmart.org>\* and <http://www.epilepsyfoundation.org>.

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### Notice to Readers

#### **Shortage of Intravenous Penicillin G — United States**

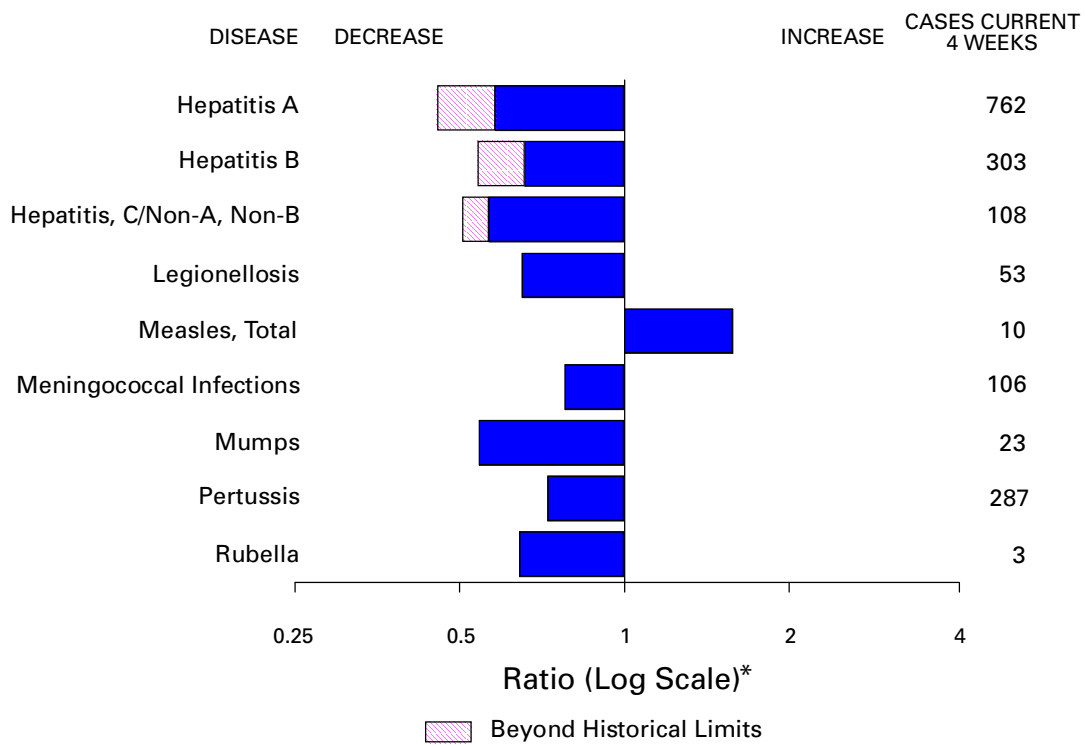
In June 1999, Schein Pharmaceuticals, Inc (Florham Park, New Jersey)\* announced that its subsidiary Marsam pharmaceuticals was voluntarily recalling all of its penicillin products to address the Food and Drug Administration's (FDA) regulatory concerns at Schein Pharmaceuticals' manufacturing site. Marsam Pharmaceuticals is a major manufacturer of penicillin G (potassium and sodium) in finished product vials in the United States. It is unknown when this facility will resume distribution of these products. This situation has caused a shortage of these types of penicillin in many parts of the country.

In response to this shortage, FDA has begun to identify and assist alternative manufacturers of these products. Until the product is again available, the existing supplies of penicillin should be used only for patients for whom alternative antibiotics are not appropriate. There is no known shortage of procaine or benzathine penicillin or of oral penicillin preparations. For a few conditions (e.g., congenital syphilis and neurosyphilis, and intrapartum prophylaxis for perinatal group B streptococcal disease), intravenous penicillin G is the drug of choice. Alternative treatment recommendations can be found at <http://www.cdc.gov/nchstp/dstd/pencillinG.htm>; or by toll-free FAX-BACK request, (888) 232-3299.

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\*Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services or CDC.

**FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending October 23, 1999, with historical data — United States**



\*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 — provisional cases of selected notifiable diseases, United States, cumulative, week ending October 23, 1999 (42nd Week)**

|   | Cum. 1999 |   | Cum. 1999 |
|---|-----------|---|-----------|
| Anthrax                                     | -         | HIV infection, pediatric* <sup>5</sup>  | 109       |
| Brucellosis*                                | 36        | Plague                                  | 5         |
| Cholera                                     | 5         | Poliomyelitis, paralytic                | -         |
| Congenital rubella syndrome                 | 5         | Psittacosis*                            | 17        |
| Cyclosporiasis*                             | 49        | Rabies, human                           | -         |
| Diphtheria                                  | 2         | Rocky Mountain spotted fever (RMSF)     | 438       |
| Encephalitis: California*                   | 49        | Streptococcal disease, invasive Group A | 1,702     |
| eastern equine*                             | 5         | Streptococcal toxic-shock syndrome*     | 30        |
| St. Louis*                                  | 3         | Syphilis, congenital <sup>¶</sup>       | 155       |
| western equine*                             | -         | Tetanus                                 | 31        |
| Ehrlichiosis                                | 119       | Toxic-shock syndrome                    | 96        |
| human granulocytic (HGE)*                   | 35        | Trichinosis                             | 8         |
| human monocytic (HME)*                      | 78        | Typhoid fever                           | 254       |
| Hansen Disease*                             | 18        | Yellow fever                            | -         |
| Hantavirus pulmonary syndrome* <sup>†</sup> | 77        |   |           |
| Hemolytic uremic syndrome, post-diarrheal*  |           |   |           |

-:no reported cases

\*Not notifiable in all states.

<sup>†</sup> Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).

<sup>5</sup> 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 September 26, 1999.

<sup>¶</sup> Updated from reports to the Division of STD Prevention, NCHSTP.

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 1999, and October 24, 1998 (42nd Week)**

| Reporting Area | AIDS       |           | Chlamydia |           | Cryptosporidiosis |           | <i>Escherichia coli</i> O157:H7* |           |           |           |
|----------------|------------|-----------|-----------|-----------|-------------------|-----------|----------------------------------|-----------|-----------|-----------|
|                | Cum. 1999† | Cum. 1998 | Cum. 1999 | Cum. 1998 | Cum. 1999         | Cum. 1998 | NETSS                            |           | PHLIS     |           |
|                |            |           |           |           |                   |           | Cum. 1999                        | Cum. 1998 | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 34,088     | 37,409    | 458,235   | 475,663   | 1,776             | 3,208     | 2,671                            | 2,439     | 1,848     | 1,915     |
| NEW ENGLAND    | 1,698      | 1,444     | 16,195    | 16,417    | 122               | 137       | 276                              | 285       | 278       | 239       |
| Maine          | 54         | 24        | 738       | 812       | 24                | 29        | 34                               | 33        | -         | -         |
| N.H.           | 36         | 25        | 750       | 803       | 17                | 14        | 28                               | 42        | 29        | 42        |
| Vt.            | 13         | 18        | 387       | 338       | 33                | 22        | 31                               | 19        | 18        | 17        |
| Mass.          | 1,116      | 766       | 7,438     | 6,783     | 44                | 65        | 156                              | 132       | 156       | 136       |
| R.I.           | 77         | 105       | 1,857     | 1,858     | 4                 | 7         | 27                               | 11        | 6         | 1         |
| Conn.          | 402        | 506       | 5,025     | 5,823     | -                 | -         | U                                | 48        | 69        | 43        |
| MID. ATLANTIC  | 8,684      | 10,309    | 50,747    | 49,402    | 275               | 483       | 222                              | 261       | 60        | 83        |
| Upstate N.Y.   | 952        | 1,248     | N         | N         | 131               | 287       | 172                              | 187       | -         | -         |
| N.Y. City      | 4,588      | 5,843     | 21,963    | 21,348    | 112               | 174       | 8                                | 12        | 15        | 12        |
| N.J.           | 1,619      | 1,839     | 8,632     | 9,585     | 22                | 22        | 42                               | 62        | 32        | 50        |
| Pa.            | 1,525      | 1,379     | 20,152    | 18,469    | 10                | N         | N                                | N         | 13        | 21        |
| E.N. CENTRAL   | 2,280      | 2,651     | 67,472    | 80,335    | 399               | 651       | 574                              | 387       | 421       | 317       |
| Ohio           | 345        | 567       | 19,151    | 21,807    | 54                | 63        | 199                              | 103       | 167       | 60        |
| Ind.           | 258        | 412       | 8,856     | 8,905     | 33                | 51        | 82                               | 81        | 52        | 47        |
| Ill.           | 1,108      | 986       | 21,692    | 21,629    | 17                | 75        | 188                              | 102       | 81        | 73        |
| Mich.          | 456        | 530       | 17,773    | 16,763    | 42                | 36        | 105                              | 101       | 73        | 62        |
| Wis.           | 113        | 156       | U         | 11,231    | 253               | 426       | N                                | N         | 48        | 75        |
| W.N. CENTRAL   | 770        | 685       | 26,710    | 28,234    | 182               | 245       | 520                              | 410       | 360       | 368       |
| Minn.          | 138        | 135       | 5,529     | 5,675     | 69                | 79        | 207                              | 178       | 155       | 194       |
| Iowa           | 69         | 58        | 3,438     | 3,637     | 51                | 61        | 102                              | 84        | 67        | 54        |
| Mo.            | 370        | 313       | 9,298     | 10,180    | 24                | 21        | 42                               | 41        | 55        | 59        |
| N. Dak.        | 6          | 5         | 325       | 831       | 16                | 28        | 16                               | 10        | 14        | 15        |
| S. Dak.        | 14         | 13        | 1,293     | 1,240     | 7                 | 19        | 42                               | 25        | 57        | 33        |
| Nebr.          | 60         | 60        | 2,601     | 2,278     | 14                | 31        | 90                               | 43        | -         | -         |
| Kans.          | 113        | 101       | 4,226     | 4,393     | 1                 | 6         | 21                               | 29        | 12        | 13        |
| S. ATLANTIC    | 9,423      | 9,742     | 95,743    | 91,406    | 324               | 284       | 280                              | 200       | 142       | 156       |
| Del.           | 129        | 112       | 2,207     | 2,080     | -                 | 3         | 6                                | -         | 3         | 2         |
| Md.            | 1,113      | 1,386     | 8,200     | 6,043     | 15                | 18        | 30                               | 35        | 2         | 14        |
| D.C.           | 412        | 692       | N         | N         | 8                 | 21        | -                                | 1         | U         | U         |
| Va.            | 608        | 769       | 11,398    | 11,199    | 21                | 20        | 66                               | N         | 48        | 51        |
| W. Va.         | 53         | 68        | 1,204     | 1,971     | 3                 | 1         | 10                               | 8         | 7         | 8         |
| N.C.           | 629        | 703       | 18,284    | 17,661    | 20                | N         | 61                               | 46        | 48        | 47        |
| S.C.           | 797        | 637       | 9,885     | 13,833    | -                 | -         | 19                               | 11        | 14        | 8         |
| Ga.            | 1,382      | 980       | 21,374    | 19,100    | 121               | 92        | 28                               | 66        | -         | -         |
| Fla.           | 4,300      | 4,395     | 23,191    | 19,519    | 136               | 129       | 60                               | 33        | 20        | 26        |
| E.S. CENTRAL   | 1,536      | 1,540     | 37,113    | 33,034    | 24                | 24        | 107                              | 106       | 56        | 61        |
| Ky.            | 214        | 246       | 6,084     | 5,166     | 6                 | 10        | 38                               | 33        | -         | -         |
| Tenn.          | 588        | 570       | 11,502    | 11,011    | 6                 | 8         | 43                               | 47        | 36        | 39        |
| Ala.           | 405        | 417       | 10,365    | 8,200     | 10                | N         | 21                               | 21        | 16        | 18        |
| Miss.          | 329        | 307       | 9,162     | 8,657     | 2                 | 6         | 5                                | 5         | 4         | 4         |
| W.S. CENTRAL   | 3,524      | 4,667     | 67,148    | 72,268    | 66                | 887       | 90                               | 83        | 101       | 92        |
| Ark.           | 132        | 176       | 4,751     | 3,145     | 1                 | 6         | 12                               | 10        | 8         | 10        |
| La.            | 663        | 756       | 10,879    | 11,978    | 22                | 15        | 9                                | 4         | 13        | 7         |
| Okla.          | 101        | 238       | 6,432     | 7,940     | 9                 | N         | 21                               | 13        | 17        | 8         |
| Tex.           | 2,628      | 3,497     | 45,086    | 49,205    | 34                | 866       | 48                               | 56        | 63        | 67        |
| MOUNTAIN       | 1,343      | 1,289     | 25,725    | 26,438    | 86                | 118       | 251                              | 317       | 152       | 224       |
| Mont.          | 8          | 26        | 1,262     | 1,043     | 10                | 10        | 22                               | 15        | -         | 5         |
| Idaho          | 19         | 19        | 1,375     | 1,623     | 7                 | 17        | 39                               | 36        | 20        | 24        |
| Wyo.           | 10         | 3         | 630       | 566       | 1                 | 2         | 14                               | 53        | 5         | 55        |
| Colo.          | 235        | 254       | 4,944     | 6,520     | 11                | 16        | 90                               | 71        | 81        | 57        |
| N. Mex.        | 74         | 188       | 2,992     | 2,866     | 38                | 46        | 11                               | 17        | 5         | 18        |
| Ariz.          | 697        | 502       | 10,201    | 9,436     | 12                | 18        | 28                               | 43        | 19        | 26        |
| Utah           | 116        | 101       | 1,752     | 1,706     | N                 | N         | 32                               | 67        | 20        | 21        |
| Nev.           | 184        | 196       | 2,569     | 2,678     | 7                 | 9         | 15                               | 15        | 2         | 18        |
| PACIFIC        | 4,830      | 5,082     | 71,382    | 78,129    | 298               | 379       | 351                              | 390       | 278       | 375       |
| Wash.          | 285        | 331       | 9,534     | 8,875     | N                 | N         | 136                              | 84        | 119       | 116       |
| Oreg.          | 151        | 138       | 5,041     | 4,480     | 87                | 63        | 71                               | 99        | 66        | 93        |
| Calif.         | 4,319      | 4,452     | 52,994    | 61,204    | 211               | 313       | 135                              | 201       | 82        | 152       |
| Alaska         | 13         | 17        | 1,528     | 1,511     | -                 | -         | 1                                | 6         | 1         | -         |
| Hawaii         | 62         | 144       | 2,285     | 2,059     | -                 | 3         | 8                                | -         | 10        | 14        |
| Guam           | 5          | -         | 302       | 341       | -                 | -         | N                                | N         | U         | U         |
| P.R.           | 1,013      | 1,421     | U         | U         | -                 | N         | 5                                | 5         | U         | U         |
| V.I.           | 25         | 25        | U         | U         | U                 | U         | U                                | U         | U         | U         |
| Amer. Samoa    | -          | -         | U         | U         | U                 | U         | U                                | U         | U         | U         |
| C.N.M.I.       | -          | -         | U         | U         | U                 | U         | U                                | U         | U         | U         |

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

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

†Updated monthly from reports to the Division of HIV/AIDS Prevention—Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update September 26, 1999.

**TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 1999, and October 24, 1998 (42nd Week)**

| Reporting Area | Gonorrhea |           | Hepatitis C/NA,NB |           | Legionellosis |           | Lyme Disease |           |
|----------------|-----------|-----------|-------------------|-----------|---------------|-----------|--------------|-----------|
|                | Cum. 1999 | Cum. 1998 | Cum. 1999         | Cum. 1998 | Cum. 1999     | Cum. 1998 | Cum. 1999    | Cum. 1998 |
| UNITED STATES  | 254,085   | 283,198   | 2,652             | 2,671     | 693           | 1,059     | 8,986        | 13,498    |
| NEW ENGLAND    | 4,980     | 4,889     | 59                | 54        | 63            | 73        | 3,114        | 4,194     |
| Maine          | 42        | 55        | 2                 | -         | 3             | 1         | 41           | 70        |
| N.H.           | 88        | 75        | -                 | -         | 6             | 6         | 16           | 38        |
| Vt.            | 37        | 32        | 6                 | 4         | 13            | 5         | 18           | 11        |
| Mass.          | 2,064     | 1,800     | 48                | 47        | 23            | 31        | 990          | 658       |
| R.I.           | 478       | 312       | 3                 | 3         | 7             | 19        | 408          | 503       |
| Conn.          | 2,271     | 2,615     | -                 | -         | 11            | 11        | 1,641        | 2,914     |
| MID. ATLANTIC  | 32,408    | 30,713    | 109               | 177       | 129           | 258       | 4,358        | 7,406     |
| Upstate N.Y.   | 5,618     | 5,726     | 74                | 90        | 49            | 80        | 3,226        | 3,450     |
| N.Y. City      | 11,762    | 9,602     | -                 | -         | 9             | 33        | 29           | 203       |
| N.J.           | 5,309     | 6,463     | -                 | U         | 13            | 15        | 389          | 1,635     |
| Pa.            | 9,719     | 8,922     | 35                | 87        | 58            | 130       | 714          | 2,118     |
| E.N. CENTRAL   | 45,168    | 55,302    | 1,333             | 573       | 192           | 354       | 103          | 687       |
| Ohio           | 11,535    | 14,165    | 3                 | 7         | 64            | 110       | 68           | 38        |
| Ind.           | 4,893     | 5,250     | 1                 | 5         | 32            | 62        | 19           | 34        |
| Ill.           | 16,115    | 18,030    | 38                | 37        | 10            | 48        | 10           | 14        |
| Mich.          | 12,625    | 12,733    | 700               | 392       | 57            | 70        | 1            | 12        |
| Wis.           | U         | 5,124     | 591               | 132       | 29            | 64        | 5            | 589       |
| W.N. CENTRAL   | 10,852    | 13,976    | 159               | 35        | 42            | 59        | 195          | 188       |
| Minn.          | 2,125     | 2,179     | 7                 | 9         | 9             | 6         | 132          | 142       |
| Iowa           | 903       | 1,219     | -                 | 8         | 11            | 9         | 19           | 23        |
| Mo.            | 4,686     | 7,316     | 141               | 12        | 14            | 16        | 21           | 11        |
| N. Dak.        | 31        | 66        | -                 | -         | 1             | -         | 1            | -         |
| S. Dak.        | 153       | 187       | -                 | -         | 3             | 3         | -            | -         |
| Nebr.          | 1,128     | 944       | 5                 | 4         | 4             | 18        | 10           | 3         |
| Kans.          | 1,826     | 2,065     | 6                 | 2         | -             | 7         | 12           | 9         |
| S. ATLANTIC    | 71,513    | 76,024    | 178               | 89        | 110           | 118       | 948          | 765       |
| Del.           | 1,372     | 1,214     | 1                 | -         | 11            | 12        | 41           | 58        |
| Md.            | 6,502     | 7,508     | 39                | 12        | 24            | 29        | 671          | 550       |
| D.C.           | 3,013     | 3,617     | 1                 | -         | 3             | 6         | 4            | 4         |
| Va.            | 7,547     | 7,529     | 10                | 11        | 28            | 17        | 109          | 56        |
| W. Va.         | 363       | 708       | 17                | 6         | N             | N         | 16           | 11        |
| N.C.           | 16,265    | 15,308    | 33                | 19        | 13            | 11        | 63           | 48        |
| S.C.           | 5,704     | 8,720     | 22                | 5         | 7             | 10        | 5            | 5         |
| Ga.            | 14,359    | 16,162    | 1                 | 9         | 1             | 8         | -            | 5         |
| Fla.           | 16,388    | 15,258    | 54                | 27        | 23            | 25        | 39           | 28        |
| E.S. CENTRAL   | 29,689    | 31,860    | 213               | 246       | 38            | 56        | 70           | 94        |
| Ky.            | 2,759     | 3,004     | 15                | 19        | 20            | 26        | 8            | 24        |
| Tenn.          | 9,268     | 9,620     | 80                | 146       | 14            | 18        | 30           | 41        |
| Ala.           | 9,285     | 10,527    | 2                 | 4         | 4             | 5         | 19           | 16        |
| Miss.          | 8,377     | 8,709     | 116               | 77        | -             | 7         | 13           | 13        |
| W.S. CENTRAL   | 37,663    | 44,318    | 191               | 443       | 6             | 29        | 28           | 19        |
| Ark.           | 2,474     | 3,243     | 16                | 16        | -             | 1         | 4            | 6         |
| La.            | 8,653     | 10,154    | 102               | 80        | 2             | 3         | -            | 4         |
| Okla.          | 3,162     | 4,348     | 14                | 12        | 3             | 12        | 4            | 2         |
| Tex.           | 23,374    | 26,573    | 59                | 335       | 1             | 13        | 20           | 7         |
| MOUNTAIN       | 7,625     | 7,394     | 124               | 335       | 41            | 62        | 16           | 14        |
| Mont.          | 43        | 32        | 5                 | 7         | -             | 2         | -            | -         |
| Idaho          | 69        | 142       | 7                 | 86        | 2             | 2         | 5            | 4         |
| Wyo.           | 26        | 28        | 37                | 83        | -             | 1         | 3            | 1         |
| Colo.          | 1,936     | 1,702     | 20                | 26        | 11            | 15        | -            | -         |
| N. Mex.        | 602       | 711       | 8                 | 82        | 1             | 2         | 1            | 4         |
| Ariz.          | 3,699     | 3,413     | 33                | 11        | 6             | 14        | -            | -         |
| Utah           | 174       | 183       | 6                 | 21        | 15            | 20        | 5            | -         |
| Nev.           | 1,076     | 1,183     | 8                 | 19        | 6             | 6         | 2            | 5         |
| PACIFIC        | 14,187    | 18,722    | 286               | 719       | 72            | 50        | 154          | 131       |
| Wash.          | 1,625     | 1,591     | 16                | 21        | 11            | 9         | 7            | 7         |
| Oreg.          | 730       | 644       | 17                | 16        | N             | N         | 11           | 19        |
| Calif.         | 11,257    | 15,811    | 253               | 628       | 60            | 39        | 136          | 104       |
| Alaska         | 247       | 253       | -                 | -         | 1             | 1         | -            | 1         |
| Hawaii         | 328       | 423       | -                 | 54        | -             | 1         | N            | N         |
| Guam           | 39        | 57        | 1                 | 1         | -             | 2         | -            | 1         |
| P.R.           | 255       | 303       | -                 | -         | -             | -         | N            | N         |
| V.I.           | U         | U         | U                 | U         | U             | U         | U            | U         |
| Amer. Samoa    | U         | U         | U                 | U         | U             | U         | U            | U         |
| C.N.M.I.       | U         | U         | U                 | U         | U             | U         | U            | U         |

N: Not notifiable

U: Unavailable

-: no reported cases

**TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 1999, and October 24, 1998 (42nd Week)**

| Reporting Area | Malaria   |           | Rabies, Animal |           | Salmonellosis* |           |           |           |
|----------------|-----------|-----------|----------------|-----------|----------------|-----------|-----------|-----------|
|                | Cum. 1999 | Cum. 1998 | Cum. 1999      | Cum. 1998 | NETSS          |           | PHLIS     |           |
|                |           |           |                |           | Cum. 1999      | Cum. 1998 | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 1,023     | 1,201     | 4,909          | 6,155     | 29,210         | 34,104    | 23,596    | 28,586    |
| NEW ENGLAND    | 51        | 52        | 735            | 1,226     | 1,381          | 2,025     | 1,642     | 1,952     |
| Maine          | 3         | 4         | 142            | 201       | 120            | 146       | 90        | 56        |
| N.H.           | 2         | 5         | 48             | 71        | 113            | 156       | 121       | 198       |
| Vt.            | 4         | 1         | 86             | 56        | 80             | 116       | 73        | 91        |
| Mass.          | 16        | 16        | 174            | 432       | 959            | 1,136     | 923       | 1,164     |
| R.I.           | 4         | 8         | 78             | 80        | 109            | 114       | 52        | 34        |
| Conn.          | 22        | 18        | 207            | 386       | U              | 357       | 383       | 409       |
| MID. ATLANTIC  | 230       | 361       | 906            | 1,335     | 3,249          | 5,481     | 2,995     | 5,010     |
| Upstate N.Y.   | 60        | 80        | 681            | 937       | 1,082          | 1,319     | 900       | 1,187     |
| N.Y. City      | 106       | 206       | U              | U         | 1,133          | 1,644     | 853       | 1,291     |
| N.J.           | 43        | 49        | 152            | 180       | 508            | 1,214     | 535       | 1,164     |
| Pa.            | 21        | 26        | 73             | 218       | 526            | 1,304     | 707       | 1,368     |
| E.N. CENTRAL   | 95        | 127       | 136            | 114       | 4,459          | 5,287     | 2,936     | 4,036     |
| Ohio           | 18        | 14        | 32             | 52        | 1,109          | 1,271     | 895       | 980       |
| Ind.           | 18        | 10        | 12             | 9         | 440            | 568       | 350       | 451       |
| Ill.           | 20        | 51        | 10             | N         | 1,366          | 1,628     | 399       | 1,274     |
| Mich.          | 33        | 42        | 79             | 34        | 826            | 965       | 824       | 886       |
| Wis.           | 6         | 10        | 3              | 19        | 718            | 855       | 468       | 445       |
| W.N. CENTRAL   | 63        | 75        | 600            | 616       | 1,886          | 1,926     | 1,913     | 1,993     |
| Minn.          | 33        | 42        | 92             | 102       | 557            | 467       | 599       | 553       |
| Iowa           | 13        | 7         | 140            | 134       | 225            | 325       | 186       | 259       |
| Mo.            | 13        | 14        | 13             | 36        | 586            | 524       | 773       | 722       |
| N. Dak.        | -         | 2         | 125            | 122       | 41             | 52        | 47        | 67        |
| S. Dak.        | -         | -         | 140            | 140       | 83             | 99        | 105       | 107       |
| Nebr.          | -         | 1         | 3              | 7         | 175            | 155       | -         | 38        |
| Kans.          | 4         | 9         | 87             | 75        | 219            | 304       | 203       | 247       |
| S. ATLANTIC    | 296       | 249       | 1,758          | 2,025     | 7,007          | 6,835     | 4,415     | 5,130     |
| Del.           | 1         | 3         | 37             | 40        | 114            | 67        | 137       | 106       |
| Md.            | 84        | 75        | 337            | 398       | 738            | 766       | 802       | 742       |
| D.C.           | 17        | 16        | -              | -         | 65             | 64        | U         | U         |
| Va.            | 62        | 49        | 466            | 481       | 1,102          | 916       | 789       | 757       |
| W. Va.         | 2         | 2         | 93             | 65        | 138            | 121       | 135       | 132       |
| N.C.           | 26        | 23        | 362            | 498       | 1,071          | 990       | 1,140     | 1,184     |
| S.C.           | 16        | 6         | 129            | 121       | 566            | 511       | 394       | 462       |
| Ga.            | 21        | 33        | 178            | 261       | 1,133          | 1,363     | 651       | 1,275     |
| Fla.           | 67        | 42        | 156            | 161       | 2,080          | 2,037     | 367       | 472       |
| E.S. CENTRAL   | 20        | 27        | 223            | 237       | 1,576          | 1,900     | 902       | 1,354     |
| Ky.            | 7         | 5         | 33             | 27        | 333            | 310       | -         | 124       |
| Tenn.          | 6         | 14        | 79             | 124       | 317            | 497       | 451       | 599       |
| Ala.           | 6         | 6         | 110            | 84        | 494            | 584       | 374       | 501       |
| Miss.          | 1         | 2         | 1              | 2         | 432            | 509       | 77        | 130       |
| W.S. CENTRAL   | 16        | 32        | 87             | 28        | 2,654          | 3,800     | 2,752     | 2,667     |
| Ark.           | 3         | 1         | 14             | 28        | 526            | 490       | 120       | 300       |
| La.            | 10        | 13        | -              | -         | 334            | 563       | 472       | 657       |
| Okla.          | 2         | 3         | 73             | N         | 359            | 398       | 271       | 189       |
| Tex.           | 1         | 15        | -              | -         | 1,435          | 2,349     | 1,889     | 1,521     |
| MOUNTAIN       | 41        | 58        | 172            | 224       | 2,505          | 2,127     | 2,094     | 1,764     |
| Mont.          | 4         | 1         | 52             | 47        | 50             | 70        | 1         | 43        |
| Idaho          | 3         | 8         | -              | N         | 90             | 101       | 77        | 81        |
| Wyo.           | 1         | -         | 41             | 55        | 55             | 57        | 22        | 50        |
| Colo.          | 15        | 18        | 1              | 38        | 609            | 467       | 631       | 444       |
| N. Mex.        | 2         | 12        | 9              | 6         | 295            | 255       | 217       | 224       |
| Ariz.          | 9         | 8         | 57             | 46        | 799            | 672       | 665       | 608       |
| Utah           | 4         | 1         | 7              | 26        | 441            | 300       | 428       | 122       |
| Nev.           | 3         | 10        | 5              | 6         | 166            | 205       | 53        | 192       |
| PACIFIC        | 211       | 220       | 292            | 350       | 4,493          | 4,723     | 3,947     | 4,680     |
| Wash.          | 22        | 17        | -              | -         | 523            | 399       | 670       | 556       |
| Oreg.          | 19        | 15        | 1              | 7         | 378            | 259       | 446       | 283       |
| Calif.         | 162       | 182       | 284            | 320       | 3,255          | 3,785     | 2,569     | 3,561     |
| Alaska         | 1         | 2         | 7              | 23        | 50             | 50        | 15        | 31        |
| Hawaii         | 7         | 4         | -              | -         | 287            | 230       | 247       | 249       |
| Guam           | -         | 2         | -              | -         | 24             | 29        | U         | U         |
| P.R.           | -         | -         | 61             | 45        | 255            | 622       | U         | U         |
| V.I.           | U         | U         | U              | U         | U              | U         | U         | U         |
| Amer. Samoa    | U         | U         | U              | U         | U              | U         | U         | U         |
| C.N.M.I.       | U         | U         | U              | U         | U              | U         | U         | U         |

N: Not notifiable U: Unavailable -: no reported cases

\*Individual cases may 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 October 23, 1999, and October 24, 1998 (42nd Week)**

| Reporting Area | Shigellosis* |              |              |              | Syphilis<br>(Primary & Secondary) |              | Tuberculosis  |               |
|----------------|--------------|--------------|--------------|--------------|-----------------------------------|--------------|---------------|---------------|
|                | NETSS        |              | PHLIS        |              | Cum.<br>1999                      | Cum.<br>1998 | Cum.<br>1999† | Cum.<br>1998† |
|                | Cum.<br>1999 | Cum.<br>1998 | Cum.<br>1999 | Cum.<br>1998 |                                   |              |               |               |
| UNITED STATES  | 12,166       | 17,156       | 5,931        | 9,764        | 5,089                             | 5,801        | 11,290        | 13,425        |
| NEW ENGLAND    | 578          | 365          | 556          | 328          | 46                                | 63           | 330           | 348           |
| Maine          | 5            | 12           | -            | -            | -                                 | 1            | 16            | 11            |
| N.H.           | 16           | 15           | 14           | 18           | -                                 | 2            | 10            | -             |
| Vt.            | 6            | 6            | 4            | 1            | 3                                 | 4            | 1             | 4             |
| Mass.          | 529          | 243          | 481          | 236          | 28                                | 35           | 194           | 197           |
| R.I.           | 22           | 31           | 9            | 13           | 2                                 | 1            | 35            | 41            |
| Conn.          | U            | 58           | 48           | 60           | 13                                | 20           | 74            | 95            |
| MID. ATLANTIC  | 743          | 2,035        | 370          | 1,519        | 216                               | 259          | 2,087         | 2,342         |
| Upstate N.Y.   | 239          | 489          | 45           | 172          | 24                                | 35           | 259           | 291           |
| N.Y. City      | 238          | 620          | 82           | 542          | 79                                | 60           | 1,120         | 1,154         |
| N.J.           | 195          | 603          | 121          | 566          | 48                                | 79           | 422           | 497           |
| Pa.            | 71           | 323          | 122          | 239          | 65                                | 85           | 286           | 400           |
| E.N. CENTRAL   | 2,274        | 2,369        | 1,120        | 1,258        | 950                               | 850          | 1,061         | 1,341         |
| Ohio           | 368          | 424          | 115          | 110          | 75                                | 121          | 199           | 194           |
| Ind.           | 250          | 143          | 90           | 35           | 374                               | 165          | 76            | 130           |
| Ill.           | 868          | 1,295        | 592          | 1,051        | 316                               | 349          | 465           | 634           |
| Mich.          | 363          | 227          | 255          | 4            | 185                               | 160          | 239           | 299           |
| Wis.           | 425          | 280          | 68           | 58           | U                                 | 55           | 82            | 84            |
| W.N. CENTRAL   | 942          | 882          | 609          | 515          | 102                               | 112          | 360           | 382           |
| Minn.          | 207          | 268          | 208          | 296          | 9                                 | 8            | 129           | 119           |
| Iowa           | 46           | 61           | 41           | 40           | 9                                 | 2            | 37            | 38            |
| Mo.            | 575          | 117          | 316          | 88           | 67                                | 84           | 137           | 142           |
| N. Dak.        | 2            | 7            | 2            | 3            | -                                 | -            | 6             | 8             |
| S. Dak.        | 13           | 31           | 6            | 21           | -                                 | 1            | 17            | 16            |
| Nebr.          | 62           | 338          | -            | 19           | 7                                 | 4            | 15            | 18            |
| Kans.          | 37           | 60           | 36           | 48           | 10                                | 13           | 19            | 41            |
| S. ATLANTIC    | 1,979        | 3,506        | 385          | 1,086        | 1,604                             | 2,100        | 2,343         | 2,470         |
| Del.           | 12           | 27           | 8            | 25           | 8                                 | 20           | 12            | 32            |
| Md.            | 136          | 177          | 47           | 63           | 300                               | 570          | 219           | 253           |
| D.C.           | 46           | 25           | U            | U            | 58                                | 71           | 35            | 89            |
| Va.            | 112          | 168          | 43           | 78           | 124                               | 121          | 221           | 222           |
| W. Va.         | 8            | 11           | 5            | 7            | 2                                 | 2            | 35            | 32            |
| N.C.           | 168          | 252          | 77           | 139          | 400                               | 608          | 348           | 351           |
| S.C.           | 109          | 147          | 53           | 71           | 218                               | 240          | 207           | 227           |
| Ga.            | 195          | 928          | 37           | 219          | 248                               | 233          | 457           | 431           |
| Fla.           | 1,193        | 1,771        | 115          | 484          | 246                               | 235          | 809           | 833           |
| E.S. CENTRAL   | 913          | 925          | 450          | 713          | 936                               | 1,014        | 715           | 918           |
| Ky.            | 216          | 110          | -            | 45           | 85                                | 87           | 151           | 135           |
| Tenn.          | 508          | 366          | 393          | 457          | 517                               | 476          | 257           | 293           |
| Ala.           | 96           | 401          | 47           | 204          | 186                               | 235          | 251           | 309           |
| Miss.          | 93           | 48           | 10           | 7            | 148                               | 216          | 56            | 181           |
| W.S. CENTRAL   | 1,740        | 3,385        | 1,727        | 1,073        | 783                               | 873          | 1,239         | 2,007         |
| Ark.           | 71           | 177          | 23           | 55           | 57                                | 94           | 135           | 114           |
| La.            | 118          | 266          | 99           | 233          | 200                               | 347          | U             | 243           |
| Okla.          | 425          | 396          | 143          | 111          | 153                               | 77           | 108           | 142           |
| Tex.           | 1,126        | 2,546        | 1,462        | 674          | 373                               | 355          | 996           | 1,508         |
| MOUNTAIN       | 894          | 1,034        | 533          | 629          | 199                               | 212          | 366           | 439           |
| Mont.          | 7            | 8            | -            | 3            | 1                                 | -            | 10            | 18            |
| Idaho          | 24           | 18           | 9            | 13           | 1                                 | 2            | 14            | 10            |
| Wyo.           | 3            | 3            | 1            | 1            | -                                 | 1            | 3             | 4             |
| Colo.          | 156          | 170          | 121          | 131          | 2                                 | 10           | U             | 52            |
| N. Mex.        | 109          | 251          | 62           | 141          | 11                                | 22           | 49            | 54            |
| Ariz.          | 460          | 498          | 322          | 294          | 176                               | 159          | 180           | 157           |
| Utah           | 57           | 38           | 12           | 28           | 2                                 | 4            | 35            | 45            |
| Nev.           | 78           | 48           | 6            | 18           | 6                                 | 14           | 75            | 99            |
| PACIFIC        | 2,103        | 2,655        | 181          | 2,643        | 253                               | 318          | 2,789         | 3,178         |
| Wash.          | 92           | 171          | 79           | 149          | 57                                | 27           | 136           | 208           |
| Oreg.          | 78           | 124          | 75           | 131          | 9                                 | 4            | 86            | 115           |
| Calif.         | 1,905        | 2,318        | -            | 2,318        | 184                               | 283          | 2,384         | 2,667         |
| Alaska         | 2            | 6            | 2            | 3            | 1                                 | 1            | 43            | 43            |
| Hawaii         | 26           | 36           | 25           | 42           | 2                                 | 3            | 140           | 145           |
| Guam           | 8            | 31           | U            | U            | 1                                 | 1            | 11            | 76            |
| P.R.           | 62           | 47           | U            | U            | 134                               | 151          | 41            | 122           |
| V.I.           | U            | U            | U            | U            | U                                 | U            | U             | U             |
| Amer. Samoa    | U            | U            | U            | U            | U                                 | U            | U             | U             |
| C.N.M.I.       | U            | U            | U            | U            | U                                 | U            | U             | U             |

N: Not notifiable U: Unavailable -: no reported cases

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

†Cumulative reports of provisional tuberculosis cases for 1999 are unavailable ("U") for some areas using the Tuberculosis Information System (TIMS).

**TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending October 23, 1999, and October 24, 1998 (42nd Week)**

| Reporting Area | <i>H. influenzae</i> , invasive |           | Hepatitis (Viral), by type |           |           |           | Measles (Rubeola) |           |           |           |           |           |
|----------------|---------------------------------|-----------|----------------------------|-----------|-----------|-----------|-------------------|-----------|-----------|-----------|-----------|-----------|
|                | Cum. 1999†                      | Cum. 1998 | A                          |           | B         |           | Indigenous        |           | Imported* |           | Total     |           |
|                |                                 |           | Cum. 1999                  | Cum. 1998 | Cum. 1999 | Cum. 1998 | 1999              | Cum. 1999 | 1999      | Cum. 1999 | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 943                             | 883       | 12,405                     | 18,126    | 5,122     | 7,815     | 1                 | 53        | -         | 22        | 75        | 77        |
| NEW ENGLAND    | 77                              | 62        | 228                        | 237       | 78        | 174       | -                 | 6         | -         | 5         | 11        | 3         |
| Maine          | 5                               | 3         | 11                         | 16        | 1         | 2         | -                 | -         | -         | -         | -         | -         |
| N.H.           | 17                              | 10        | 15                         | 11        | 13        | 16        | U                 | -         | U         | 1         | 1         | -         |
| Vt.            | 5                               | 7         | 17                         | 14        | 2         | 8         | -                 | -         | -         | -         | -         | 1         |
| Mass.          | 28                              | 36        | 70                         | 106       | 33        | 64        | -                 | 5         | -         | 3         | 8         | 2         |
| R.I.           | 5                               | 5         | 16                         | 14        | 29        | 58        | -                 | -         | -         | -         | -         | -         |
| Conn.          | 17                              | 1         | 99                         | 76        | -         | 26        | -                 | 1         | -         | 1         | 2         | -         |
| MID. ATLANTIC  | 142                             | 140       | 768                        | 1,423     | 520       | 1,021     | -                 | -         | -         | 2         | 2         | 14        |
| Upstate N.Y.   | 70                              | 47        | 222                        | 295       | 156       | 197       | -                 | -         | -         | 2         | 2         | 2         |
| N.Y. City      | 31                              | 39        | 233                        | 500       | 161       | 360       | -                 | -         | -         | -         | -         | -         |
| N.J.           | 40                              | 47        | 64                         | 299       | 41        | 175       | -                 | -         | -         | -         | -         | 8         |
| Pa.            | 1                               | 7         | 249                        | 329       | 162       | 289       | -                 | -         | -         | -         | -         | 4         |
| E.N. CENTRAL   | 147                             | 150       | 2,345                      | 2,920     | 536       | 1,190     | -                 | 1         | -         | 1         | 2         | 15        |
| Ohio           | 51                              | 45        | 559                        | 263       | 81        | 66        | -                 | 4         | -         | -         | -         | 1         |
| Ind.           | 21                              | 36        | 94                         | 128       | 36        | 93        | -                 | 1         | -         | -         | 1         | 3         |
| Ill.           | 62                              | 53        | 545                        | 659       | 1         | 202       | -                 | -         | -         | -         | -         | -         |
| Mich.          | 13                              | 9         | 1,104                      | 1,701     | 413       | 383       | -                 | -         | -         | 1         | 1         | 10        |
| Wis.           | -                               | 7         | 43                         | 169       | 5         | 446       | -                 | -         | -         | -         | -         | 1         |
| W.N. CENTRAL   | 79                              | 80        | 640                        | 1,196     | 253       | 334       | -                 | 1         | -         | -         | 1         | -         |
| Minn.          | 38                              | 62        | 63                         | 110       | 41        | 41        | -                 | 1         | -         | -         | 1         | -         |
| Iowa           | 9                               | 2         | 118                        | 383       | 33        | 50        | -                 | -         | -         | -         | -         | -         |
| Mo.            | 23                              | 9         | 358                        | 556       | 137       | 197       | -                 | -         | -         | -         | -         | -         |
| N. Dak.        | 1                               | -         | 2                          | 3         | -         | 4         | U                 | -         | U         | -         | -         | -         |
| S. Dak.        | 1                               | -         | 9                          | 28        | 1         | 2         | -                 | -         | -         | -         | -         | -         |
| Nebr.          | 3                               | 1         | 50                         | 25        | 14        | 18        | -                 | -         | -         | -         | -         | -         |
| Kans.          | 4                               | 6         | 40                         | 91        | 27        | 22        | -                 | -         | -         | -         | -         | -         |
| S. ATLANTIC    | 210                             | 158       | 1,668                      | 1,568     | 1,002     | 811       | 1                 | 10        | -         | 5         | 15        | 8         |
| Del.           | -                               | -         | 2                          | 3         | 1         | 3         | -                 | -         | -         | -         | -         | 1         |
| Md.            | 55                              | 50        | 301                        | 338       | 142       | 115       | -                 | -         | -         | -         | -         | 1         |
| D.C.           | 4                               | -         | 54                         | 55        | 21        | 11        | -                 | -         | -         | -         | -         | -         |
| Va.            | 16                              | 16        | 142                        | 174       | 75        | 84        | 1                 | 10        | -         | 3         | 13        | 2         |
| W. Va.         | 6                               | 6         | 32                         | 6         | 22        | 8         | -                 | -         | -         | -         | -         | -         |
| N.C.           | 29                              | 23        | 134                        | 99        | 194       | 173       | -                 | -         | -         | -         | -         | -         |
| S.C.           | 5                               | 3         | 41                         | 33        | 63        | 33        | -                 | -         | -         | -         | -         | -         |
| Ga.            | 55                              | 35        | 406                        | 501       | 146       | 127       | -                 | -         | -         | -         | -         | 2         |
| Fla.           | 40                              | 25        | 556                        | 359       | 338       | 257       | U                 | -         | U         | 2         | 2         | 2         |
| E.S. CENTRAL   | 52                              | 50        | 326                        | 336       | 345       | 412       | -                 | 2         | -         | -         | 2         | 2         |
| Ky.            | 6                               | 7         | 55                         | 27        | 36        | 40        | -                 | 2         | -         | -         | 2         | -         |
| Tenn.          | 28                              | 29        | 142                        | 193       | 166       | 230       | -                 | -         | -         | -         | -         | 1         |
| Ala.           | 15                              | 12        | 47                         | 61        | 74        | 65        | -                 | -         | -         | -         | -         | 1         |
| Miss.          | 3                               | 2         | 82                         | 55        | 69        | 77        | -                 | -         | -         | -         | -         | -         |
| W.S. CENTRAL   | 45                              | 48        | 2,360                      | 3,209     | 722       | 1,724     | -                 | 6         | -         | 4         | 10        | -         |
| Ark.           | 2                               | -         | 43                         | 74        | 49        | 91        | -                 | 1         | -         | -         | 1         | -         |
| La.            | 7                               | 20        | 73                         | 85        | 77        | 127       | U                 | -         | U         | -         | -         | -         |
| Okla.          | 32                              | 25        | 389                        | 491       | 108       | 71        | -                 | -         | -         | -         | -         | -         |
| Tex.           | 4                               | 3         | 1,855                      | 2,559     | 488       | 1,435     | -                 | 5         | -         | 4         | 9         | -         |
| MOUNTAIN       | 96                              | 97        | 1,083                      | 2,714     | 487       | 693       | -                 | 3         | -         | -         | 3         | -         |
| Mont.          | 2                               | -         | 17                         | 87        | 17        | 5         | -                 | -         | -         | -         | -         | -         |
| Idaho          | 1                               | -         | 36                         | 221       | 25        | 38        | -                 | -         | -         | -         | -         | -         |
| Wyo.           | 1                               | 1         | 7                          | 33        | 12        | 9         | -                 | -         | -         | -         | -         | -         |
| Colo.          | 11                              | 21        | 189                        | 271       | 79        | 89        | -                 | -         | -         | -         | -         | -         |
| N. Mex.        | 18                              | 6         | 43                         | 126       | 152       | 271       | -                 | -         | -         | -         | -         | -         |
| Ariz.          | 52                              | 46        | 630                        | 1,617     | 129       | 149       | -                 | 1         | -         | -         | 1         | -         |
| Utah           | 8                               | 4         | 45                         | 164       | 29        | 62        | -                 | 2         | -         | -         | 2         | -         |
| Nev.           | 3                               | 19        | 116                        | 195       | 44        | 70        | -                 | -         | -         | -         | -         | -         |
| PACIFIC        | 95                              | 98        | 2,987                      | 4,523     | 1,179     | 1,456     | -                 | 24        | -         | 5         | 29        | 35        |
| Wash.          | 4                               | 8         | 270                        | 857       | 56        | 87        | -                 | -         | -         | -         | -         | 1         |
| Oreg.          | 38                              | 37        | 216                        | 357       | 81        | 154       | -                 | 9         | -         | -         | 9         | -         |
| Calif.         | 40                              | 43        | 2,480                      | 3,242     | 1,016     | 1,190     | -                 | 15        | -         | 4         | 19        | 7         |
| Alaska         | 6                               | 3         | 9                          | 16        | 14        | 12        | -                 | -         | -         | -         | -         | 27        |
| Hawaii         | 7                               | 7         | 12                         | 51        | 12        | 13        | -                 | -         | -         | 1         | 1         | -         |
| Guam           | -                               | -         | 2                          | 1         | 2         | 2         | U                 | 1         | U         | -         | 1         | -         |
| P.R.           | 1                               | 2         | 112                        | 58        | 102       | 203       | -                 | -         | -         | -         | -         | -         |
| V.I.           | U                               | U         | U                          | U         | U         | U         | U                 | U         | U         | U         | U         | U         |
| Amer. Samoa    | U                               | U         | U                          | U         | U         | U         | U                 | U         | U         | U         | U         | U         |
| C.N.M.I.       | U                               | U         | U                          | U         | U         | U         | U                 | U         | U         | U         | U         | U         |

N: Not notifiable U: Unavailable -: no reported cases

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

†Of 180 cases among children aged <5 years, serotype was reported for 92 and of those, 24 were type b.



**TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending October 23, 1999, and October 24, 1998 (42nd Week)**

| Reporting Area | Meningococcal Disease |           | Mumps |           |           | Pertussis |           |           | Rubella |           |           |
|----------------|-----------------------|-----------|-------|-----------|-----------|-----------|-----------|-----------|---------|-----------|-----------|
|                | Cum. 1999             | Cum. 1998 | 1999  | Cum. 1999 | Cum. 1998 | 1999      | Cum. 1999 | Cum. 1998 | 1999    | Cum. 1999 | Cum. 1998 |
| UNITED STATES  | 1,938                 | 2,162     | 6     | 269       | 553       | 87        | 4,374     | 5,244     | -       | 226       | 345       |
| NEW ENGLAND    | 97                    | 96        | 2     | 8         | 7         | 11        | 522       | 847       | -       | 7         | 38        |
| Maine          | 5                     | 6         | -     | -         | -         | -         | -         | 5         | -       | -         | -         |
| N.H.           | 12                    | 11        | U     | 1         | -         | U         | 78        | 95        | U       | -         | -         |
| Vt.            | 4                     | 5         | -     | 1         | -         | 2         | 54        | 66        | -       | -         | -         |
| Mass.          | 57                    | 42        | -     | 4         | 4         | -         | 343       | 633       | -       | 7         | 8         |
| R.I.           | 4                     | 7         | 2     | 2         | 1         | 9         | 33        | 9         | -       | -         | 1         |
| Conn.          | 15                    | 25        | -     | -         | 2         | -         | 14        | 39        | -       | -         | 29        |
| MID. ATLANTIC  | 174                   | 228       | 1     | 29        | 178       | 1         | 689       | 520       | -       | 22        | 146       |
| Upstate N.Y.   | 55                    | 62        | 1     | 10        | 6         | 1         | 603       | 278       | -       | 18        | 114       |
| N.Y. City      | 45                    | 29        | -     | 3         | 155       | -         | 10        | 31        | -       | -         | 18        |
| N.J.           | 41                    | 51        | -     | -         | 6         | -         | 12        | 23        | -       | 1         | 13        |
| Pa.            | 33                    | 86        | -     | 16        | 11        | -         | 64        | 188       | -       | 3         | 1         |
| E.N. CENTRAL   | 341                   | 332       | -     | 33        | 69        | 17        | 343       | 664       | -       | 2         | -         |
| Ohio           | 121                   | 122       | -     | 14        | 26        | 4         | 177       | 232       | -       | -         | -         |
| Ind.           | 56                    | 57        | -     | 4         | 6         | 4         | 58        | 120       | -       | 1         | -         |
| Ill.           | 93                    | 87        | -     | 8         | 9         | 8         | 57        | 91        | -       | 1         | -         |
| Mich.          | 40                    | 39        | -     | 7         | 26        | 1         | 47        | 59        | -       | -         | -         |
| Wis.           | 31                    | 27        | -     | -         | 2         | -         | 4         | 162       | -       | -         | -         |
| W.N. CENTRAL   | 213                   | 186       | -     | 12        | 28        | -         | 329       | 469       | -       | 123       | 39        |
| Minn.          | 46                    | 29        | -     | 1         | 12        | -         | 186       | 271       | -       | 5         | -         |
| Iowa           | 39                    | 35        | -     | 6         | 10        | -         | 46        | 63        | -       | 29        | -         |
| Mo.            | 84                    | 69        | -     | 2         | 3         | -         | 50        | 32        | -       | 2         | 2         |
| N. Dak.        | 3                     | 5         | U     | -         | 2         | U         | 4         | 3         | U       | -         | -         |
| S. Dak.        | 11                    | 7         | -     | -         | -         | -         | 5         | 8         | -       | -         | -         |
| Nebr.          | 12                    | 13        | -     | -         | -         | -         | 3         | 15        | -       | 87        | -         |
| Kans.          | 18                    | 28        | -     | 3         | 1         | -         | 35        | 77        | -       | -         | 37        |
| S. ATLANTIC    | 341                   | 354       | 2     | 45        | 43        | -         | 341       | 273       | -       | 36        | 18        |
| Del.           | 8                     | 2         | -     | -         | -         | -         | 5         | 5         | -       | -         | -         |
| Md.            | 49                    | 25        | 1     | 4         | -         | -         | 96        | 53        | -       | 1         | 1         |
| D.C.           | 1                     | 1         | -     | 2         | -         | -         | -         | 1         | -       | -         | -         |
| Va.            | 45                    | 32        | 1     | 10        | 7         | -         | 19        | 29        | -       | -         | 1         |
| W. Va.         | 6                     | 14        | -     | -         | -         | -         | 3         | 1         | -       | -         | -         |
| N.C.           | 38                    | 49        | -     | 8         | 10        | -         | 85        | 89        | -       | 35        | 13        |
| S.C.           | 42                    | 49        | -     | 4         | 6         | -         | 15        | 25        | -       | -         | -         |
| Ga.            | 54                    | 84        | -     | 4         | 1         | -         | 35        | 24        | -       | -         | -         |
| Fla.           | 98                    | 98        | U     | 13        | 19        | U         | 83        | 46        | U       | -         | 3         |
| E.S. CENTRAL   | 120                   | 168       | -     | 11        | 14        | -         | 69        | 109       | -       | 1         | 2         |
| Ky.            | 26                    | 30        | -     | -         | -         | -         | 21        | 49        | -       | -         | -         |
| Tenn.          | 43                    | 60        | -     | -         | 1         | -         | 27        | 32        | -       | -         | 2         |
| Ala.           | 30                    | 44        | -     | 8         | 8         | -         | 18        | 24        | -       | 1         | -         |
| Miss.          | 21                    | 34        | -     | 3         | 5         | -         | 3         | 4         | -       | -         | -         |
| W.S. CENTRAL   | 146                   | 265       | -     | 30        | 54        | 3         | 151       | 322       | -       | 15        | 87        |
| Ark.           | 31                    | 27        | -     | -         | 11        | -         | 18        | 71        | -       | 6         | -         |
| La.            | 34                    | 51        | U     | 3         | 7         | U         | 3         | 8         | U       | -         | -         |
| Okla.          | 26                    | 36        | -     | 1         | -         | -         | 12        | 31        | -       | -         | -         |
| Tex.           | 55                    | 151       | -     | 26        | 36        | 3         | 118       | 212       | -       | 9         | 87        |
| MOUNTAIN       | 123                   | 120       | -     | 23        | 35        | 32        | 600       | 904       | -       | 16        | 5         |
| Mont.          | 2                     | 4         | -     | -         | -         | -         | 2         | 9         | -       | -         | -         |
| Idaho          | 10                    | 10        | -     | 1         | 4         | 4         | 135       | 212       | -       | -         | -         |
| Wyo.           | 4                     | 5         | -     | -         | 1         | -         | 2         | 8         | -       | -         | -         |
| Colo.          | 31                    | 23        | -     | 5         | 6         | 12        | 177       | 223       | -       | 1         | -         |
| N. Mex.        | 14                    | 24        | N     | N         | N         | 16        | 126       | 86        | -       | -         | 1         |
| Ariz.          | 41                    | 37        | -     | 7         | 6         | -         | 98        | 181       | -       | 13        | 1         |
| Utah           | 14                    | 10        | -     | 5         | 5         | -         | 55        | 146       | -       | 1         | 2         |
| Nev.           | 7                     | 7         | -     | 5         | 13        | -         | 5         | 39        | -       | 1         | 1         |
| PACIFIC        | 383                   | 413       | 1     | 78        | 125       | 23        | 1,330     | 1,136     | -       | 4         | 10        |
| Wash.          | 59                    | 58        | -     | 2         | 9         | 8         | 587       | 270       | -       | -         | 5         |
| Oreg.          | 66                    | 72        | N     | N         | N         | 2         | 46        | 77        | -       | -         | -         |
| Calif.         | 247                   | 275       | 1     | 62        | 91        | 13        | 663       | 759       | -       | 4         | 3         |
| Alaska         | 5                     | 3         | -     | 2         | 2         | -         | 4         | 14        | -       | -         | -         |
| Hawaii         | 6                     | 5         | -     | 12        | 23        | -         | 30        | 16        | -       | -         | 2         |
| Guam           | 2                     | 2         | U     | 1         | 5         | U         | 1         | 1         | U       | -         | -         |
| P.R.           | 5                     | 9         | -     | -         | 3         | -         | 16        | 5         | -       | -         | 12        |
| V.I.           | U                     | U         | U     | U         | U         | U         | U         | U         | 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         | U         | U       | U         | U         |

N: Not notifiable

U: Unavailable

-: no reported cases



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