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CENTERS FOR DISEASE CONTROL AND PREVENTION

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## National Arthritis Month — May 1994

May is National Arthritis Month. During this month, nationwide educational activities are planned to increase awareness of arthritis. Additional information about arthritis and addresses of local chapters are available from the Arthritis Foundation, P.O. Box 19000, Atlanta, GA 30326; telephone (800) 283-7800.

*Current Trends*

## Prevalence of Arthritis — Arizona, Missouri, and Ohio, 1991–1992

Although regional and national data about arthritis can be used to develop synthetically derived measures of prevalence for states (*1*), few state surveys exist for determining the prevalence and impact of arthritis at that level. To measure state-specific prevalences, during 1991–1992 Arizona, Missouri, and Ohio added questions about arthritis to their Behavioral Risk Factor Surveillance System (BRFSS) surveys. This report presents BRFSS-derived estimates of self-reported prevalence of clinically diagnosed arthritis in these states and characteristics of adults who reported this disorder.

The BRFSS is a state-based, random-digit–dialed telephone survey that collects self-reported data from a representative sample of civilian, noninstitutionalized persons aged ≥18 years (*2*). BRFSS data were analyzed from 4688 persons who resided in Arizona (n=1847), Missouri (n=1509), and Ohio (n=1332). In Arizona, respondents were asked if they currently had some form of arthritis, gout, bursitis, tendonitis, or lupus and if they had been told this by a doctor. In Ohio, respondents were asked if they ever had been told by a doctor that they had any of those conditions. In Missouri, respondents were asked if they ever had been told by a health professional that they had arthritis. For the purpose of this report, persons who answered "yes" to any of these questions were considered to have arthritis. Respondents in Arizona and Ohio

**TABLE 1. Weighted number and percentage of persons aged ≥18 years who reported arthritis, by selected characteristics — Ohio, 1991, and Arizona and Missouri, 1992**

| Characteristic | Arizona | | | | | Ohio | | | | | Missouri | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Weighted no.* | % | (95% CI†) | Age-adjusted prevalence§ | (95% CI) | Weighted no.* | % | (95% CI) | Age-adjusted prevalence§ | (95% CI) | Weighted no.* | % | (95% CI) | Age-adjusted prevalence§ | (95% CI) |
| **Age group (yrs)** | | | | | | | | | | | | | | | |
| 18–44 | 176 | 10.5 | (± 2.4%) | — | — | 567 | 12.5 | (± 2.7%) | — | — | 204 | 9.7 | (±2.2%) | — | — |
| 45–64 | 192 | 30.3 | (± 6.7%) | — | — | 667 | 31.9 | (± 5.7%) | — | — | 329 | 32.8 | (±4.9%) | — | — |
| 65–74 | 103 | 38.3 | (± 9.0%) | — | — | 530 | 53.8 | (± 8.4%) | — | — | 213 | 50.4 | (±7.4%) | — | — |
| ≥75 | 99 | 52.0 | (±10.2%) | — | — | 194 | 49.2 | (±10.8%) | — | — | 153 | 58.4 | (±9.4%) | — | — |
| **Race** | | | | | | | | | | | | | | | |
| White | 541 | 21.3 | (± 2.7%) | 21.3 | (±2.6%) | 1809 | 25.4 | (± 2.7%) | 24.3 | (±2.6%) | 825 | 24.4 | (±2.4%) | 22.4 | (±2.1%) |
| Other¶ | 26 | 11.1 | (± 7.1%) | 12.7 | (±6.9%) | 158 | 17.8 | (± 6.3%) | 19.4 | (±5.6%) | 77 | 18.6 | (±6.9%) | 21.4 | (±6.4%) |
| **Sex** | | | | | | | | | | | | | | | |
| Male | 232 | 17.5 | (± 3.5%) | 18.6 | (±3.3%) | 729 | 19.3 | (± 3.5%) | 19.0 | (±3.3%) | 303 | 16.9 | (±2.9%) | 17.0 | (±2.8%) |
| Female | 339 | 23.2 | (± 3.7%) | 22.3 | (±3.4%) | 1237 | 29.3 | (± 3.7%) | 27.6 | (±3.4%) | 599 | 29.8 | (±3.3%) | 26.8 | (±2.8%) |
| **Body mass index** | | | | | | | | | | | | | | | |
| Men | | | | | | | | | | | | | | | |
| ≥27.8 | 47 | 19.2 | (± 7.3%) | 18.9 | (±2.9%) | 208 | 22.2 | (± 7.4%) | 23.7 | (±5.6%) | 126 | 23.5 | (±6.1%) | 23.8 | (±5.1%) |
| <27.8 | 180 | 17.1 | (± 3.9%) | 18.0 | (±5.7%) | 495 | 18.0 | (± 3.9%) | 18.0 | (±3.7%) | 177 | 14.4 | (±3.3%) | 15.1 | (±3.3%) |
| Women | | | | | | | | | | | | | | | |
| ≥27.3 | 98 | 32.6 | (± 9.2%) | 32.7 | (±6.9%) | 417 | 41.5 | (± 8.4%) | 37.2 | (±9.2%) | 234 | 46.5 | (±6.9%) | 38.4 | (±6.0%) |
| <27.3 | 218 | 20.1 | (± 3.9%) | 19.0 | (±3.5%) | 738 | 25.0 | (± 4.1%) | 25.8 | (±3.9%) | 341 | 24.3 | (±3.7%) | 22.3 | (±3.2%) |
| **Education** | | | | | | | | | | | | | | | |
| ≤8th Grade/ Some high school | 114 | 21.4 | (± 5.1%) | 20.8 | (±4.7%) | 415 | 37.6 | (± 7.1%) | 25.2 | (±5.8%) | 263 | 42.2 | (±6.5%) | 28.9 | (±5.6%) |
| High school graduate/ GED** | 142 | 19.6 | (± 4.9%) | 18.9 | (±4.2%) | 896 | 24.1 | (± 3.7%) | 22.4 | (±3.4%) | 311 | 22.0 | (±3.5%) | 21.1 | (±3.0%) |
| Some technical school/ Some college | 178 | 18.7 | (± 4.1%) | 20.6 | (±4.2%) | 364 | 20.6 | (± 5.1%) | 25.8 | (±5.6%) | 194 | 19.5 | (±4.1%) | 22.5 | (±4.2%) |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| College graduate/ Post-graduate/ Professional | 137 | 24.0 (± 6.5%) | 22.6 | (±4.8%) | 288 | 20.4 (± 5.7%) | 23.1 | (±6.2%) | 133 | 17.3 | (±4.5%) | 22.1 | (±5.5%) |
| **Activity limitation** | | | | | | | | | | | | | |
| Every day/ Almost every day | 76 | 13.3 (± 4.3%) | 10.6 | (±4.0%) | 276 | 14.0 (± 3.5%) | 9.0 | (±2.5%) | — | — | — | — | — |
| Once a week/ Occasionally | 190 | 33.3 (± 5.9%) | 38.0 | (±8.3%) | 619 | 31.5 (± 5.5%) | 34.4 | (±7.8%) | — | — | — | — | — |
| Never | 298 | 52.1 (± 6.7%) | 50.4 | (±8.9%) | 1011 | 51.4 (± 5.7%) | 52.9 | (±7.9%) | — | — | — | — | — |
| **Total** | **571** | **20.5 (± 2.5%)** | **20.8** | **(±2.4%)** | **1967** | **24.5 (± 2.5%)** | **23.7** | **(±2.4%)** | **902** | **23.7** | **(±2.4%)** | **22.3** | **(±1.9%)** |

*In thousands. For Arizona, sample size=1847; for Ohio, sample size=1332; and for Missouri, sample size=1509.
†Confidence interval=1.96 X standard error.
§Standard population for age, adjusted to the 1980 U.S. census.
¶Numbers for races other than white were too small for separate analysis.
**General Educational Development certificate.

*Arthritis — Continued*

also were asked how often arthritis prevented them from performing work or participating in social activities.

Prevalence rates of arthritis were 20.5% in Arizona, 23.7% in Missouri, and 24.5% in Ohio (Table 1). Prevalence increased with age, and half of respondents aged ≥75 years were affected. For example, in Missouri, 9.7% of persons aged 18–44 years reported having arthritis, compared with 58.4% of persons aged ≥75 years. Age-adjusted prevalence rates were higher for whites, women, and overweight adults (men: body mass index [BMI] ≥27.8; women: BMI ≥27.3). Of persons who reported having arthritis, 47% in Arizona and 46% in Ohio reported limited activity. Activity limitations occurred every day or almost every day for 13% in Arizona and 14% in Ohio.

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**Editorial Note:** Although there are few comparable state surveys to verify the validity of these results, at least two observations can be made by comparing these findings with national results. First, the patterns of arthritis prevalence presented in this report within age and sex groups are consistent with those in national studies (*3*). Second, when prevalence estimates for self-reported arthritis from the 1989–1991 National Health Interview Survey (NHIS) for persons aged ≥18 years are applied to the three state populations (after adjustment for region, age, sex, race, and Hispanic origin), the prevalences are lower than those in this report (Arizona, 19.8% versus 20.5%; Missouri, 19.9% versus 23.7%; and Ohio, 19.5% versus 24.5%). Possible reasons for these differences are that the surveys' or the respondents' definitions of arthritis differ across states or across surveys or because the BRFSS is more likely than the face-to-face interviews of the NHIS to result in overreporting. In addition, Ohio's and Missouri's BRFSS questions on arthritis asked about lifetime occurrence of arthritis, whereas the NHIS asked about the preceding 12 months.

Possible reasons for state-specific differences include sampling error; differences in demographic composition; or variation in the unmeasured demographic, occupational, or other characteristics of respondents. For example, some respondents may have moved to a state because they believed the climate and/or available services might improve their health. The variation may also reflect differences in the way the questions were asked; a standardized questionnaire would resolve this problem.

Data collected at the state level will help focus appropriate interventions and prevention measures (*4*). Such interventions should include state arthritis programs that make diagnostic, treatment, education, and rehabilitation services accessible to persons with arthritis (*5*) and that promote primary-prevention measures based on knowledge of risk factors, such as avoiding joint trauma, preventing obesity, and modifying occupationally related joint stress through ergonomic approaches (*6*). These services can reduce musculoskeletal damage, pain, and disability and substantially improve health (*7*).

States have used the BRFSS to measure the prevalence and impact of self-reported risk behaviors (e.g., smoking) and chronic diseases (e.g., diabetes and hypertension). The BRFSS questions about arthritis may have the same utility and can provide

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arthritis data about special populations (e.g., Hispanics and other minority groups) that may have different disease frequency than the general population. State health departments can use such data to develop a health plan for arthritis and to set arthritis-related health objectives (*4,8,9* ).

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## *Epidemiologic Notes and Reports*

### Tetanus — Kansas, 1993

In 1993, two tetanus cases* were reported to the Kansas Department of Health and Environment—the first cases reported in the state since 1987. This report summarizes the findings of the case investigations.

**Patient 1**

On May 16, an 82-year-old man with a history of chronic obstructive pulmonary disease and recurrent pneumonia was taken to a hospital emergency department because of shortness of breath and inability to get out of bed. On May 15, he had had difficulty chewing and swallowing. Examination noted trismus ("lockjaw") and an abrasion on the right elbow, which resulted from a fall on May 14. The patient was admitted to the hospital with a diagnosis of tetanus. He had not been previously vaccinated with tetanus toxoid. Treatment included tetanus toxoid (0.5 cc) and tetanus immune globulin (TIG) (10,000 units).

While hospitalized, the patient experienced generalized tetanic spasms, followed by respiratory failure and pneumonia. He was placed on mechanical ventilation and

*Both met the Council of State and Territorial Epidemiologists/CDC clinical case definition for public health surveillance of tetanus: "acute onset of hypertonia and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalized muscle spasms without other apparent medical cause (as reported by a health professional)" (*1* ).

*Tetanus — Continued*

treated with antibiotics, diuretics, and neuromuscular blocking agents. He recovered and was discharged on June 23. Inpatient hospital charges and physician fees totaled $151,492.

**Patient 2**

On August 15, a 57-year-old man with noninsulin-dependent diabetes sought treatment at an emergency department for a puncture wound to his foot that occurred when he stepped on a rusty nail earlier that day. Treatment in the emergency department included wound cleaning and administration of tetanus toxoid (0.5 cc).

On August 19, the man returned to the emergency department, reporting onset on August 18 of severe pain in the affected foot, fever, chills, and vomiting. He was hospitalized and treated for cellulitis. On August 20, he complained of pain and stiffness in his neck; he subsequently had a cardiopulmonary arrest, was resuscitated, and was placed on mechanical ventilation. Tetanus was diagnosed, and the patient was transferred to a tertiary-care facility. On August 21, he received TIG (500 units) and, on August 23, underwent additional wound debridement. During hospitalization, the patient experienced labile hypertension and cardiac arrhythmia. He remained on mechanical ventilation and died following a cardiac arrest on September 16.

Family members reported the patient had not previously been vaccinated with tetanus toxoid. Medical costs for treatment, transportation, and physician fees from the August 15 emergency department visit through the time of death totaled $145,329.

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**Editorial Note:** Despite the availability of effective and inexpensive tetanus toxoid vaccines, cases of tetanus continue to occur in the United States. During 1989–1990, 117 tetanus cases were reported in the United States; of the 106 cases with known outcomes, 25 (24%) were fatal. All deaths occurred among persons aged ≥40 years (*1*). Of 110 patients with known vaccination status, 34 (31%) were unvaccinated, and 53 (48%) had received an unknown number of doses of tetanus toxoid (*1*). The two tetanus cases described in this report are consistent with previous cases reported nationwide, which indicate that tetanus occurs primarily among older adults who typically are unvaccinated or have an unknown vaccination history (*1–3*).

Primary prevention of tetanus is accomplished through vaccination with diphtheria and tetanus toxoids and pertussis vaccine (DTP). For persons aged <7 years, the recommended vaccination schedule comprises doses at ages 2, 4, 6, and 12–18 months and 4–6 years (*4*); diphtheria and tetanus toxoids and acellular pertussis vaccine should be used for the fourth and fifth doses at age 15 months or older (*4*). For persons aged ≥7 years, three doses of tetanus and diphtheria toxoids (Td) are recommended at an interval of 1–2 months between the first and second doses and 6–12 months between the second and third doses. Booster doses of Td should be administered every 10 years (*4*). Serologic surveys have demonstrated that 31%–71% of older adults lack protective levels of tetanus antibody (*1*).

Secondary prevention of tetanus, which varies with previous vaccination history, is accomplished postexposure through wound prophylaxis and administration of TIG and/or Td (*4*). Wounds should be cleaned and debrided as indicated. Persons with unknown or uncertain vaccination histories should be considered unvaccinated and

*Tetanus — Continued*

should receive TIG (250 units intramuscularly) unless the wound is clean and minor (*4* ). Tertiary treatment of tetanus includes appropriate medical care and the prompt administration of TIG (3000–6000 units) (*5* ). The findings of the case investigations in this report suggest that 1) opportunities are being missed to review tetanus vaccination status of adults and administer appropriate vaccinations and 2) recommendations should be followed for appropriate postexposure treatment of severe puncture wounds.

The high costs of hospitalization for tetanus reflect the need for prolonged intensive care. In Kansas, public health clients pay an average of $3.30 per dose of Td; this charge comprises total vaccine and administration costs (Bureau of Disease Control, Kansas Department of Health and Environment, unpublished data, 1992). Based on the total hospitalization costs of the two tetanus cases reported in Kansas in 1993, nearly 90,000 doses of Td vaccine could have been administered in the state; however, this comparison does not constitute a cost-benefit analysis.

This report emphasizes the importance of preexposure tetanus prophylaxis, especially for older adults who may have never received a primary vaccination series of DTP or the recommended 10-year booster doses, and the importance of appropriate wound management. Because wounds that can result in tetanus often do not require a physician or emergency department visit, health-care providers should review the vaccination status of their patients at each contact and administer Td along with other indicated vaccines as appropriate (*4* ).

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## *Epidemiologic Notes and Reports*

### Maternal Hepatitis B Screening Practices — California, Connecticut, Kansas, and United States, 1992–1993

Each year in the United States, an estimated 22,000 infants are born to women with chronic hepatitis B virus (HBV) infection. These infants are at high risk for perinatal HBV infection and chronic liver disease as adults. The American College of Obstetrics and Gynecology, the American Academy of Pediatrics, the American Academy of Family Practice, and the Advisory Committee on Immunization Practices each have recommended that all pregnant women be routinely tested for hepatitis B surface antigen (HBsAg) during an early prenatal visit in each pregnancy to identify newborns who require immunoprophylaxis for the prevention of perinatal HBV infection (*1–4* ). To evaluate progress in implementing this recommendation, surveys were conducted

*(Continued on page 317)*

**FIGURE I. Notifiable disease reports, comparison of 4-week totals ending April 30, 1994, with historical data — United States**

* The large apparent decrease in reported cases of measles (total) reflects dramatic fluctuations in the historical baseline.

† Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and

# TABLE II. Cases of selected notifiable diseases, United States, weeks ending April 30, 1994, and May 1, 1993 (17th Week)

| Reporting Area | AIDS* | Aseptic Menin-gitis | Encephalitis | | Gonorrhea | | Hepatitis (Viral), by type | | | | Legionel-losis | Lyme Disease |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Post-in-fectious | | | A | B | NA,NB | Unspeci-fied | | |
| | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1993 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 |
| UNITED STATES | 26,335 | 1,550 | 173 | 40 | 119,123 | 126,009 | 6,240 | 3,626 | 1,397 | 123 | 464 | 1,057 |
| NEW ENGLAND | 994 | 57 | 6 | 2 | 2,631 | 2,605 | 106 | 169 | 43 | 15 | 15 | 111 |
| Maine | 30 | 6 | 1 | - | 21 | 32 | 11 | 4 | - | - | - | - |
| N.H. | 24 | 2 | - | 1 | - | 21 | 3 | 7 | 6 | - | - | 4 |
| Vt. | 15 | 10 | - | - | 8 | 11 | - | - | - | - | - | 2 |
| Mass. | 513 | 18 | 4 | - | 975 | 963 | 48 | 134 | 27 | 14 | 11 | 52 |
| R.I. | 93 | 21 | 1 | 1 | 143 | 121 | 12 | 3 | 10 | 1 | 4 | 19 |
| Conn. | 319 | - | - | - | 1,484 | 1,457 | 32 | 21 | - | - | - | 34 |
| MID. ATLANTIC | 7,735 | 155 | 21 | 11 | 15,263 | 12,839 | 334 | 342 | 179 | 4 | 69 | 696 |
| Upstate N.Y. | 582 | 62 | 8 | 1 | 2,866 | 2,918 | 158 | 123 | 88 | - | 16 | 401 |
| N.Y. City | 4,921 | 3 | 1 | - | 4,459 | 3,894 | 21 | 12 | - | - | - | - |
| N.J. | 1,532 | - | - | - | 1,665 | 1,984 | 82 | 109 | 70 | - | 7 | 89 |
| Pa. | 700 | 90 | 12 | 10 | 6,273 | 4,043 | 73 | 98 | 21 | 4 | 46 | 206 |
| E.N. CENTRAL | 1,859 | 278 | 47 | 8 | 21,821 | 25,080 | 551 | 364 | 99 | 2 | 116 | 11 |
| Ohio | 346 | 76 | 15 | - | 7,878 | 7,616 | 181 | 68 | 4 | - | 66 | 10 |
| Ind. | 285 | 57 | 2 | - | 2,674 | 2,572 | 114 | 65 | 2 | - | 14 | - |
| Ill. | 768 | 38 | 15 | 2 | 4,817 | 7,945 | 130 | 54 | 7 | 1 | 4 | - |
| Mich. | 342 | 103 | 15 | 6 | 5,528 | 4,850 | 85 | 124 | 84 | 1 | 26 | 1 |
| Wis. | 118 | 4 | - | - | 924 | 2,097 | 41 | 53 | 2 | - | 6 | - |
| W.N. CENTRAL | 550 | 104 | 8 | 1 | 6,450 | 6,480 | 274 | 191 | 68 | 3 | 55 | 18 |
| Minn. | 134 | 6 | 1 | - | 1,068 | 877 | 61 | 18 | 5 | - | - | 7 |
| Iowa | 22 | 36 | - | - | 454 | 600 | 10 | 11 | 6 | 2 | 20 | 1 |
| Mo. | 237 | 31 | - | - | 3,588 | 3,461 | 137 | 139 | 50 | 1 | 24 | 8 |
| N. Dak. | 5 | 1 | 2 | - | 7 | 17 | 1 | - | - | - | 2 | - |
| S. Dak. | 9 | - | 1 | - | 45 | 68 | 13 | - | - | - | - | - |
| Nebr. | 31 | 5 | 3 | 1 | - | 194 | 29 | 10 | 3 | - | 8 | - |
| Kans. | 112 | 25 | 1 | - | 1,288 | 1,263 | 23 | 13 | 4 | - | 1 | 2 |
| S. ATLANTIC | 5,517 | 345 | 29 | 12 | 33,063 | 34,609 | 428 | 903 | 315 | 11 | 122 | 169 |
| Del. | 78 | 1 | - | - | 597 | 452 | 7 | 11 | 19 | - | 1 | 40 |
| Md. | 489 | 54 | 6 | 1 | 6,174 | 5,745 | 57 | 111 | 13 | 4 | 30 | 46 |
| D.C. | 422 | 12 | - | - | 2,270 | 1,783 | 9 | 16 | - | - | 2 | 1 |
| Va. | 414 | 50 | 10 | 5 | 4,361 | 3,426 | 40 | 32 | 15 | 2 | 2 | 13 |
| W. Va. | 10 | 7 | - | - | 228 | 197 | 3 | 7 | 10 | - | 1 | 3 |
| N.C. | 455 | 52 | 12 | - | 7,994 | 7,510 | 35 | 101 | 24 | - | 8 | 20 |
| S.C. | 444 | 10 | - | - | 3,984 | 3,067 | 11 | 14 | 1 | - | 2 | - |
| Ga. | 684 | 13 | 1 | - | - | 4,660 | 34 | 383 | 150 | - | 58 | 42 |
| Fla. | 2,521 | 146 | - | 6 | 7,455 | 7,769 | 232 | 228 | 83 | 5 | 18 | 4 |
| E.S. CENTRAL | 714 | 102 | 17 | 1 | 14,407 | 12,960 | 149 | 381 | 272 | 1 | 23 | 9 |
| Ky. | 126 | 38 | 6 | 1 | 1,436 | 1,527 | 67 | 26 | 8 | - | 3 | 5 |
| Tenn. | 213 | 22 | 7 | - | 4,239 | 3,262 | 44 | 331 | 261 | 1 | 13 | 3 |
| Ala. | 210 | 30 | 4 | - | 5,288 | 4,955 | 21 | 24 | 3 | - | 5 | 1 |
| Miss. | 165 | 12 | - | - | 3,444 | 3,216 | 17 | - | - | - | 2 | - |
| W.S. CENTRAL | 2,841 | 115 | 9 | - | 13,191 | 15,259 | 898 | 369 | 113 | 29 | 11 | 19 |
| Ark. | 78 | 6 | - | - | 2,186 | 2,877 | 20 | 7 | 3 | - | 4 | - |
| La. | 306 | 4 | 2 | - | 4,142 | 3,636 | 32 | 44 | 27 | 1 | - | - |
| Okla. | 91 | - | - | - | 494 | 1,156 | 73 | 115 | 60 | - | 7 | 11 |
| Tex. | 2,366 | 105 | 7 | - | 6,369 | 7,590 | 773 | 203 | 23 | 28 | - | 8 |
| MOUNTAIN | 846 | 47 | 3 | - | 2,895 | 3,838 | 1,288 | 164 | 121 | 8 | 26 | 4 |
| Mont. | 10 | - | - | - | 29 | 15 | 10 | 7 | 2 | - | 10 | - |
| Idaho | 15 | 1 | - | - | 22 | 46 | 110 | 27 | 37 | 1 | - | 1 |
| Wyo. | 10 | - | - | - | 30 | 27 | 6 | 6 | 35 | - | 1 | - |
| Colo. | 362 | 7 | 1 | - | 850 | 1,242 | 78 | 8 | 7 | 3 | 1 | - |
| N. Mex. | 59 | 6 | - | - | 332 | 316 | 373 | 70 | 21 | 3 | 1 | 3 |
| Ariz. | 208 | 18 | - | - | 967 | 1,441 | 492 | 17 | 4 | - | 1 | - |
| Utah | 52 | 4 | - | - | 109 | 98 | 145 | 11 | 11 | - | 1 | - |
| Nev. | 130 | 11 | 2 | - | 556 | 653 | 74 | 18 | 4 | 1 | 11 | - |
| PACIFIC | 5,279 | 347 | 33 | 5 | 9,402 | 12,339 | 2,212 | 743 | 187 | 50 | 27 | 20 |
| Wash. | 324 | - | - | - | 986 | 1,212 | 135 | 29 | 26 | - | 5 | - |
| Oreg. | 225 | - | - | - | 328 | 492 | 104 | 15 | 2 | 1 | - | - |
| Calif. | 4,636 | 284 | 32 | 4 | 7,564 | 10,317 | 1,883 | 673 | 155 | 47 | 20 | 20 |
| Alaska | 15 | 12 | 1 | - | 290 | 156 | 76 | 6 | - | - | - | - |
| Hawaii | 79 | 51 | - | 1 | 234 | 162 | 14 | 20 | 4 | 2 | 2 | - |
| Guam | 1 | 6 | - | - | 44 | 39 | 3 | - | - | 4 | 2 | - |
| P.R. | 719 | 10 | - | - | 161 | 174 | 20 | 103 | 22 | 3 | - | - |
| V.I. | 7 | - | - | - | 8 | 26 | - | 1 | - | - | - | - |
| Amer. Samoa | - | - | - | - | 12 | 9 | 4 | - | - | - | - | - |
| C.N.M.I. | 1 | - | - | - | 17 | 23 | 2 | - | - | - | - | - |

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of Northern Mariana Islands

*Updated monthly; last update April 26, 1994.

## TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending April 30, 1994, and May 1, 1993 (17th Week)

| Reporting Area | Malaria | Measles (Rubeola) | | | | | Menin-gococcal Infections | Mumps | | Pertussis | | | Rubella | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Indigenous | | Imported* | | Total | | | | | | | | | |
| | Cum. 1994 | 1994 | Cum. 1994 | 1994 | Cum. 1994 | Cum. 1993 | Cum. 1994 | 1994 | Cum. 1994 | 1994 | Cum. 1994 | Cum. 1993 | 1994 | Cum. 1994 | Cum. 1993 |
| UNITED STATES | 293 | 9 | 173 | - | 14 | 103 | 1,068 | 41 | 445 | 26 | 1,024 | 972 | 9 | 125 | 65 |
| NEW ENGLAND | 26 | - | 11 | - | 1 | 53 | 65 | - | 10 | 4 | 106 | 202 | 7 | 86 | 1 |
| Maine | 1 | - | - | - | - | - | 10 | - | 3 | - | 2 | 5 | - | - | 1 |
| N.H. | 3 | - | - | - | - | - | 3 | - | 4 | - | 29 | 52 | - | - | - |
| Vt. | 2 | - | - | - | 1 | 30 | 2 | - | - | - | 20 | 38 | - | - | - |
| Mass. | 8 | - | 3 | - | - | 14 | 27 | - | - | 4 | 46 | 96 | 7 | 86 | - |
| R.I. | 4 | - | 5 | - | - | 1 | - | - | 1 | - | 2 | 3 | - | - | - |
| Conn. | 8 | - | 3 | - | - | 8 | 23 | - | 2 | - | 7 | 8 | - | - | - |
| MID. ATLANTIC | 39 | 3 | 25 | - | 2 | 9 | 109 | 2 | 54 | 3 | 310 | 151 | 1 | 7 | 19 |
| Upstate N.Y. | 13 | 2 | 5 | - | - | 1 | 37 | 2 | 9 | 1 | 89 | 52 | 1 | 7 | 1 |
| N.Y. City | 2 | - | 1 | - | - | 2 | 3 | - | - | - | 62 | 5 | - | - | 12 |
| N.J. | 14 | - | 18 | - | 1 | 6 | 25 | - | - | - | - | 29 | - | - | 5 |
| Pa. | 10 | 1 | 1 | - | 1 | - | 44 | - | 45 | 2 | 159 | 65 | - | - | 1 |
| E.N. CENTRAL | 30 | - | 11 | - | 2 | 4 | 168 | 11 | 78 | 2 | 145 | 223 | - | 7 | 2 |
| Ohio | 5 | - | 6 | - | - | - | 40 | 11 | 19 | 2 | 61 | 80 | - | - | 1 |
| Ind. | 6 | - | - | - | 1 | - | 41 | - | 5 | - | 31 | 12 | - | - | - |
| Ill. | 8 | - | - | - | - | 4 | 56 | - | 31 | - | 20 | 38 | - | 2 | - |
| Mich. | 10 | - | 3 | - | - | - | 15 | - | 20 | - | 21 | 14 | - | 5 | - |
| Wis. | 1 | - | 2 | - | 1 | - | 16 | - | 3 | - | 12 | 79 | - | - | 1 |
| W.N. CENTRAL | 16 | - | - | - | 1 | 2 | 76 | 1 | 20 | - | 39 | 53 | - | - | 1 |
| Minn. | 4 | - | - | - | - | - | 7 | - | 4 | - | 16 | 20 | - | - | - |
| Iowa | 3 | - | - | - | - | - | 6 | - | 4 | - | 3 | 1 | - | - | - |
| Mo. | 7 | - | - | - | - | 1 | 39 | 1 | 9 | - | 11 | 16 | - | - | 1 |
| N. Dak. | - | - | - | - | - | - | - | - | 1 | - | 1 | 2 | - | - | - |
| S. Dak. | - | - | - | - | - | - | 6 | - | - | - | - | 1 | - | - | - |
| Nebr. | 1 | - | - | - | 1 | - | 6 | - | 2 | - | 2 | 4 | - | - | - |
| Kans. | 1 | - | - | - | - | 1 | 12 | - | - | - | 6 | 9 | - | - | - |
| S. ATLANTIC | 68 | - | 4 | - | - | 17 | 178 | 3 | 77 | 7 | 134 | 74 | - | 5 | 5 |
| Del. | 2 | - | - | - | - | - | - | - | - | - | - | 1 | - | - | 2 |
| Md. | 30 | - | - | - | - | 4 | 13 | 1 | 18 | 3 | 46 | 28 | - | - | 1 |
| D.C. | 7 | - | - | - | - | - | 1 | - | - | - | 3 | - | - | - | - |
| Va. | 8 | - | 1 | - | - | 1 | 25 | 1 | 18 | - | 13 | 6 | - | - | - |
| W. Va. | - | - | - | - | - | - | 8 | - | 3 | - | 2 | 2 | - | - | - |
| N.C. | 2 | - | - | - | - | - | 32 | 1 | 25 | 4 | 39 | 11 | - | - | - |
| S.C. | 2 | - | - | - | - | - | 6 | - | 5 | - | 8 | 5 | - | - | - |
| Ga. | 8 | - | - | - | - | - | 35 | - | 3 | - | 7 | 9 | - | - | - |
| Fla. | 9 | - | 3 | - | - | 12 | 58 | - | 5 | - | 16 | 12 | - | 5 | 2 |
| E.S. CENTRAL | 8 | 1 | 28 | - | - | - | 75 | - | 5 | - | 24 | 42 | - | - | - |
| Ky. | 2 | - | - | - | - | - | 15 | - | - | - | 3 | 8 | - | - | - |
| Tenn. | 4 | 1 | 28 | - | - | - | 20 | - | - | - | 13 | 20 | - | - | - |
| Ala. | 1 | - | - | - | - | - | 34 | - | - | - | 7 | 10 | - | - | - |
| Miss. | 1 | - | - | - | - | - | 6 | - | 5 | - | 1 | 4 | - | - | - |
| W.S. CENTRAL | 7 | - | 7 | - | 4 | 1 | 135 | 18 | 107 | 1 | 32 | 15 | - | 7 | 8 |
| Ark. | - | - | - | - | - | - | 20 | - | - | 1 | 1 | 1 | - | - | - |
| La. | - | - | - | - | 1 | 1 | 20 | 1 | 9 | - | 4 | 4 | - | - | - |
| Okla. | 2 | - | - | - | - | - | 11 | - | 21 | - | 20 | 10 | - | 4 | 1 |
| Tex. | 5 | - | 7 | - | 3 | - | 84 | 17 | 77 | - | 7 | - | - | 3 | 7 |
| MOUNTAIN | 9 | 5 | 81 | - | 1 | 2 | 72 | - | 10 | 5 | 57 | 62 | 1 | 2 | 4 |
| Mont. | - | - | - | - | - | - | 2 | - | - | - | 2 | - | - | - | - |
| Idaho | 2 | - | - | - | - | - | 11 | - | 3 | - | 22 | 11 | - | 1 | 1 |
| Wyo. | - | - | - | - | - | - | 2 | - | - | - | - | 1 | - | - | - |
| Colo. | 1 | 2 | 12 | - | 1 | 2 | 6 | - | - | 5 | 14 | 22 | - | - | - |
| N. Mex. | 2 | - | - | - | - | - | 5 | N | N | - | 6 | 14 | - | - | - |
| Ariz. | 1 | - | - | - | - | - | 31 | - | - | - | 9 | 8 | - | - | - |
| Utah | 3 | 3 | 69 | - | - | - | 11 | - | 3 | - | 4 | 6 | 1 | 1 | 2 |
| Nev. | - | - | - | - | - | - | 4 | - | 3 | - | - | - | - | - | 1 |
| PACIFIC | 90 | - | 6 | - | 3 | 15 | 190 | 6 | 84 | 4 | 177 | 150 | - | 11 | 25 |
| Wash. | 3 | - | - | - | - | - | 16 | 1 | 3 | 1 | 12 | 12 | - | - | - |
| Oreg. | 6 | - | - | - | - | - | 29 | N | N | 1 | 22 | - | - | - | 1 |
| Calif. | 71 | - | 6 | - | 2 | 4 | 139 | 5 | 72 | 2 | 139 | 131 | - | 10 | 15 |
| Alaska | - | - | - | - | - | - | 1 | - | 2 | - | - | 1 | - | - | 1 |
| Hawaii | 10 | - | - | - | 1 | 11 | 5 | - | 7 | - | 4 | 6 | - | 1 | 8 |
| Guam | - | U | 44 | U | - | 1 | - | U | 2 | U | - | - | U | 1 | - |
| P.R. | - | - | 13 | - | - | 153 | 3 | - | 2 | - | 1 | - | - | - | - |
| V.I. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | - | - | - | - | - | 1 | - | - | 1 | - | 1 | 2 | - | - | - |
| C.N.M.I. | 1 | U | 26 | U | - | - | - | U | - | U | - | - | U | - | - |

*For measles only, imported cases include both out-of-state and international importations.
N: Not notifiable U: Unavailable † International § Out-of-state

## TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending April 30, 1994, and May 1, 1993 (17th Week)

| Reporting Area | Syphilis (Primary & Secondary) | | Toxic-Shock Syndrome | Tuberculosis | | Tula-remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|---|---|---|---|---|---|---|---|---|---|
| | Cum. 1994 | Cum. 1993 | Cum. 1994 | Cum. 1994 | Cum. 1993 | Cum. 1994 | Cum. 1994 | Cum. 1994 | Cum. 1994 |
| UNITED STATES | 6,593 | 9,048 | 83 | 5,627 | 6,393 | 3 | 94 | 41 | 1,918 |
| NEW ENGLAND | 62 | 152 | 2 | 113 | 113 | - | 10 | 2 | 611 |
| Maine | 1 | 2 | - | - | 7 | - | - | - | - |
| N.H. | - | 14 | - | 7 | 7 | - | - | - | 72 |
| Vt. | - | - | - | - | 1 | - | - | - | 60 |
| Mass. | 19 | 70 | 2 | 50 | 47 | - | 6 | 2 | 233 |
| R.I. | 5 | 3 | - | 11 | 19 | - | 1 | - | 5 |
| Conn. | 37 | 63 | - | 45 | 32 | - | 3 | - | 241 |
| MID. ATLANTIC | 477 | 786 | 13 | 1,019 | 1,300 | - | 20 | - | 239 |
| Upstate N.Y. | 54 | 83 | 7 | 68 | 178 | - | 5 | - | 45 |
| N.Y. City | 218 | 490 | - | 628 | 785 | - | 7 | - | - |
| N.J. | 65 | 142 | - | 204 | 113 | - | 8 | - | 114 |
| Pa. | 140 | 71 | 6 | 119 | 224 | - | - | - | 80 |
| E.N. CENTRAL | 783 | 1,449 | 20 | 591 | 688 | - | 22 | 5 | 11 |
| Ohio | 344 | 376 | 9 | 80 | 98 | - | 1 | 2 | - |
| Ind. | 83 | 130 | 1 | 48 | 62 | - | 1 | - | 1 |
| Ill. | 186 | 544 | 4 | 317 | 363 | - | 11 | 1 | 3 |
| Mich. | 112 | 235 | 6 | 131 | 139 | - | 3 | 2 | 4 |
| Wis. | 58 | 164 | - | 15 | 26 | - | 6 | - | 3 |
| W.N. CENTRAL | 406 | 586 | 10 | 145 | 112 | 3 | - | 1 | 51 |
| Minn. | 16 | 33 | - | 34 | 8 | - | - | - | 5 |
| Iowa | 16 | 32 | 6 | 10 | 9 | - | - | 1 | 23 |
| Mo. | 349 | 448 | 3 | 68 | 65 | 3 | - | - | 6 |
| N. Dak. | - | - | - | 1 | 4 | - | - | - | - |
| S. Dak. | - | - | - | 9 | 6 | - | - | - | 2 |
| Nebr. | - | 8 | 1 | 4 | 5 | - | - | - | - |
| Kans. | 25 | 65 | - | 19 | 15 | - | - | - | 15 |
| S. ATLANTIC | 1,933 | 2,420 | 5 | 853 | 1,305 | - | 17 | 26 | 623 |
| Del. | 7 | 50 | - | - | 12 | - | 1 | - | 6 |
| Md. | 88 | 127 | - | 105 | 127 | - | 3 | - | 200 |
| D.C. | 80 | 143 | - | 40 | 58 | - | 1 | - | 2 |
| Va. | 242 | 208 | - | 111 | 141 | - | 1 | 1 | 133 |
| W. Va. | 7 | 1 | - | 28 | 24 | - | - | - | 22 |
| N.C. | 611 | 633 | 1 | 130 | 131 | - | - | 10 | 62 |
| S.C. | 228 | 400 | - | 127 | 122 | - | - | - | 59 |
| Ga. | 363 | 426 | - | 290 | 246 | - | - | 15 | 131 |
| Fla. | 307 | 432 | 4 | 22 | 444 | - | 11 | - | 8 |
| E.S. CENTRAL | 1,290 | 1,058 | 1 | 289 | 418 | - | - | 3 | 33 |
| Ky. | 80 | 95 | - | 100 | 107 | - | - | - | 2 |
| Tenn. | 318 | 220 | 1 | 1 | 92 | - | - | 2 | - |
| Ala. | 234 | 273 | - | 126 | 143 | - | - | - | 31 |
| Miss. | 658 | 470 | - | 62 | 76 | - | - | 1 | - |
| W.S. CENTRAL | 1,304 | 2,017 | - | 666 | 532 | - | 4 | 3 | 248 |
| Ark. | 174 | 377 | - | 85 | 53 | - | - | 1 | 11 |
| La. | 616 | 801 | - | - | - | - | 2 | - | 30 |
| Okla. | 15 | 123 | - | 63 | 51 | - | - | 2 | 17 |
| Tex. | 499 | 716 | - | 518 | 428 | - | 2 | - | 190 |
| MOUNTAIN | 96 | 82 | 4 | 131 | 170 | - | 6 | 1 | 25 |
| Mont. | - | - | - | - | 5 | - | - | - | - |
| Idaho | 1 | - | 1 | 6 | 3 | - | - | - | - |
| Wyo. | - | 2 | - | 2 | 1 | - | - | 1 | 6 |
| Colo. | 52 | 23 | 1 | 1 | 28 | - | 2 | - | - |
| N. Mex. | 5 | 14 | - | 26 | 18 | - | - | - | - |
| Ariz. | 22 | 36 | - | 67 | 70 | - | 1 | - | 18 |
| Utah | 5 | 2 | 2 | - | 9 | - | 1 | - | - |
| Nev. | 11 | 5 | - | 29 | 36 | - | 2 | - | 1 |
| PACIFIC | 242 | 498 | 28 | 1,820 | 1,755 | - | 15 | - | 77 |
| Wash. | 14 | 20 | - | 69 | 83 | - | 1 | - | - |
| Oreg. | 3 | 26 | - | 43 | 28 | - | - | - | - |
| Calif. | 223 | 448 | 25 | 1,620 | 1,528 | - | 13 | - | 54 |
| Alaska | 1 | 2 | - | 21 | 18 | - | - | - | 23 |
| Hawaii | 1 | 2 | 3 | 67 | 98 | - | 1 | - | - |
| Guam | 1 | - | - | 7 | 25 | - | - | - | - |
| P.R. | 93 | 175 | - | 21 | 64 | - | - | - | 21 |
| V.I. | 17 | 17 | - | - | 2 | - | - | - | - |
| Amer. Samoa | - | - | - | 2 | 1 | - | 1 | - | - |
| C.N.M.I. | 1 | - | - | 14 | 7 | - | 1 | - | - |

U: Unavailable

# TABLE III. Deaths in 121 U.S. cities,* week ending April 30, 1994 (17th Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I† Total |
|---|---|---|---|---|---|---|---|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | |
| NEW ENGLAND | 594 | 428 | 90 | 49 | 16 | 11 | 52 |
| Boston, Mass. | 148 | 89 | 31 | 15 | 7 | 6 | 17 |
| Bridgeport, Conn. | 25 | 19 | 2 | 3 | - | 1 | 2 |
| Cambridge, Mass. | 19 | 17 | 1 | 1 | - | - | 1 |
| Fall River, Mass. | 27 | 20 | 5 | 2 | - | - | - |
| Hartford, Conn. | 65 | 44 | 9 | 8 | 3 | 1 | 1 |
| Lowell, Mass. | 23 | 18 | 2 | 3 | - | - | - |
| Lynn, Mass. | 14 | 11 | 2 | 1 | - | - | 2 |
| New Bedford, Mass. | 21 | 18 | 2 | 1 | - | - | 2 |
| New Haven, Conn. | 38 | 26 | 5 | 4 | 2 | 1 | - |
| Providence, R.I. | 50 | 41 | 6 | 2 | 1 | - | 6 |
| Somerville, Mass. | 3 | 3 | - | - | - | - | - |
| Springfield, Mass. | 42 | 31 | 5 | 3 | 1 | 2 | 5 |
| Waterbury, Conn. | 43 | 32 | 10 | 1 | - | - | 7 |
| Worcester, Mass. | 76 | 59 | 10 | 5 | 2 | - | 9 |
| MID. ATLANTIC | 2,661 | 1,728 | 517 | 300 | 58 | 58 | 136 |
| Albany, N.Y. | 42 | 28 | 10 | 2 | 1 | 1 | 1 |
| Allentown, Pa. | 22 | 19 | 3 | - | - | - | - |
| Buffalo, N.Y. | 121 | 83 | 31 | 3 | 3 | 1 | 4 |
| Camden, N.J. | 36 | 20 | 8 | 1 | 2 | 5 | 3 |
| Elizabeth, N.J. | 23 | 17 | 3 | 2 | 1 | - | - |
| Erie, Pa.§ | 36 | 22 | 9 | 2 | 2 | 1 | 1 |
| Jersey City, N.J. | 29 | 20 | 7 | 2 | - | - | 1 |
| New York City, N.Y. | 1,327 | 805 | 272 | 199 | 28 | 23 | 49 |
| Newark, N.J. | 73 | 23 | 22 | 18 | 5 | 5 | 2 |
| Paterson, N.J. | 24 | 14 | 3 | 5 | - | 2 | 1 |
| Philadelphia, Pa. | 499 | 357 | 86 | 39 | 8 | 9 | 38 |
| Pittsburgh, Pa.§ | 56 | 32 | 13 | 4 | 4 | 3 | 4 |
| Reading, Pa. | 15 | 14 | - | 1 | - | - | 3 |
| Rochester, N.Y. | 143 | 106 | 25 | 8 | 1 | 3 | 14 |
| Schenectady, N.Y. | 22 | 18 | 3 | 1 | - | - | - |
| Scranton, Pa.§ | 32 | 30 | 1 | 1 | - | - | 5 |
| Syracuse, N.Y. | 68 | 57 | 2 | 5 | 1 | 3 | 6 |
| Trenton, N.J. | 40 | 22 | 11 | 4 | 1 | 2 | - |
| Utica, N.Y. | 21 | 15 | 5 | 1 | - | - | 1 |
| Yonkers, N.Y. | 32 | 26 | 3 | 2 | 1 | - | 3 |
| E.N. CENTRAL | 2,432 | 1,497 | 511 | 213 | 138 | 73 | 122 |
| Akron, Ohio | 62 | 49 | 7 | 5 | - | 1 | 1 |
| Canton, Ohio | 37 | 26 | 11 | - | - | - | 3 |
| Chicago, Ill. | 635 | 272 | 142 | 101 | 104 | 16 | 23 |
| Cincinnati, Ohio | 206 | 134 | 41 | 16 | 1 | 14 | 17 |
| Cleveland, Ohio | 143 | 84 | 42 | 8 | 1 | 8 | 7 |
| Columbus, Ohio | 213 | 135 | 56 | 16 | 3 | 3 | 7 |
| Dayton, Ohio | 106 | 69 | 22 | 12 | 1 | 2 | 7 |
| Detroit, Mich. | 219 | 126 | 55 | 19 | 10 | 9 | 8 |
| Evansville, Ind. | 52 | 40 | 12 | - | - | - | - |
| Fort Wayne, Ind. | 44 | 31 | 8 | 1 | - | 4 | 3 |
| Gary, Ind. | 17 | 12 | 3 | 2 | - | - | 1 |
| Grand Rapids, Mich. | 65 | 47 | 8 | 4 | 3 | 3 | 7 |
| Indianapolis, Ind. | 131 | 97 | 19 | 8 | 3 | 4 | 4 |
| Madison, Wis. | 64 | 43 | 18 | 3 | - | - | 8 |
| Milwaukee, Wis. | 128 | 95 | 24 | 6 | 1 | 2 | 10 |
| Peoria, Ill. | 46 | 37 | 6 | 1 | 1 | 1 | 3 |
| Rockford, Ill. | 40 | 29 | 6 | 2 | 1 | 2 | 4 |
| South Bend, Ind. | 69 | 54 | 10 | 1 | 4 | - | 4 |
| Toledo, Ohio | 89 | 68 | 11 | 3 | 4 | 3 | 5 |
| Youngstown, Ohio | 66 | 49 | 10 | 5 | 1 | 1 | - |
| W.N. CENTRAL | 664 | 465 | 116 | 50 | 16 | 17 | 38 |
| Des Moines, Iowa | 59 | 44 | 9 | 3 | 2 | 1 | 3 |
| Duluth, Minn. | 15 | 11 | 3 | 1 | - | - | 3 |
| Kansas City, Kans. | 22 | 13 | 5 | 3 | 1 | - | 1 |
| Kansas City, Mo. | 109 | 79 | 14 | 11 | 2 | 3 | 6 |
| Lincoln, Nebr. | 26 | 22 | 4 | - | - | - | 4 |
| Minneapolis, Minn. | 113 | 79 | 18 | 8 | 1 | 7 | 7 |
| Omaha, Nebr. | 67 | 47 | 11 | 5 | 3 | 1 | 5 |
| St. Louis, Mo. | 137 | 91 | 29 | 10 | 2 | 5 | 6 |
| St. Paul, Minn. | 63 | 42 | 15 | 5 | 1 | - | 1 |
| Wichita, Kans. | 53 | 37 | 8 | 4 | 4 | - | 2 |

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I† Total |
|---|---|---|---|---|---|---|---|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | |
| S. ATLANTIC | 1,309 | 790 | 279 | 156 | 45 | 39 | 101 |
| Atlanta, Ga. | 160 | 102 | 29 | 19 | 4 | 6 | 10 |
| Baltimore, Md. | 279 | 157 | 55 | 49 | 10 | 8 | 31 |
| Charlotte, N.C. | 111 | 56 | 29 | 12 | 1 | 13 | 8 |
| Jacksonville, Fla. | 136 | 91 | 25 | 14 | 5 | 1 | 10 |
| Miami, Fla. | 100 | 62 | 25 | 11 | 2 | - | - |
| Norfolk, Va. | 72 | 47 | 15 | 6 | 2 | 2 | 7 |
| Richmond, Va. | 62 | 31 | 13 | 7 | 8 | 3 | 4 |
| Savannah, Ga. | 61 | 41 | 10 | 5 | 4 | 1 | 9 |
| St. Petersburg, Fla. | 45 | 30 | 7 | 5 | 1 | 2 | 1 |
| Tampa, Fla. | 165 | 114 | 39 | 10 | 2 | - | 16 |
| Washington, D.C. | 107 | 51 | 29 | 18 | 6 | 3 | 5 |
| Wilmington, Del. | 11 | 8 | 3 | - | - | - | - |
| E.S. CENTRAL | 792 | 519 | 129 | 62 | 30 | 35 | 73 |
| Birmingham, Ala. | 124 | 77 | 25 | 14 | 3 | 5 | 5 |
| Chattanooga, Tenn. | 61 | 40 | 13 | 5 | 1 | 2 | 3 |
| Knoxville, Tenn. | 93 | 64 | 8 | 1 | - | 3 | 15 |
| Lexington, Ky. | 72 | 46 | 10 | 9 | 4 | 3 | 8 |
| Memphis, Tenn. | 216 | 140 | 30 | 15 | 17 | 14 | 24 |
| Mobile, Ala. | 56 | 33 | 13 | 5 | 2 | 3 | 7 |
| Montgomery, Ala. | 44 | 33 | 8 | 2 | - | 1 | - |
| Nashville, Tenn. | 126 | 86 | 22 | 11 | 3 | 4 | 11 |
| W.S. CENTRAL | 1,496 | 896 | 293 | 187 | 65 | 53 | 87 |
| Austin, Tex. | 73 | 47 | 14 | 10 | 1 | 1 | 7 |
| Baton Rouge, La. | 65 | 42 | 14 | 3 | 4 | 2 | 4 |
| Corpus Christi, Tex. | 39 | 23 | 10 | 1 | 3 | 2 | 1 |
| Dallas, Tex. | 190 | 102 | 42 | 30 | 9 | 7 | 1 |
| El Paso, Tex. | 84 | 52 | 14 | 10 | 3 | 5 | 11 |
| Ft. Worth, Tex. | 88 | 56 | 20 | 7 | 1 | 4 | 4 |
| Houston, Tex. | 354 | 206 | 67 | 58 | 13 | 10 | 34 |
| Little Rock, Ark. | 90 | 51 | 26 | 8 | 3 | 2 | 2 |
| New Orleans, La. | 136 | 70 | 14 | 23 | 19 | 8 | - |
| San Antonio, Tex. | 227 | 146 | 40 | 27 | 5 | 9 | 16 |
| Shreveport, La. | 35 | 25 | 9 | 1 | - | - | 2 |
| Tulsa, Okla. | 115 | 76 | 23 | 9 | 4 | 3 | 5 |
| MOUNTAIN | 884 | 550 | 169 | 78 | 60 | 27 | 63 |
| Albuquerque, N.M. | 107 | 75 | 13 | 10 | 5 | 4 | 2 |
| Colo. Springs, Colo. | 44 | 30 | 10 | 3 | 1 | - | 7 |
| Denver, Colo. | 99 | 78 | 12 | 7 | 1 | 1 | 11 |
| Las Vegas, Nev. | 175 | 95 | 45 | 21 | 9 | 5 | 7 |
| Ogden, Utah | 15 | 12 | 2 | - | - | 1 | 7 |
| Phoenix, Ariz. | 209 | 104 | 38 | 22 | 38 | 7 | 15 |
| Pueblo, Colo. | U | U | U | U | U | U | U |
| Salt Lake City, Utah | 89 | 53 | 22 | 7 | 4 | 3 | 5 |
| Tucson, Ariz. | 146 | 103 | 27 | 8 | 2 | 6 | 9 |
| PACIFIC | 1,933 | 1,259 | 352 | 229 | 51 | 37 | 138 |
| Berkeley, Calif. | 23 | 15 | 4 | 2 | - | 2 | 1 |
| Fresno, Calif. | 74 | 46 | 10 | 11 | 5 | 2 | 8 |
| Glendale, Calif. | 22 | 15 | 6 | 1 | - | - | 2 |
| Honolulu, Hawaii | 87 | 61 | 15 | 11 | - | - | 7 |
| Long Beach, Calif. | 75 | 47 | 14 | 7 | 4 | 3 | 6 |
| Los Angeles, Calif. | 535 | 318 | 112 | 79 | 15 | 6 | 32 |
| Pasadena, Calif. | 26 | 20 | 3 | 3 | - | - | 6 |
| Portland, Oreg. | 158 | 114 | 25 | 13 | 3 | 3 | 4 |
| Sacramento, Calif. | 165 | 110 | 34 | 10 | 5 | 6 | 16 |
| San Diego, Calif. | 166 | 108 | 29 | 18 | 6 | 5 | 19 |
| San Francisco, Calif. | 154 | 83 | 32 | 33 | 5 | 1 | 3 |
| San Jose, Calif. | 179 | 137 | 21 | 15 | 3 | 3 | 18 |
| Santa Cruz, Calif. | 32 | 24 | 5 | 1 | - | 2 | 3 |
| Seattle, Wash. | 125 | 85 | 23 | 12 | 2 | 3 | 3 |
| Spokane, Wash. | 42 | 30 | 6 | 6 | - | - | 4 |
| Tacoma, Wash. | 70 | 46 | 13 | 7 | 3 | 1 | 6 |
| TOTAL | 12,765¶ | 8,132 | 2,456 | 1,324 | 479 | 350 | 810 |

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

U: Unavailable.

*Hepatitis B — Continued*

to assess the effectiveness of maternal HBsAg screening in three states—California, Connecticut, and Kansas—and a sample of hospitals in the United States.

**California**

Since 1991, universal prenatal HBsAg screening and reporting have been required by law in California. In January 1993, the California Department of Health Services (CDHS) assessed prenatal HBsAg screening and reporting of pregnant women with chronic HBV infection in Merced and Stanislaus counties. CDHS personnel reviewed the medical records of 994 (97%) of the 1027 births that occurred in the seven hospitals with obstetric services in those two counties during September 1992. Charts of each mother and her infant were reviewed for documentation of maternal HBsAg screening.

Documentation of maternal HBsAg screening was present for 979 (98%) women, of whom 10 (1%) were HBsAg-positive. All 10 HBsAg-positive women had been reported to CDHS, and all infants received hepatitis B immune globulin (HBIG) and hepatitis B vaccine at birth.

**Connecticut**

To evaluate the perinatal hepatitis B prevention program in Connecticut, a systematic sample of women who delivered during January 1–February 15, 1993, was selected from the birth log of each of the seven hospitals with obstetric services in Bridgeport, Hartford, and New Haven; 80 women were selected from each hospital. Charts of each mother and her infant were reviewed for written evidence of maternal HBsAG screening results, the number and provider source of prenatal-care visits, and selected risk factors for prior HBV infection (e.g., drug use and country of birth). Of the 560 selected births, charts were available and reviewed for 538 (96%) mothers, 529 (94%) infants, and 515 (92%) mother-infant pairs.

Documentation of maternal HBsAg screening was present in 484 (90%) maternal records (range by hospital: 86%–99%), 344 (65%) infant charts, and 112 (29%) of the 385 infant discharge summaries included in the infants' charts. Women without evidence of prenatal care were more likely to have no screening results (26%) than those with evidence of prenatal care (8%) (Table 1). Of 533 mothers for whom residence was known, those who resided outside of the three cities were more likely to lack screening results (12%) than city residents (6%) (Table 1). Lack of screening was not associated with source of prenatal health care or maternal risk factors for prior HBV infection.

**Kansas**

To determine maternal HBsAg screening practices of physicians in Kansas, birth certificates were obtained for 454 (74%) of 613 newborns randomly selected from 3984 state public health laboratory reports on screening for metabolic diseases for infants born during May 1992. A questionnaire was mailed to the 210 physicians responsible for the 454 deliveries; 204 (97%) physicians responded and returned questionnaires with usable data for 412 births.

Of the 412 mothers, 346 (84% [95% confidence interval=80%–88%]) had been screened for HBsAg. White women were more likely to lack screening results than women of races other than white (Table 1). Maternal factors not associated with lack of prenatal HBsAg screening included age, gravidity, level of education, timing of

*Hepatitis B — Continued*

initial prenatal visit, and number of prenatal visits. Women cared for by family or general practitioners were more likely to lack screening results than women receiving care from obstetricians (Table 1). Physician factors not associated with prenatal HBsAg screening practices included age and board certification.

### United States

In 1993, a random sample of 183 hospitals with obstetric services from the 1992 member list of the American Hospital Association were surveyed to evaluate hospital policies for maternal HBsAg screening, determine the prevalence of screening on a sample of births, identify risk factors for lack of screening, and determine the

**TABLE 1. Characteristics associated with lack of maternal hepatitis B surface antigen screening — Connecticut, Kansas, and United States, 1992–1993**

| | | Not screened | | | |
|---|---|---|---|---|---|
| **Area/Characteristic** | **Total** | **No.** | **(%)** | **Relative risk** | **(95% CI*)** |
| **CONNECTICUT (n=538)** | | | | | |
| **Prenatal care** | | | | | |
| No† | **61** | 16 | (26) | 3.4 | (2.0– 5.7) |
| Yes | **477** | 37 | ( 8) | Referent | (1.2– 4.2) |
| **City resident§** | | | | | |
| No | **335** | 41 | (12) | 2.2 | (1.2– 4.2) |
| Yes | **198** | 11 | ( 6) | Referent | |
| **KANSAS (n=412)** | | | | | |
| **Race** | | | | | |
| White | **374** | 65 | (17) | 6.6 | (0.9–46.5) |
| Other¶ | **38** | 1 | ( 3) | Referent | |
| **Obstetric provider**** | | | | | |
| Family/General practitioner | **98** | 35 | (36) | 3.5 | (2.3– 5.4) |
| Obstetrician | **307** | 31 | (10) | Referent | |
| **UNITED STATES (n=3982)** | | | | | |
| **Hospital Policy** | | | | | |
| No policy | **998** | 384 | (39) | 6.6 | (5.4– 8.2) |
| Nonwritten | **1364** | 162 | (12) | 2.1 | (1.6– 2.6) |
| Written | **1620** | 94 | ( 6) | Referent | |
| **State law requiring screening** | | | | | |
| No | **2945** | 553 | (19) | 2.2 | (1.8– 2.8) |
| Yes | **1037** | 87 | ( 8) | Referent | |
| **Infant's medical-care provider** | | | | | |
| Family practitioner | **1166** | 259 | (22) | 1.7 | (1.5– 2.0) |
| Other | **344** | 63 | (18) | 1.4 | (1.1– 1.8) |
| Pediatrician | **2472** | 318 | (13) | Referent | |
| **Hospital location** | | | | | |
| Rural | **1536** | 305 | (20) | 1.5 | (1.3– 1.7) |
| Urban | **2446** | 335 | (14) | Referent | |

*Confidence interval.
†No mention in mother's chart.
§Information for five women is unknown.
¶Includes blacks, American Indians/Alaskan Natives, and Asians/Pacific Islanders.
**Information for seven women is unknown.

*Hepatitis B — Continued*

treatment given to infants of HBsAg-positive women. Medical records of 3982 infants were reviewed to identify written evidence of maternal HBsAg screening; if information was missing from the infant's record, maternal records were reviewed.

Overall, 138 (75%) hospitals had policies that maternal HBsAg screening be done before or at the time of all deliveries; 70 (51%) of these hospitals had written policies. Of the 50 hospitals located in states with laws requiring maternal HBsAg screening, 27 (54%) had written policies to screen all pregnant women. In contrast, of the 133 hospitals located in states without such laws, 32% had screening policies ($p<0.05$).

Maternal HBsAg screening results were identified for 84% of infants and were present on 60% of infant's medical records. HBsAg results were present more often in the medical records of infants born in hospitals with policies requiring maternal screening compared with hospitals that had no such policies and in states with screening laws compared with states without such laws (Table 1). Other factors associated with lack of maternal HBsAg screening results included specialty of the infant's medical-care provider and birth in a rural hospital (Table 1).

Among 3342 women who had HBsAg screening, 12 (0.4%) had chronic HBV infection. Of the 12 infants born to these women, eight received hepatitis B vaccine and HBIG at birth, two received hepatitis B vaccine alone, and two received no treatment to prevent perinatal HBV transmission.

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**Editorial Note:** The findings in this report indicate that, although maternal HBsAg screening is well integrated into routine prenatal care, screening of pregnant women and reporting of results to health-care providers is not complete in many geographic areas. In addition, these surveys suggest that perinatal screening of mothers who, on admission, do not have screening results is not consistently practiced. The prevalence of chronic HBV infection is higher among women who have not been screened or who have not received prenatal care (*5*). The failure to document maternal screening results in the delivery room record has been associated with inadequate immunoprophylaxis of infants born to HBsAg-positive women (*6*). When maternal HBsAg status is unknown at the time of delivery, infants should receive the dose of hepatitis B vaccine recommended for infants born to HBsAg-positive women within 12 hours of birth and the recommended second and third dose at ages 1 month and 6 months (*2*). To ensure appropriate follow-up of all infants and linkage of the hospital records with those of well-child care providers, HBsAg status should be documented on infants' discharge summaries or vaccination records. In addition, infants born to HBsAg-positive mothers should be reported to the local health department to ensure they are tracked and receive all three doses of hepatitis B vaccine.

Universal screening and treatment of exposed infants have not been achieved for at least three reasons. First, providers may be unaware of the effects of perinatal HBV infections because newborns with HBV infection are usually asymptomatic and the adverse outcomes (e.g., chronic hepatitis, cirrhosis, and hepatocellular carcinoma) oc-

*Hepatitis B — Continued*

cur when they are adults. Second, laws requiring maternal HBsAg screening have been enacted in only nine states, and the national survey suggests that state laws improve HBsAg screening practices. Third, some practitioners may be selectively screening patients based on the Advisory Committee on Immunization Practices recommendations made in 1984; selective screening of pregnant women for HBsAg based on race/ethnicity or other risk group criteria listed in those recommendations can miss a substantial proportion of HBsAg-positive women (*7,8*).

Although routine infant hepatitis B vaccination is recommended in the United States, prevention of perinatal HBV transmission requires sustained efforts to screen pregnant women for HBsAg. The findings in this report suggest several strategies for assisting in the prevention of perinatal HBV transmission. Educational efforts for health-care providers in rural areas and for primary-care providers should emphasize the importance of screening all women for HBsAg. Hospitals should develop policies to ensure that all women are screened for HBsAg before delivery, perinatal screening is conducted for women without previous HBsAg screening results, and infants born to HBsAg-positive women receive appropriate medical treatment and are reported to the local health department. In addition, hospital policies should ensure that maternal screening results are documented in the infants' medical records and conveyed to well-child care providers. Finally, legislators should be provided information that could be used in drafting laws requiring HBsAg screening of all pregnant women.

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*Notice to Readers*

## International Decade for Natural Disaster Reduction

Since 1975, natural disasters (e.g., earthquakes, floods, tropical cyclones, and volcanic eruptions) have caused approximately 3 million deaths worldwide, adversely affected the lives of at least 800 million additional persons (of whom 47 million were left homeless [*1*]), and caused more than $50 billion in property damage (*2*). To promote internationally coordinated efforts to reduce material losses and social and economic disruption caused by natural disasters, especially in developing countries (*3*), on December 11, 1987, a United Nations General Assembly Resolution declared the 1990s as the "International Decade for Natural Disaster Reduction" (IDNDR). The goal of the IDNDR is to improve each country's capacity to prevent or diminish adverse effects from natural disasters and to establish guidelines for the application of existing science and technology to reduce the impact of natural disasters. During May 23–27, 1994, the United Nations will convene the World Conference on Natural Disaster Reduction in Yokohama, Japan, to review progress toward reducing the adverse effects of disasters during the IDNDR.

Many efforts to minimize the consequences of natural disasters have emphasized scientific and technologic advances unrelated to public health (e.g., development of satellite-based warning systems that predict hurricane landfall, design of buildings to withstand earthquake-related ground shaking, and improvement of radar systems to detect newly formed tornadoes). However, findings from epidemiologic studies following disasters are helping to establish strategies to decrease morbidity and mortality from such events (*4,5*). For example, during the past 15–20 years, the number of tornado-related deaths in the United States has declined, in part, because of the findings of epidemiologic studies used to develop effective tornado safety guidelines (*6*). In addition, since 1985, the frequency and magnitude of disaster-related measles outbreaks in refugee camps in Africa and Asia have declined as a result of effective measles vaccination campaigns (*7*). These findings demonstrate the role of public health in reducing the impact of natural disasters.

Objectives of the IDNDR related to preventing or reducing the public health impact of natural disasters in each country include 1) strengthening human resources and building institutional capacity (e.g., incorporating key principles of emergency preparedness and response into the curricula of institutions such as schools of medicine and public health); 2) integrating key emergency preparedness principles and procedures into ongoing public and primary health programs (e.g., environmental health, public health surveillance, and vaccination programs); 3) improving collaboration on preparedness and response (e.g., strengthening relations between health programs and other sectors involved in emergency preparation); 4) conducting community-based epidemiologic research immediately following natural disasters on the public health consequences of such events (e.g., developing models that predict the public's vulnerability to different types of natural disasters or identifying populations at increased risk from disasters); 5) improving technology- and information-transfer strategies; 6) improving communication between communities at risk before, during, and after a disaster (e.g., coordinating between public health agencies and other key response organizations to streamline communication procedures, exploring technologic

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alternatives for improved data retrieval, and developing databases about natural hazards specific to each country and information about regional and international resources available for immediate emergency assistance); and 7) developing early-warning systems.

*Reported by: Disaster Assessment and Epidemiology Section, Health Studies Br, Div of Environmental Hazards and Health Effects, National Center for Environmental Health, CDC.*

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## *Notice to Readers*

### Fifth International Conference on Coccidioidomycosis

CDC is a cosponsor of the Centennial Conference on Coccidioidomycosis—5th International Conference—hosted by the Stanford University School of Medicine in Stanford, California, August 24–27, 1994. The conference will present new information on the epidemiology, pathogenesis, diagnosis, and treatment of coccidioidomycosis, including information on coccidioidomycosis in HIV-infected persons, and review the history of this disease. The conference is targeted toward physicians, scientists, nurses, pharmacists, technologists, and other health-care workers. Information about registration and submission of abstracts is available from Complete Conference Management, 1660 Hotel Circle North, No. 220, San Diego, CA 92108; telephone (619) 299-6673; fax (619) 299-6675.

### Erratum: Vol. 43, No. 14

In the article "Motor-Vehicle–Related Deaths Involving Intoxicated Pedestrians—United States, 1982–1992," the first sentence of the second paragraph contains an error. The sentence should read "NHTSA considers a fatal crash to be alcohol related if either the driver or a nonoccupant (e.g., a pedestrian) had a blood alcohol concentration (BAC) ≥*0.01 g/dL* in a police-reported motor-vehicle crash."

## Monthly Immunization Table

To track progress toward achieving the goals of the Childhood Immunization Initiative (CII), CDC publishes monthly a tabular summary of the number of cases of all diseases preventable by routine childhood vaccination reported during the previous month and year-to-date (provisional data). In addition, the table compares provisional data with final data for the previous year and highlights the number of reported cases among children aged ≤5 years, who are the primary focus of CII. Data in the table are derived from CDC's National Notifiable Diseases Surveillance System.

**Number of reported cases of diseases preventable by routine childhood vaccination — United States, March 1994 and 1993–1994***

| Disease | No. cases, March 1994 | Total cases | | No. cases among children aged <5 years† | |
|---|---|---|---|---|---|
| | | 1993 | 1994 | 1993 | 1994 |
| Congenital rubella syndrome (CRS) | 1 | **3** | **3** | 1 | 3 |
| Diphtheria | 0 | **0** | **0** | 0 | 0 |
| *Haemophilus influenzae*§ | 95 | **347** | **269** | 100 | 75 |
| Hepatitis B¶ | 947 | **2628** | **2585** | 19 | 44 |
| Measles | 69 | **83** | **105** | 30 | 29 |
| Mumps | 101 | **406** | **290** | 71 | 33 |
| Pertussis | 217 | **660** | **734** | 298 | 410 |
| Poliomyelitis, paralytic** | — | **—** | **—** | — | — |
| Rubella | 46 | **45** | **82** | 10 | 6 |
| Tetanus | 4 | **3** | **7** | 0 | 1 |

*Data for 1993 are final and for 1994, provisional.
†For 1993 and 1994, age data were available for 85% or more cases, except for 1993 CRS, which were available for 33%, and 1994 pertussis, which were available for 82% of cases.
§Invasive disease; *H. influenzae* serotype is not routinely reported to the National Notifiable Diseases Surveillance System.
¶Because most hepatitis B virus infections among infants and children aged <5 years are asymptomatic (although likely to become chronic), acute disease surveillance does not reflect the incidence of this problem in this age group or the effectiveness of hepatitis B vaccination in infants.
**No cases of suspected poliomyelitis have been reported in 1994; three cases of suspected poliomyelitis have been reported in 1993; four of the five suspected cases with onset in 1992 were confirmed; the confirmed cases were vaccine associated.

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