CDC
CENTERS FOR DISEASE CONTROL

February 7, 1992 / Vol. 41 / No. 5

MMWR
MORBIDITY AND MORTALITY WEEKLY REPORT



*Topics in Minority Health*

## Behavioral Risk Factor Survey of Vietnamese — California, 1991

Since 1975, an estimated 979,700 refugees from Vietnam and other Southeast Asian countries have immigrated to the United States (L. Bussert, Office of Refugee Resettlement, U.S. Department of Health and Human Services, personal communication, 1991). Although public health agencies have reported extensively on the occurrence of infectious diseases in these populations (*1–4*), the prevalence of risk factors for noninfectious health concerns (e.g., heart disease, cancer, and unintentional injuries) have not been well defined. To characterize risk factors for selected noninfectious diseases and injuries among the estimated 280,200 Vietnamese who have relocated to California, the University of California, San Francisco, and the California Department of Health Services developed a Vietnamese-language version of CDC's Behavioral Risk Factor Surveillance System (BRFSS) for use in a computer-assisted telephone interviewing (CATI) system. This report summarizes findings from the 1991 survey and compares them with data for the general California or U.S. population.

The questionnaire used for this survey was modified from the BRFSS for cultural appropriateness, translated into the Vietnamese language, backtranslated, and pretested. The questionnaire included 96 questions covering 10 target areas: sociodemographics, acculturation, nutrition, exercise, tobacco use, alcohol consumption, hypertension, cholesterol, safety-belt use, and cancer screening. During February and March 1991, the investigators interviewed randomly selected Vietnamese adults aged ≥18 years living in private residences in California. The sampling frame consisted of 3988 Vietnamese surnames that had been randomly selected from a data-base listing of Vietnamese surnames from state telephone directories and motor-vehicle registrations. Households were telephoned, and respondents were randomly selected after enumeration of household members.

Of 1705 eligible persons who were contacted, 1011 (59%) agreed to participate. The average age of respondents was 39.8 (standard deviation [SD]: 13.3) years. Most

*Vietnamese — Continued*

(55%) respondents were men; 30% of respondents were unmarried. The average year of immigration was 1981 (SD: 4.4 years). Less than half (45%) had completed high school; 80% reported fewer than 4 years of college. Nearly half (43%) had no health insurance; 28% lived in households with incomes below the poverty level (based on 1991 U.S. Department of Labor definitions by family size). Most (77%) reported limited or no English fluency.

When compared with the total population of California or the United States, prevalence rates for several behavioral risk factors were higher for Vietnamese who had resettled in the United States (Table 1), including rates of smoking (men), no exercise (both sexes), never having had cholesterol checked (both sexes), not knowing cholesterol level (women), never having had recommended breast and cervical cancer screening tests (women), and never having had rectal exams (both sexes). However, rates of alcohol consumption and hypertension (both sexes) and safety-belt nonuse (men) were lower than for the total population of California.

The likelihood of having had a Papanicolaou smear was lower for women who had fewer than 4 years of college ($p<0.005$), women who were unmarried ($p<0.001$), and women who were more recent immigrants ($p<0.001$). Similarly, the likelihood of having had a breast examination was lower for women who were unmarried ($p<0.001$), were more recent immigrants ($p<0.001$), or had no health insurance ($p<0.02$). Failure to have had a mammogram was associated with more recent immigration ($p<0.03$) and income below the poverty level ($p<0.01$). Men were less likely to have had a rectal exam if they were more recent immigrants ($p<0.01$) and less likely to have had a stool occult blood test if they were more recent immigrants ($p<0.05$) or had limited English fluency ($p<0.002$).

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**Editorial Note**: Persons of Vietnamese origin are the most rapidly increasing segment of the Asian/Pacific Islander ethnic group in the United States (*5*). Of the more than 600,000 Vietnamese living in the United States, nearly half (46%) reside in California (*6*).

The findings in this report indicate that the behavioral risk-factor profiles of the Vietnamese in California differ markedly from those of the total population in that state. In particular, the high prevalence rate of cigarette smoking for men and the low prevalence rates of use of cancer screening tests for both sexes are consistent with previous findings (*7*). Moreover, based on a study of cancer patterns in Los Angeles County, proportional incidence ratios (PIRs) for cancers of the lung and rectum were higher for Vietnamese men than for all other racial/ethnic groups but lower for cancers of the colon and prostate. Among Vietnamese women, PIRs were higher for cancer of the cervix but lower for cancers of the colon, rectum, breast, and lung (*8*). Because these data indicate that Vietnamese in California are at higher risk for some chronic diseases, ethnically tailored health promotion programs are needed to reduce these risks and lower barriers to preventive services. In addition, cancer screening programs should target more recent immigrants who are least likely to have received recommended cancer screening tests.

**TABLE 1. Risk-factor prevalence estimates for Vietnamese in California and the total California* or U.S.† population — Behavioral Risk Factor Surveillance System (BRFSS), 1991**

| | Vietnamese in California | | | | | | California or United States | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Men | | | Women | | | Men | | Women | |
| Risk factor | No. surveyed | % | (95% CI§) | No. surveyed | % | (95% CI) | % | (95% CI) | % | (95% CI) |
| Current smoker | 557 | 35 | (31–39) | 454 | <1 | ( 0– 2) | 22 | (19–24) | 19 | (16–21) |
| Former smoker | 557 | 14 | (11–17) | 454 | 2 | ( 0– 3) | 34 | (31–37) | 21 | (19–23) |
| Never smoker | 557 | 51 | (47–56) | 454 | 98 | (97–99) | 43 | (40–47) | 61 | (58–63) |
| Current drinker¶ | 557 | 50 | (45–54) | 453 | 11 | ( 8–14) | 69 | (66–72) | 51 | (48–54) |
| Heavier drinker** | 557 | 3 | ( 2– 5) | 445 | 0 | ( 0– 2) | 8 | ( 6– 9) | 1 | ( 1– 2) |
| Binge drinker†† | 557 | 11 | ( 8–14) | 448 | <1 | ( 0– 2) | 26 | (24–29) | 8 | ( 6–10) |
| Drinking and driving | 557 | 4 | ( 3– 6) | 448 | <1 | ( 0– 2) | 5 | ( 4– 6) | 2 | ( 1– 2) |
| No exercise§§ | 556 | 40 | (36–44) | 453 | 50 | (46–55) | 24 | (21–26) | 28 | (25–31) |
| Safety-belt nonuse¶¶ | 552 | 14 | (11–17) | 439 | 10 | ( 7–13) | 17 | (14–19) | 10 | ( 8–12) |
| Self-reported hypertension*** | 550 | 10 | ( 8–13) | 443 | 9 | ( 6–11) | 13 | (11–15) | 16 | (13–18) |
| Under treatment (medication) | 56 | 63 | (50–75) | 38 | 76 | (63–90) | 60 | (51–68) | 70 | (63–77) |
| Cholesterol never checked | 554 | 56 | (52–60) | 451 | 55 | (50–59) | 41 | (38–48) | 35 | (32–37) |
| Cholesterol checked and | | | | | | | | | | |
| Was never told cholesterol level | 222 | 53 | (46–59) | 192 | 67 | (60–73) | 22 | (18–25) | 23 | (20–26) |
| Didn't know cholesterol level | 222 | 59 | (53–65) | 192 | 76 | (69–82) | 55 | (50–59) | 57 | (54–61) |
| Reported hypercholesterolemia††† | 243 | 38 | (32–44) | 203 | 32 | (26–38) | 29 | (26–33) | 28 | (25–32) |
| Reported hypercholesterolemia and under treatment (medication) | 90 | 46 | (35–56) | 64 | 39 | (27–51) | 15 | (10–20) | 17 | (12–22) |
| Never had physical breast exam§§§ | – | – | – | 452 | 47 | (42–51) | – | – | 11 | ( 9–14) |
| Never had mammogram¶¶¶ | – | – | – | 195 | 48 | (41–55) | – | – | 27 | (23–30) |
| Never had Papanicolaou smear**** | – | – | – | 434 | 53 | (49–58) | – | – | 6 | ( 4– 7) |
| Never had rectal exam†††† | 246 | 70 | (64–75) | 195 | 66 | (59–72) | 42 | (40–44) | 43 | (41–45) |
| Never had stool occult blood test§§§§ | 111 | 65 | (56–74) | 99 | 62 | (52–71) | 64 | (61–67) | 64 | (62–66) |
| Never had proctoscopy§§§§ | 114 | 82 | (74–89) | 99 | 82 | (74–89) | 78 | (75–81) | 80 | (78–82) |

*Source for all variables except rectal exam, stool occult blood test, and proctoscopy: California BRFSS, 1990. Prevalence estimates and confidence intervals for California are based on a sample of 1253 males and 1448 females and are weighted to the 1986 California population.

†Source for rectal exam, stool occult blood test and proctoscopy: National Health Interview Survey, 1987.

§Confidence interval.

¶≥1 drink during past month.

**≥60 drinks during past month.

††≥5 drinks on ≥1 occasion during past month.

§§No physical activity outside of work during past month.

¶¶Sometimes, seldom, or never wore safety belts.

***Told had high blood pressure on ≥2 occasions.

†††Ever told that blood cholesterol was high.

§§§Women aged ≥18 years.

¶¶¶Women aged ≥40 years.

****Women aged ≥18 years who have not had a hysterectomy.

††††Men and women aged ≥40 years.

§§§§Men and women aged ≥50 years

*Vietnamese — Continued*

The findings in this report have at least three limitations. First, all prevalence estimates were based on self-reports that were not independently validated. Second, because the CATI methodology excluded potential respondents without telephones, certain information biases might have been introduced. Finally, although these findings can be generalized to all Vietnamese living in California, they may not represent valid estimates of the behavioral risk factors for Vietnamese who reside in other states.

Although ethnic populations may be at higher risk for certain behaviors and health outcomes, national and state health risk-factor surveys often do not sufficiently sample ethnic populations to ensure reliable statistical estimates. Because of these limitations in reliable baseline data, national health objectives for the year 2000 could not be established for Asian/Pacific Islanders and certain other ethnic populations (*9*). However, the rapid evolution of the demographic composition of the U.S. population impels the collection of such ethnicity-specific risk-factor data. The standard CDC BRFSS methodology is one such approach that can be adapted to survey an ethnic community by using a culturally appropriate and native-language instrument.

*References*

1. CDC. Screening for hepatitis B virus infection among refugees arriving in the United States, 1979–1991. MMWR 1991;40:784–6.
2. CDC. Health status of Indochinese refugees. MMWR 1979;28:385–90,395–8.
3. CDC. Tuberculosis among Asians/Pacific Islanders—United States, 1985. MMWR 1987; 36:331–4.
4. Catanzaro A, Moser RJ. Health status of refugees from Vietnam, Laos, and Cambodia. JAMA 1982;247:1303–8.
5. Fawcett JT, Carino BV, eds. Pacific bridges: the new immigration from Asia and the Pacific Islands. Staten Island, New York: Center for Migration Studies, 1987.
6. Bureau of the Census. 1990 U.S. population census. Summary tape file 1A. Washington, DC: US Department of Commerce, Bureau of the Census, 1990.
7. Jenkins CNH, McPhee SJ, Bird JA, Bonilla NTH. Cancer risks and prevention behaviors among Vietnamese refugees. West J Med 1990;153:34–9.
8. Ross RK, Bernstein L, Hartnett NM, Boone JR. Cancer patterns among Vietnamese immigrants in Los Angeles County. Br J Cancer 1991;64:185–6.
9. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives—full report, with commentary. Washington, DC: US Department of Health and Human Services, Public Health Service, 1991; DHHS publication no. (PHS)91-50212.

## *Health Objectives for the Nation*

### Hazardous-Waste Sites: Priority Health Conditions and Research Strategies — United States

Uncontrolled disposal sites containing hazardous waste and other contaminants have created national environmental problems (*1*). Because of potential health problems associated with the more than 33,000 hazardous-waste sites in the United States, the Agency for Toxic Substances and Disease Registry (ATSDR)—as part of its federally legislated mandate—has developed a list of seven priority health conditions (PHCs)* to 1) assist in evaluating potential health risks to persons living near these sites and 2) determine program and applied human health research activities in-

*Broad categories of diseases, disorders, or dysfunctions for which human health studies and chemical-specific research are needed.

*Priority Health Conditions — Continued*

volving hazardous substances identified at the sites. This report summarizes the development and intended applications of the seven PHCs.

ATSDR was created by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (as amended by the Superfund Amendments and Reauthorization Act of 1986). The mission of ATSDR is to prevent or mitigate adverse human health effects and diminished quality of life resulting from exposure to hazardous substances in the environment (*2*). Therefore, ATSDR has initiated medical-evaluation efforts and programs to address site- and substance-specific information needs. These programs include conducting public health assessments of individual hazardous-waste sites and health studies and establishing public health surveillance systems and registries of persons exposed to hazardous substances.

Since 1986, ATSDR has conducted public health assessments for more than 1200 of the nearly 1300 sites identified on the Environmental Protection Agency's National Priorities List (NPL) and has conducted more than 85 health-study activities. In addition, ATSDR has evaluated the chemicals that pose the greatest human health hazards at NPL sites; the list of 275 hazardous substances was based on 1) the frequency with which a chemical was found at NPL sites, 2) the chemical's toxicity, and 3) the likelihood of human exposure to the chemical.

ATSDR used information derived from health studies, public health assessments, and toxicologic profiles to develop a list of seven PHCs—birth defects and reproductive disorders, cancers (selected sites), immune function disorders, kidney dysfunction, liver dysfunction, lung and respiratory diseases, and neurotoxic disorders.

In addition, ATSDR determined that the following research approaches should be used to examine PHCs:

- **Evaluation of the occurrence of adverse health effects in specific populations.** This includes ecologic epidemiology studies and evaluation of the incidence or prevalence of disease; disease symptoms; self-reported health concerns; and biological markers of disease, susceptibility, or exposure.
- **Identification of risk factors for adverse health effects from exposure to hazardous-waste sites.** This includes hypothesis-generated cohort or case-control studies of potentially affected populations to identify 1) links between exposures and adverse health effects and 2) risk factors that may be mitigated by prevention actions.
- **Development of methods to diagnose adverse health effects.** This includes medical research to identify and validate new biological tests to be used to evaluate disease occurrence in potentially affected populations.
- **Diagnosis of adverse health effects in persons.** This includes clinical-based research to identify and evaluate diagnostic and treatment regimens that may benefit persons who develop adverse health effects resulting from exposure to hazardous substances.

*Reported by: Div of Health Studies, Agency for Toxic Substances and Disease Registry.*

**Editorial Note:** In the United States, approximately 2 million persons live within a 1-mile radius of the nearly 1300 hazardous-waste sites on the NPL. One national health objective for the year 2000 is to eliminate substantial health risks from NPL hazardous-waste sites through clean-up efforts that would eliminate immediate and substantial health threats, based on health assessments (objective 11.14) (*3*).

To further evaluate health risks for exposed populations, ATSDR will use the seven PHCs to assess the occurrence of adverse health effects and the relation between

*Priority Health Conditions — Continued*

effects and specific exposures to hazardous substances. In addition, the PHCs should assist public health officials in setting priorities and effectively directing national environmental public health epidemiologic research efforts. Further studies should provide critical information that can be used to reduce the burden of adverse health effects resulting from exposures to hazardous substances.

ATSDR encourages public health, medical, and university-based researchers to address these priority health conditions; the results of such research should enable health professionals to provide health information to persons exposed to hazardous substances or affected by adverse health effects. Additional information about the PHC approach is available from the Division of Health Studies, ATSDR, telephone (404) 639-6200.

*References*

1. Environmental Protection Agency. Environmental progress and challenges: EPA's update. Washington, DC: Environmental Protection Agency, 1988. EPA publication no. EPA-230/07-88-033.
2. Public Health Service. Agency for Toxic Substances and Disease Registry annual report, FY90. Atlanta: US Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, 1991:1.
3. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives—full report, with commentary. Washington, DC: US Department of Health and Human Services, Public Health Service, 1991; DHHS publication no. (PHS)91-50212.

## *Topics in Minority Health*

### Prevalence of Tuberculous Infection Among U.S. Residents of Cuban Descent — Dade County, Florida, 1982–84

The strategic plan to eliminate tuberculosis (TB) in the United States emphasizes the need for improved understanding of the epidemiology of tuberculous infection among recent immigrants and other groups at increased risk for TB (*1*). Data regarding the prevalence of tuberculous infection are limited for groups such as U.S. residents of Cuban descent (i.e., Cubans) and other minority populations. To estimate the prevalence of tuberculous infection among self-reported Cubans, CDC's National Center for Health Statistics analyzed data from tuberculin skin testing performed on all examinees aged 6 months to 74 years in Dade County (which includes incorporated Miami), Florida (1990 population: 1.9 million; Hispanic population: 950,000), during the first Hispanic Health and Nutrition Examination Survey (HHANES), 1982–84* (*2*).

As part of HHANES, each person examined was tested with an intradermal injection of 5 tuberculin units of purified protein derivative. The presence of induration was assessed by a nurse 48–72 hours later; induration of $\geq$10 mm was considered a positive test. Because HHANES employed a complex survey design, sampling weights were used to estimate the prevalence of tuberculous infection; variances of tuberculous infection rates were estimated by multiplying the variance estimates by an average design effect (*2*). The prevalence of tuberculous infection was age-adjusted to the 1980 U.S. census population. Because prior vaccination with bacille Calmette-Guérin (BCG) vaccine complicates interpretation of tuberculin skin

*The most recent period for which data are available.

*Tuberculous Infection — Continued*

tests, persons with a scar suggesting prior BCG vaccination were excluded from the analysis. Ethnicity and country of birth were self-reported by participants.

Of the 901 persons of Cuban descent who were skin tested, induration was assessed in 870 (97%); 458 (53%) were female. The mean age for the 870 persons was 37 years. The overall age-adjusted prevalence of tuberculous infection was 9.7% for males and 4.9% for females ($p<0.05$). For males, the prevalence rate increased directly with age, from 4.5% (95% confidence interval [CI] = 1.1%–7.9%) for those aged 1–19 years to 14% (95% CI = 8.6%–19.5%) for those aged 45–74 years (Figure 1). All females aged 1–19 years were skin-test negative; the prevalence rate was stable for females aged 20–44 years and 45–74 years (7.6% [95% CI = 2.1%–13.1%] and 7.8% [95% CI = 3.9%–11.6%], respectively) (Figure 1).

Of the 870 persons, 691 (79%) were born in Cuba; 160 (18%), in the United States; and 19 (2%), in other countries. The age-adjusted prevalence rate of tuberculous infection for persons born in Cuba (9.7%) was greater than for those born in the United States (1.3%). This pattern also characterized specific age groups: 5.9% and 10.3%, respectively, for persons ≤19 and 20–74 years of age who were born in Cuba, compared with 0.7% and 6.7%, respectively, for persons born in the United States.

The prevalence rate of tuberculous infection for Cubans who were smokers* (12.0%) was almost twice that for nonsmokers (7.1%) and varied by sex: for males, 14.4% for current smokers versus 8.9% for nonsmokers; for females, 13.6% for current smokers versus 6.1% for nonsmokers.

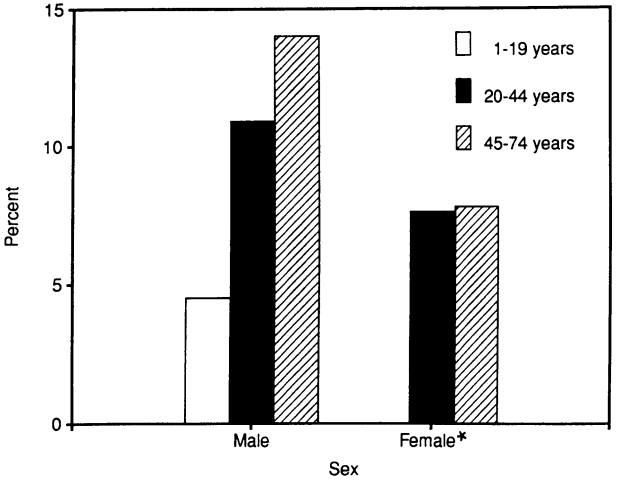
*Reported by: Medical Statistics Br, Div of Health Examination Statistics, National Center for Health Statistics, CDC.*

**Editorial Note:** Based on the 1990 U.S. census estimates of the population of Cubans in the United States (*3*) and the TB prevalence data collected in the 1982–84 HHANES, approximately 76,000 Cubans in the United States could be infected with TB. This

*(Continued on page 81)*

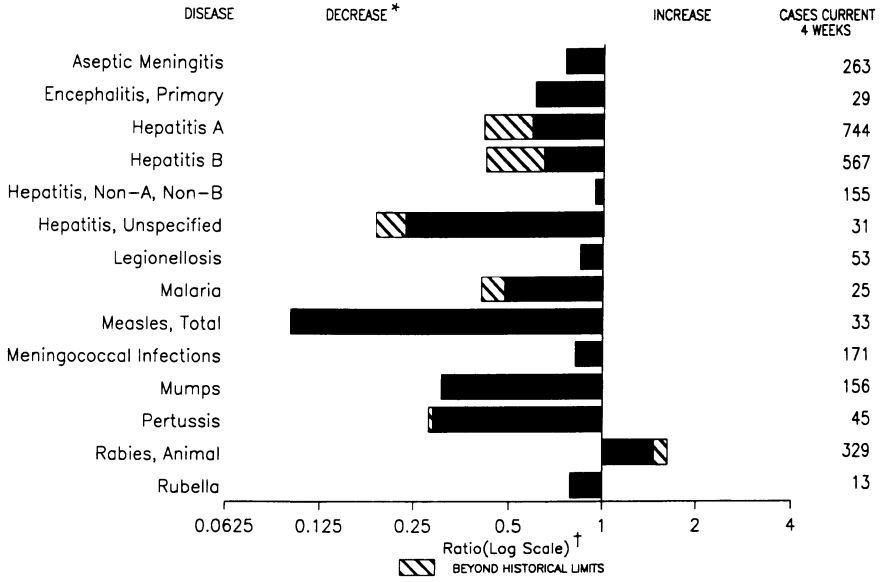
*Defined as persons who had smoked at least 100 cigarettes in their lifetimes.

**FIGURE 1. Prevalence rate of tuberculous infection among U.S. residents of Cuban descent — Dade County, Florida, 1982–84**




*The prevalence rate for females aged 1–19 years was 0.

**FIGURE I. Notifiable disease reports, comparison of 4-week totals ending February 1, 1992, with historical data — United States**




*The decreases beyond historical limits in disease reports for the past 4 weeks reflect a backlog of data transmission for 1991 cases in many reporting areas and delayed transmission of cases due to a change to a new system in some states beginning in 1992.

†Ratio of current 4-week total to the 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 — cases of specified notifiable diseases, United States, cumulative, week ending February 1, 1992 (5th Week)**

| | Cum. 1992 | | Cum. 1992 |
|---|---|---|---|
| AIDS | 4,164 | Measles: imported | - |
| Anthrax | - | indigenous | 33 |
| Botulism: Foodborne | - | Plague | - |
| Infant | 2 | Poliomyelitis, Paralytic* | - |
| Other | - | Psittacosis | 6 |
| Brucellosis | 2 | Rabies, human | - |
| Cholera | - | Syphilis, primary & secondary | 2,928 |
| Congenital rubella syndrome | - | Syphilis, congenital, age < 1 year | - |
| Diphtheria | - | Tetanus | 2 |
| Encephalitis, post-infectious | 4 | Toxic shock syndrome | 17 |
| Gonorrhea | 43,389 | Trichinosis | 1 |
| *Haemophilus influenzae* (invasive disease) | 116 | Tuberculosis | 1,447 |
| Hansen Disease | 4 | Tularemia | 7 |
| Leptospirosis | 1 | Typhoid fever | 13 |
| Lyme Disease | 138 | Typhus fever, tickborne (RMSF) | 8 |

*Nine suspected cases of poliomyelitis have been reported in 1991; 4 of the 8 suspected cases in 1990 were confirmed, and all were vaccine associated.

# TABLE II. Cases of selected notifiable diseases, United States, weeks ending February 1, 1992, and February 2, 1991 (5th Week)

| Reporting Area | AIDS | Aseptic Meningitis | Encephalitis | | Gonorrhea | | Hepatitis (Viral), by type | | | | Legionellosis | Lyme Disease |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Primary | Post-infectious | | | A | B | NA,NB | Unspecified | | |
| | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1991 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 |
| UNITED STATES | 4,164 | 383 | 39 | 4 | 43,389 | 55,222 | 1,100 | 845 | 223 | 38 | 76 | 138 |
| NEW ENGLAND | 71 | 57 | 3 | - | 1,045 | 1,920 | 47 | 83 | 4 | 7 | 10 | 29 |
| Maine | 6 | 5 | - | - | 10 | 6 | 6 | - | - | - | 2 | - |
| N.H. | 6 | 1 | - | - | - | 28 | 4 | 5 | - | - | 1 | 4 |
| Vt. | - | 2 | 2 | - | 1 | 9 | - | 1 | 1 | - | 1 | 1 |
| Mass. | 2 | 15 | 1 | - | 413 | 633 | 28 | 59 | 3 | 7 | 5 | 2 |
| R.I. | 10 | 34 | - | - | 88 | 100 | 5 | 5 | - | - | 1 | 18 |
| Conn. | 47 | - | - | - | 533 | 1,144 | 4 | 13 | - | - | - | 4 |
| MID. ATLANTIC | 876 | 28 | 2 | - | 1,937 | 6,839 | 62 | 65 | 6 | - | 7 | 70 |
| Upstate N.Y. | 145 | - | - | - | - | 1,284 | - | - | - | - | - | - |
| N.Y. City | 348 | 8 | - | - | 333 | 1,918 | 21 | 2 | 1 | - | 1 | - |
| N.J. | 283 | - | - | - | 350 | 929 | 1 | 4 | 2 | - | - | 3 |
| Pa. | 100 | 20 | 2 | - | 1,254 | 2,708 | 40 | 59 | 3 | - | 6 | 67 |
| E.N. CENTRAL | 414 | 77 | 8 | - | 7,824 | 10,080 | 139 | 165 | 19 | 2 | 23 | 11 |
| Ohio | 108 | 32 | 4 | - | 2,787 | 3,515 | 55 | 33 | 15 | - | 15 | 10 |
| Ind. | 28 | 13 | - | - | 859 | 1,118 | 60 | 67 | - | 1 | 2 | 1 |
| Ill. | 255 | - | - | - | 3,585 | 2,606 | 4 | 2 | - | - | - | - |
| Mich. | 14 | 32 | 4 | - | 460 | 2,163 | 12 | 53 | 1 | 1 | 6 | - |
| Wis. | 9 | - | - | - | 133 | 678 | 8 | 10 | 3 | - | - | - |
| W.N. CENTRAL | 178 | 21 | 2 | 1 | 2,437 | 2,845 | 93 | 10 | - | - | 1 | 1 |
| Minn. | 26 | 1 | - | - | 288 | 173 | 6 | 2 | - | - | - | - |
| Iowa | 13 | 9 | - | - | 193 | 198 | 2 | 3 | - | - | 1 | 1 |
| Mo. | 82 | - | - | - | 1,530 | 1,828 | - | - | - | - | - | - |
| N. Dak. | - | 1 | - | - | - | 3 | 4 | - | - | - | - | - |
| S. Dak. | - | 1 | - | 1 | 17 | 37 | 63 | - | - | - | - | - |
| Nebr. | 4 | 1 | - | - | 33 | 200 | 7 | 1 | - | - | - | - |
| Kans. | 53 | 8 | 2 | - | 376 | 406 | 11 | 4 | - | - | - | - |
| S. ATLANTIC | 1,050 | 68 | 10 | 2 | 16,839 | 16,993 | 66 | 146 | 19 | 5 | 13 | 9 |
| Del. | 7 | 5 | 2 | - | 142 | 171 | - | 6 | - | - | - | 2 |
| Md. | 176 | 16 | 1 | - | 1,647 | 1,726 | 18 | 45 | 3 | 4 | 3 | 1 |
| D.C. | 52 | - | - | - | 764 | 1,026 | 1 | 5 | - | - | - | - |
| Va. | 8 | 11 | 2 | 1 | 2,030 | 1,393 | 7 | 11 | 2 | 1 | 1 | 5 |
| W. Va. | 7 | - | - | - | 105 | 124 | 1 | 4 | - | - | - | - |
| N.C. | 69 | 12 | 5 | - | 1,849 | 3,457 | 8 | 32 | 10 | - | 2 | - |
| S.C. | 26 | 2 | - | - | 1,185 | 1,590 | 5 | 5 | - | - | 6 | - |
| Ga. | 109 | 10 | - | - | 7,036 | 4,197 | 10 | 11 | 1 | - | - | - |
| Fla. | 596 | 12 | - | 1 | 2,081 | 3,309 | 16 | 27 | 3 | - | 1 | 1 |
| E.S. CENTRAL | 194 | 33 | - | - | 3,845 | 4,566 | 20 | 78 | 129 | - | 5 | 2 |
| Ky. | 22 | 17 | - | - | 472 | 506 | 6 | 8 | - | - | 2 | 1 |
| Tenn. | 59 | 8 | - | - | 1,318 | 1,386 | 6 | 55 | 125 | - | 3 | 1 |
| Ala. | 84 | 8 | - | - | 895 | 1,630 | 4 | 15 | 4 | - | - | - |
| Miss. | 29 | - | - | - | 1,160 | 1,044 | 4 | - | - | - | - | - |
| W.S. CENTRAL | 422 | 5 | - | - | 4,251 | 5,632 | 43 | 31 | 4 | 1 | - | 2 |
| Ark. | 30 | 5 | - | - | 192 | 579 | 10 | 10 | - | - | - | 1 |
| La. | 79 | - | - | - | 853 | 1,025 | - | - | - | - | - | - |
| Okla. | 41 | - | - | - | 426 | 605 | 33 | 21 | 4 | 1 | - | 1 |
| Tex. | 272 | - | - | - | 2,780 | 3,423 | - | - | - | - | - | - |
| MOUNTAIN | 101 | 9 | 2 | - | 923 | 1,156 | 176 | 42 | 6 | 5 | 8 | - |
| Mont. | 1 | - | 1 | - | 8 | 5 | 8 | 3 | - | - | 1 | - |
| Idaho | - | - | - | - | 8 | 11 | 5 | 8 | - | - | - | - |
| Wyo. | - | - | - | - | 3 | 4 | - | 1 | 3 | - | - | - |
| Colo. | 38 | 1 | 1 | - | 213 | 336 | 34 | 7 | 2 | 5 | - | - |
| N. Mex. | 10 | 1 | - | - | 79 | 99 | 10 | 6 | - | - | - | - |
| Ariz. | 20 | 7 | - | - | 458 | 470 | 108 | 8 | 1 | - | 3 | - |
| Utah | 11 | - | - | - | 17 | 35 | 3 | - | - | - | - | - |
| Nev. | 21 | - | - | - | 137 | 196 | 8 | 9 | - | - | 4 | - |
| PACIFIC | 858 | 85 | 12 | 1 | 4,288 | 5,191 | 454 | 225 | 36 | 18 | 9 | 14 |
| Wash. | 30 | - | - | - | 331 | 503 | 20 | 17 | 3 | - | 3 | - |
| Oreg. | 47 | - | - | - | 121 | 200 | 31 | 21 | 6 | - | - | - |
| Calif. | 763 | 78 | 10 | 1 | 3,710 | 4,324 | 394 | 186 | 27 | 18 | 6 | 14 |
| Alaska | 4 | 1 | 2 | - | 87 | 92 | 1 | 1 | - | - | - | - |
| Hawaii | 14 | 6 | - | - | 39 | 72 | 8 | - | - | - | - | - |
| Guam | - | - | - | - | 12 | - | 1 | - | - | 2 | - | - |
| P.R. | 107 | 7 | - | - | 1 | 15 | 2 | 11 | - | - | - | - |
| V.I. | 1 | - | - | - | 6 | 40 | - | 1 | - | - | - | - |
| Amer. Samoa | - | - | - | - | - | - | - | - | - | - | - | - |
| C.N.M.I. | - | - | - | - | - | 2 | - | - | - | - | - | - |

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

## TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending February 1, 1992, and February 2, 1991 (5th Week)

| Reporting Area | Malaria | Measles (Rubeola) | | | | | Menin-gococcal Infections | Mumps | | Pertussis | | | Rubella | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Indigenous | | Imported* | | Total | | | | | | | | | |
| | Cum. 1992 | 1992 | Cum. 1992 | 1992 | Cum. 1992 | Cum. 1991 | Cum. 1992 | 1992 | Cum. 1992 | 1992 | Cum. 1992 | Cum. 1991 | 1992 | Cum. 1992 | Cum. 1991 |
| UNITED STATES | 45 | 6 | 33 | - | - | 364 | 232 | 91 | 191 | 18 | 63 | 185 | 3 | 16 | 37 |
| NEW ENGLAND | 1 | - | - | - | - | 2 | 16 | - | - | - | - | 8 | - | 4 | - |
| Maine | - | - | - | - | - | - | 3 | - | - | - | - | - | - | - | - |
| N.H. | - | - | - | - | - | - | - | - | - | - | - | 7 | - | - | - |
| Vt. | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - |
| Mass. | 1 | - | - | - | - | - | 7 | - | - | - | - | - | - | - | - |
| R.I. | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | - |
| Conn. | - | - | - | - | - | 2 | 6 | - | - | - | - | - | - | - | - |
| MID. ATLANTIC | 4 | 1 | 2 | - | - | 210 | 5 | 4 | 9 | 6 | 8 | 25 | - | - | 2 |
| Upstate N.Y. | - | - | - | - | - | - | - | - | - | - | - | 10 | - | - | 2 |
| N.Y. City | 1 | 1 | 1 | - | - | 15 | 2 | - | - | - | - | - | - | - | - |
| N.J. | 1 | - | - | - | - | 68 | - | - | - | - | - | 1 | - | - | - |
| Pa. | 2 | - | 1 | - | - | 127 | 3 | 4 | 9 | 6 | 8 | 14 | - | - | - |
| E.N. CENTRAL | 2 | - | - | - | - | 6 | 50 | 4 | 17 | - | 12 | 50 | - | 2 | 1 |
| Ohio | - | - | - | - | - | - | 8 | - | 5 | - | - | 18 | - | - | - |
| Ind. | - | - | - | - | - | - | 10 | 1 | 2 | - | 9 | 9 | - | - | 1 |
| Ill. | - | - | - | - | - | 4 | 19 | - | 4 | - | - | 15 | - | 2 | - |
| Mich. | 1 | - | - | - | - | 1 | 13 | 3 | 5 | - | 2 | 4 | - | - | - |
| Wis. | 1 | - | - | - | - | 1 | - | - | 1 | - | 1 | 4 | - | - | - |
| W.N. CENTRAL | 3 | - | - | - | - | - | 15 | - | 1 | - | 2 | 22 | - | 1 | 2 |
| Minn. | 1 | - | - | - | - | - | 2 | - | - | - | - | 8 | - | - | 1 |
| Iowa | 1 | - | - | - | - | - | 1 | - | 1 | - | 1 | 3 | - | - | - |
| Mo. | - | - | - | - | - | - | - | - | - | - | - | 7 | - | - | 1 |
| N. Dak. | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - |
| S. Dak. | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - | - |
| Nebr. | - | - | - | - | - | - | 2 | - | - | - | 1 | 2 | - | - | - |
| Kans. | 1 | - | - | - | - | - | 10 | - | - | - | - | - | - | 1 | - |
| S. ATLANTIC | 9 | 5 | 9 | - | - | 2 | 41 | 72 | 113 | 5 | 11 | 7 | 1 | 1 | - |
| Del. | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Md. | 5 | - | - | - | - | - | 3 | 3 | 13 | 1 | 7 | - | - | - | - |
| D.C. | 2 | - | - | - | - | - | - | 2 | 2 | - | - | - | - | - | - |
| Va. | - | - | - | - | - | - | 3 | - | 3 | - | - | 2 | - | - | - |
| W. Va. | - | - | - | - | - | - | 4 | 6 | 6 | - | - | - | - | - | - |
| N.C. | - | - | - | - | - | - | 10 | 20 | 20 | 4 | 4 | 4 | - | - | - |
| S.C. | - | - | - | - | - | - | 4 | 28 | 32 | - | - | - | - | - | - |
| Ga. | - | - | - | - | - | - | 7 | - | - | - | - | - | - | - | - |
| Fla. | 1 | 5 | 9 | - | - | 2 | 10 | 13 | 37 | - | - | 1 | 1 | 1 | - |
| E.S. CENTRAL | 1 | - | 18 | - | - | - | 19 | 1 | 4 | - | 5 | 4 | - | - | - |
| Ky. | - | - | 18 | - | - | - | 9 | - | - | - | - | - | - | - | - |
| Tenn. | 1 | - | - | - | - | - | 3 | 1 | 1 | - | - | 3 | - | - | - |
| Ala. | - | - | - | - | - | - | 7 | - | 3 | - | 5 | 1 | - | - | - |
| Miss. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| W.S. CENTRAL | 1 | - | - | - | - | 5 | 10 | 1 | 4 | 2 | 4 | 9 | - | - | - |
| Ark. | - | - | - | - | - | 5 | 4 | - | 3 | 1 | 3 | - | - | - | - |
| La. | - | - | - | - | - | - | - | - | - | - | - | 6 | - | - | - |
| Okla. | 1 | - | - | - | - | - | 6 | 1 | 1 | 1 | 1 | 3 | - | - | - |
| Tex. | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| MOUNTAIN | 5 | - | - | - | - | 27 | 12 | 2 | 13 | - | 6 | 27 | - | - | 1 |
| Mont. | - | - | - | - | - | - | 2 | - | - | - | - | - | - | - | - |
| Idaho | - | - | - | - | - | - | 2 | - | 1 | - | 3 | 7 | - | - | - |
| Wyo. | - | - | - | - | - | - | 1 | - | - | - | - | 2 | - | - | - |
| Colo. | 2 | - | - | - | - | - | 2 | - | 2 | - | 1 | 3 | - | - | - |
| N. Mex. | 2 | - | - | - | - | 18 | - | N | N | - | 2 | 4 | - | - | - |
| Ariz. | 1 | - | - | - | - | 2 | 1 | 1 | 7 | - | - | 6 | - | - | - |
| Utah | - | - | - | - | - | - | - | 1 | 1 | - | - | 5 | - | - | - |
| Nev. | - | - | - | - | - | 7 | 4 | - | 2 | - | - | - | - | - | 1 |
| PACIFIC | 19 | - | 4 | - | - | 112 | 64 | 7 | 30 | 5 | 15 | 33 | 2 | 8 | 31 |
| Wash. | 2 | - | - | - | - | - | 8 | - | 2 | - | - | - | - | - | - |
| Oreg. | 1 | - | 1 | - | - | - | 14 | N | N | 1 | 3 | 4 | - | - | - |
| Calif. | 14 | - | 3 | - | - | 112 | 37 | 7 | 27 | 4 | 10 | 15 | 2 | 6 | 31 |
| Alaska | - | - | - | - | - | - | 3 | - | - | - | - | 5 | - | - | - |
| Hawaii | 2 | - | - | - | - | - | 2 | - | 1 | - | 2 | 9 | - | 2 | - |
| Guam | - | U | - | U | - | - | - | U | 1 | U | - | - | U | - | - |
| P.R. | - | - | - | - | - | - | 1 | - | - | - | 1 | 1 | - | - | - |
| V.I. | - | U | - | U | - | - | - | U | 3 | U | - | - | U | - | - |
| Amer. Samoa | - | U | - | U | - | - | - | U | - | U | - | - | U | - | - |
| C.N.M.I. | - | U | - | U | - | - | - | U | - | U | - | - | U | - | - |

*For measles only, imported cases includes 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 February 1, 1992, and February 2, 1991 (5th Week)

| Reporting Area | Syphilis (Primary & Secondary) | | Toxic-shock Syndrome | Tuberculosis | | Tula-remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|---|---|---|---|---|---|---|---|---|---|
| | Cum. 1992 | Cum. 1991 | Cum. 1992 | Cum. 1992 | Cum. 1991 | Cum. 1992 | Cum. 1992 | Cum. 1992 | Cum. 1992 |
| UNITED STATES | 2,928 | 3,928 | 17 | 1,447 | 1,425 | 7 | 13 | 8 | 505 |
| NEW ENGLAND | 48 | 90 | 3 | 98 | 52 | - | - | 1 | 48 |
| Maine | - | - | - | 16 | 16 | - | - | - | - |
| N.H. | - | 1 | 2 | - | - | - | - | - | - |
| Vt. | - | 1 | - | - | - | - | - | - | - |
| Mass. | 16 | 48 | 1 | 82 | 11 | - | - | 1 | - |
| R.I. | 4 | 4 | - | - | 8 | - | - | - | - |
| Conn. | 28 | 36 | - | - | 17 | - | - | - | 48 |
| MID. ATLANTIC | 341 | 841 | 2 | 260 | 328 | - | 1 | - | 153 |
| Upstate N.Y. | - | 72 | - | - | 19 | - | - | - | 96 |
| N.Y. City | 186 | 336 | - | 210 | 236 | - | - | - | - |
| N.J. | 19 | 114 | - | 4 | 61 | - | 1 | - | 40 |
| Pa. | 136 | 319 | 2 | 46 | 12 | - | - | - | 17 |
| E.N. CENTRAL | 507 | 422 | 5 | 111 | 154 | - | 1 | 1 | 10 |
| Ohio | 62 | 39 | 2 | 17 | 50 | - | 1 | 1 | - |
| Ind. | 30 | 10 | 1 | 12 | 3 | - | - | - | - |
| Ill. | 264 | 207 | - | 60 | 89 | - | - | - | 1 |
| Mich. | 122 | 109 | 2 | 15 | - | - | - | - | - |
| Wis. | 29 | 57 | - | 7 | 12 | - | - | - | 9 |
| W.N. CENTRAL | 80 | 55 | 2 | 22 | 38 | - | - | - | 75 |
| Minn. | 7 | 7 | 1 | 8 | 1 | - | - | - | 29 |
| Iowa | 2 | 7 | 1 | 3 | 9 | - | - | - | 14 |
| Mo. | 70 | 41 | - | 11 | 18 | - | - | - | - |
| N. Dak. | - | - | - | - | 3 | - | - | - | 5 |
| S. Dak. | - | - | - | - | 1 | - | - | - | - |
| Nebr. | 1 | - | - | - | 1 | - | - | - | - |
| Kans. | - | - | - | - | 5 | - | - | - | 27 |
| S. ATLANTIC | 882 | 1,136 | 1 | 221 | 160 | 2 | 1 | 3 | 140 |
| Del. | 14 | 14 | - | 1 | 4 | - | - | - | 20 |
| Md. | 76 | 108 | - | 41 | 19 | 2 | - | - | 55 |
| D.C. | 66 | 68 | - | 7 | 17 | - | 1 | - | 3 |
| Va. | 68 | 68 | - | 8 | 13 | - | - | - | 9 |
| W. Va. | 3 | 3 | - | 9 | 7 | - | - | - | 3 |
| N.C. | 191 | 157 | 1 | 26 | 37 | - | - | 3 | - |
| S.C. | 135 | 163 | - | 22 | 20 | - | - | - | 10 |
| Ga. | 199 | 257 | - | 22 | 31 | - | - | - | 40 |
| Fla. | 130 | 298 | - | 85 | 12 | - | - | - | - |
| E.S. CENTRAL | 436 | 411 | - | 61 | 89 | 2 | - | - | 8 |
| Ky. | 13 | 7 | - | 23 | 22 | 1 | - | - | 4 |
| Tenn. | 77 | 203 | - | - | - | 1 | - | - | - |
| Ala. | 210 | 99 | - | 34 | 41 | - | - | - | 4 |
| Miss. | 136 | 102 | - | 4 | 26 | - | - | - | - |
| W.S. CENTRAL | 434 | 536 | - | 3 | 87 | 3 | - | 3 | 35 |
| Ark. | 58 | 19 | - | 3 | 13 | 1 | - | 2 | 4 |
| La. | 152 | 155 | - | - | - | - | - | - | - |
| Okla. | 18 | 20 | - | - | 2 | 2 | - | 1 | 31 |
| Tex. | 206 | 342 | - | - | 72 | - | - | - | - |
| MOUNTAIN | 70 | 67 | 2 | 35 | 44 | - | - | - | 9 |
| Mont. | 2 | - | - | - | - | - | - | - | 1 |
| Idaho | 1 | 2 | - | 3 | - | - | - | - | - |
| Wyo. | - | 1 | - | - | - | - | - | - | 7 |
| Colo. | 9 | 9 | 1 | - | 6 | - | - | - | - |
| N. Mex. | 7 | 3 | - | 6 | - | - | - | - | - |
| Ariz. | 29 | 52 | 1 | 19 | 27 | - | - | - | 1 |
| Utah | 1 | - | - | - | 10 | - | - | - | - |
| Nev. | 21 | - | - | 7 | 1 | - | - | - | - |
| PACIFIC | 130 | 370 | 2 | 636 | 473 | - | 10 | - | 27 |
| Wash. | - | 20 | - | 21 | 14 | - | - | - | - |
| Oreg. | 6 | 6 | - | 7 | 7 | - | - | - | - |
| Calif. | 124 | 343 | 2 | 602 | 430 | - | 10 | - | 27 |
| Alaska | - | 1 | - | 2 | 2 | - | - | - | - |
| Hawaii | - | - | - | 4 | 20 | - | - | - | - |
| Guam | 1 | - | - | - | - | - | - | - | - |
| P.R. | 7 | 16 | - | - | 4 | - | - | - | 3 |
| V.I. | 4 | 6 | - | 1 | - | - | - | - | - |
| Amer. Samoa | - | - | - | - | - | - | - | - | - |
| C.N.M.I. | - | - | - | - | 4 | - | - | - | - |

U: Unavailable

# TABLE III. Deaths in 121 U.S. cities,* week ending February 1, 1992 (5th Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I† |
|---|---|---|---|---|---|---|---|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | Total |
| NEW ENGLAND | 719 | 511 | 115 | 59 | 17 | 17 | 64 |
| Boston, Mass. | 173 | 108 | 38 | 14 | 6 | 7 | 15 |
| Bridgeport, Conn. | 56 | 44 | 3 | 6 | 2 | 1 | 5 |
| Cambridge, Mass. | 18 | 14 | 1 | 3 | - | - | 3 |
| Fall River, Mass. | 34 | 25 | 6 | 3 | - | - | 1 |
| Hartford, Conn. | 78 | 49 | 15 | 8 | 3 | 3 | 4 |
| Lowell, Mass. | 24 | 17 | 6 | 1 | - | - | 4 |
| Lynn, Mass. | 26 | 19 | 4 | 3 | - | - | 4 |
| New Bedford, Mass. | 32 | 27 | 3 | 1 | - | 1 | 5 |
| New Haven, Conn. | 56 | 36 | 10 | 6 | 2 | 2 | 3 |
| Providence, R.I. | 33 | 23 | 5 | 2 | 3 | - | 2 |
| Somerville, Mass. | 8 | 7 | - | 1 | - | - | - |
| Springfield, Mass. | 65 | 48 | 12 | 5 | - | - | 8 |
| Waterbury, Conn. | 42 | 38 | 3 | 1 | - | - | 3 |
| Worcester, Mass. | 74 | 56 | 9 | 5 | 1 | 3 | 7 |
| MID. ATLANTIC | 2,784 | 1,902 | 499 | 258 | 56 | 68 | 165 |
| Albany, N.Y. | 42 | 30 | 10 | 1 | - | 1 | 5 |
| Allentown, Pa. | 24 | 17 | 6 | 1 | - | - | - |
| Buffalo, N.Y. | 113 | 78 | 25 | 8 | 1 | 1 | 5 |
| Camden, N.J. | 44 | 30 | 9 | 4 | 1 | - | 3 |
| Elizabeth, N.J. | 22 | 18 | 1 | 3 | - | - | 2 |
| Erie, Pa.§ | 40 | 30 | 7 | 3 | - | - | - |
| Jersey City, N.J. | 115 | 66 | 17 | 17 | 3 | 12 | 5 |
| New York City, N.Y. | 1,374 | 912 | 255 | 144 | 32 | 31 | 61 |
| Newark, N.J. | 76 | 29 | 23 | 14 | 1 | 9 | 6 |
| Paterson, N.J. | 37 | 28 | 4 | 4 | - | 1 | 3 |
| Philadelphia, Pa. | 392 | 269 | 69 | 35 | 12 | 6 | 25 |
| Pittsburgh, Pa.§ | 77 | 55 | 18 | 1 | - | 3 | 10 |
| Reading, Pa. | 41 | 36 | 1 | 2 | 2 | - | 11 |
| Rochester, N.Y. | 115 | 95 | 13 | 5 | 1 | 1 | 8 |
| Schenectady, N.Y. | 30 | 25 | 3 | 2 | - | - | - |
| Scranton, Pa.§ | 27 | 23 | 2 | 2 | - | - | 1 |
| Syracuse, N.Y. | 106 | 84 | 15 | 3 | 1 | 3 | 7 |
| Trenton, N.J. | 56 | 36 | 13 | 7 | - | - | 7 |
| Utica, N.Y. | 21 | 16 | 3 | 1 | 1 | - | - |
| Yonkers, N.Y. | 32 | 25 | 5 | 1 | 1 | - | 6 |
| E.N. CENTRAL | 2,429 | 1,548 | 454 | 248 | 88 | 91 | 161 |
| Akron, Ohio | 59 | 40 | 15 | 3 | - | 1 | - |
| Canton, Ohio | 45 | 31 | 9 | 5 | - | - | 5 |
| Chicago, Ill. | 500 | 182 | 101 | 115 | 52 | 50 | 16 |
| Cincinnati, Ohio | 201 | 135 | 46 | 13 | 2 | 5 | 19 |
| Cleveland, Ohio | 155 | 103 | 23 | 16 | 3 | 10 | 6 |
| Columbus, Ohio | 154 | 101 | 36 | 14 | - | 3 | 8 |
| Dayton, Ohio | 135 | 98 | 25 | 6 | 4 | 2 | 16 |
| Detroit, Mich. | 225 | 142 | 43 | 26 | 10 | 4 | 9 |
| Evansville, Ind. | 55 | 41 | 12 | 2 | - | - | 3 |
| Fort Wayne, Ind. | 77 | 62 | 9 | 3 | - | 3 | 7 |
| Gary, Ind. | 24 | 16 | 7 | - | - | 1 | - |
| Grand Rapids, Mich. | 69 | 53 | 6 | 5 | 1 | 4 | 9 |
| Indianapolis, Ind. | 198 | 126 | 43 | 19 | 6 | 4 | 20 |
| Madison, Wis. | 37 | 25 | 6 | 4 | 2 | - | 2 |
| Milwaukee, Wis. | 126 | 101 | 19 | 4 | - | 2 | 16 |
| Peoria, Ill. | 53 | 37 | 7 | 5 | 4 | - | 2 |
| Rockford, Ill. | 61 | 51 | 8 | 1 | 1 | - | 2 |
| South Bend, Ind. | 55 | 47 | 5 | - | 3 | - | 3 |
| Toledo, Ohio | 142 | 114 | 21 | 6 | - | 1 | 14 |
| Youngstown, Ohio | 58 | 43 | 13 | 1 | - | 1 | 4 |
| W.N. CENTRAL | 916 | 669 | 138 | 59 | 21 | 29 | 64 |
| Des Moines, Iowa | 97 | 68 | 21 | 3 | 1 | 4 | 6 |
| Duluth, Minn. | 33 | 29 | 2 | 2 | - | - | 4 |
| Kansas City, Kans. | 31 | 21 | 3 | 5 | 1 | 1 | - |
| Kansas City, Mo. | 108 | 78 | 14 | 8 | 2 | 6 | 11 |
| Lincoln, Nebr. | 24 | 15 | 4 | 3 | 1 | 1 | 4 |
| Minneapolis, Minn. | 229 | 166 | 39 | 17 | 5 | 2 | 13 |
| Omaha, Nebr. | 96 | 73 | 11 | 6 | 3 | 3 | 6 |
| St. Louis, Mo. | 155 | 110 | 26 | 10 | 3 | 6 | 4 |
| St. Paul, Minn. | 78 | 61 | 10 | 3 | 2 | 2 | 13 |
| Wichita, Kans. | 65 | 48 | 8 | 2 | 3 | 4 | 3 |
| S. ATLANTIC | 1,430 | 940 | 267 | 153 | 32 | 37 | 108 |
| Atlanta, Ga. | 211 | 124 | 38 | 36 | 6 | 7 | 7 |
| Baltimore, Md. | 365 | 228 | 87 | 40 | 4 | 6 | 37 |
| Charlotte, N.C. | 116 | 80 | 18 | 13 | 4 | 1 | 7 |
| Jacksonville, Fla. | 119 | 77 | 19 | 14 | 4 | 5 | 12 |
| Miami, Fla. | 107 | 65 | 25 | 13 | 4 | - | 1 |
| Norfolk, Va. | 72 | 51 | 7 | 3 | 4 | 7 | 4 |
| Richmond, Va. | 87 | 54 | 18 | 12 | 1 | 2 | 11 |
| Savannah, Ga. | 68 | 49 | 8 | 6 | - | 5 | 4 |
| St. Petersburg, Fla. | 84 | 68 | 11 | 3 | 1 | 1 | 3 |
| Tampa, Fla. | 181 | 128 | 34 | 12 | 4 | 3 | 22 |
| Washington, D.C. | U | U | U | U | U | U | U |
| Wilmington, Del. | 20 | 16 | 2 | 1 | - | - | - |
| E.S. CENTRAL | 925 | 600 | 196 | 68 | 30 | 31 | 72 |
| Birmingham, Ala. | 127 | 86 | 27 | 9 | 3 | 2 | 4 |
| Chattanooga, Tenn. | 91 | 69 | 12 | 5 | 4 | 1 | 8 |
| Knoxville, Tenn. | 94 | 67 | 21 | 3 | 3 | - | 18 |
| Louisville, Ky. | 89 | 55 | 19 | 7 | 6 | 2 | 9 |
| Memphis, Tenn. | 181 | 104 | 42 | 20 | 6 | 9 | 5 |
| Mobile, Ala. | 155 | 86 | 36 | 18 | 4 | 11 | 5 |
| Montgomery, Ala. | 54 | 37 | 13 | 1 | - | 3 | 4 |
| Nashville, Tenn. | 134 | 96 | 26 | 5 | 4 | 3 | 19 |
| W.S. CENTRAL | 1,794 | 1,151 | 339 | 176 | 80 | 48 | 122 |
| Austin, Tex. | 72 | 47 | 12 | 8 | 2 | 3 | 6 |
| Baton Rouge, La. | 35 | 25 | 7 | 2 | - | 1 | 1 |
| Corpus Christi, Tex. | 59 | 49 | 6 | 3 | - | 1 | 1 |
| Dallas, Tex. | 273 | 170 | 55 | 28 | 12 | 8 | 18 |
| El Paso, Tex. | 98 | 66 | 14 | 11 | 3 | 4 | 4 |
| Ft. Worth, Tex. | 119 | 75 | 25 | 9 | 5 | 5 | 8 |
| Houston, Tex. | 417 | 211 | 97 | 61 | 34 | 14 | 29 |
| Little Rock, Ark. | 72 | 49 | 12 | 5 | 2 | 4 | 6 |
| New Orleans, La. | 169 | 110 | 32 | 15 | 11 | 1 | - |
| San Antonio, Tex. | 248 | 168 | 47 | 20 | 8 | 5 | 23 |
| Shreveport, La. | 77 | 59 | 8 | 7 | 2 | 1 | 7 |
| Tulsa, Okla. | 155 | 122 | 24 | 7 | 1 | 1 | 19 |
| MOUNTAIN | 818 | 526 | 158 | 71 | 25 | 38 | 63 |
| Albuquerque, N.M. | 79 | 53 | 9 | 13 | 2 | 2 | 6 |
| Colo. Springs, Colo. | 64 | 39 | 8 | 5 | 4 | 8 | 4 |
| Denver, Colo. | 120 | 66 | 25 | 12 | 3 | 14 | 20 |
| Las Vegas, Nev. | 148 | 95 | 35 | 12 | 4 | 2 | 9 |
| Ogden, Utah | 25 | 17 | 4 | 1 | 3 | - | 1 |
| Phoenix, Ariz. | 176 | 112 | 44 | 13 | 3 | 4 | 2 |
| Pueblo, Colo. | 21 | 18 | 1 | 2 | - | - | 3 |
| Salt Lake City, Utah | 41 | 25 | 7 | 4 | 1 | 4 | 7 |
| Tucson, Ariz. | 144 | 101 | 25 | 9 | 5 | 4 | 11 |
| PACIFIC | 2,411 | 1,642 | 378 | 231 | 92 | 57 | 201 |
| Berkeley, Calif. | 17 | 12 | 1 | 4 | - | - | 1 |
| Fresno, Calif. | 96 | 69 | 16 | 4 | 3 | 4 | 8 |
| Glendale, Calif. | 41 | 36 | 4 | - | - | - | 3 |
| Honolulu, Hawaii | 67 | 53 | 8 | 2 | 3 | 1 | 5 |
| Long Beach, Calif. | 122 | 85 | 18 | 14 | 2 | 3 | 25 |
| Los Angeles, Calif. | 617 | 398 | 97 | 81 | 29 | 4 | 48 |
| Pasadena, Calif. | 38 | 28 | 8 | - | 1 | 1 | 4 |
| Portland, Oreg. | 263 | 199 | 28 | 16 | 9 | 11 | 18 |
| Sacramento, Calif. | 192 | 140 | 30 | 13 | 5 | 4 | 18 |
| San Diego, Calif. | 202 | 130 | 35 | 22 | 10 | 5 | 29 |
| San Francisco, Calif. | 210 | 113 | 33 | 37 | 18 | 7 | 1 |
| San Jose, Calif. | 223 | 152 | 41 | 14 | 7 | 9 | 25 |
| Santa Cruz, Calif. | 27 | 19 | 2 | 5 | 1 | - | 4 |
| Seattle, Wash. | 138 | 93 | 28 | 10 | 2 | 5 | 3 |
| Spokane, Wash. | 56 | 43 | 9 | 4 | - | - | 3 |
| Tacoma, Wash. | 102 | 72 | 20 | 5 | 2 | 3 | 6 |
| TOTAL | 14,226¶ | 9,489 | 2,544 | 1,323 | 441 | 416 | 1,020 |

*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

*Tuberculous Infection — Continued*

estimate is consistent with other reports regarding the occurrence of TB in Hispanics in the United States. For example, in 1980, of 88,971 Cuban refugees who received chest radiographs as part of a health screening examination, 0.5% had active or suspected active TB, and 1.4% had suspected inactive TB (*4*). In 1990, the TB case rate for all Hispanics in the United States was 21.4 per 100,000, five times the rate of 4.2 per 100,000 for non-Hispanic whites (CDC, unpublished data).

In this study, the prevalence rates of tuberculous infection for Cubans were higher for males, persons born in Cuba, and persons who smoked. In general, males are at higher risk for tuberculous infection because of environmental factors (e.g., working with others who are infected with TB, living in crowded conditions) (*5*). In 1982, the incidence of TB in Cuba was 8.1 per 100,000 population (World Health Organization, unpublished data). Although cigarette smoking has been associated with TB (*6,7*), it is unclear whether smoking may increase the risk for tuberculous infection or may increase the likelihood of clinical TB after infection.

To help meet the national goal to eliminate TB (a case rate of less than 1 per million population by the year 2010, with an interim target of a case rate of 3.5 per 100,000 population by the year 2000 [*8*]), culturally appropriate strategies must be developed to prevent and control TB among Hispanics in the United States and other groups at increased risk for TB. Such strategies should emphasize 1) early identification and appropriate treatment of active cases and 2) systematic screening for tuberculous infection and preventive therapy among Hispanics in the United States at high risk for TB.

*References*

1. CDC. A strategic plan for the elimination of tuberculosis in the United States. MMWR 1989;38(no. S-3).
2. NCHS. Plan and operation of the Hispanic Health and Nutrition Examination Survey, 1982–84. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1985:56–61.
3. Bureau of the Census. Census Bureau releases 1990 census counts on specific racial groups [press release no. CB91-215]. Washington, DC: US Department of Commerce, Bureau of the Census, June 12, 1991.
4. CDC. Follow-up on the health status of the Cuban refugees. MMWR 1980;29:343–4.
5. Hinman AR, Judd JM, Kolnick JT, Daitch PB. Changing risks in TB. Am J Epidemiol 1976;103:487–97.
6. Brown KE, Campbell AH. Tobacco, alcohol, and tuberculosis. Brit J Dis Chest 1961;55:150–8.
7. Yu GP, Hsieh CC, Peng J. Risk factors associated with the prevalence of pulmonary tuberculosis among sanitary workers in Shanghai. Tubercle 1988;69:105–12.
8. CDC. Update: tuberculosis elimination—United States. MMWR 1990;39:153–6.

## *Current Trends*

### Infant Mortality — United States, 1989

In 1989, the infant mortality rate for the United States—9.8 infant deaths per 1000 live births—was the lowest final rate ever recorded; the previous low (10.0 per 1000 live births) was recorded in 1988 (Figure 1). However, the infant mortality rate in the United States remains higher than that in many other developed countries. This report summarizes 1989 infant mortality data based on information from death certificates compiled through the Vital Statistics System of CDC's National Center for Health Statistics (NCHS) (*1*) and compares findings with those for 1988.

*Infant Mortality — Continued*

In this report, cause-of-death statistics are based on the underlying cause of death* reported on the death certificate by the attending physician, medical examiner, or coroner in a manner specified by the World Health Organization and endorsed by CDC. In 1989, NCHS changed the method of tabulating live births from race of child to race of mother (*2*). Because the number of live births comprises the denominator of infant mortality rates, 1989 rates by race of mother for specific race groups are not comparable with those of previous years. For this report, data for 1989 were tabulated by both race of child and race of mother. Comparison of changes in rates from 1988 to 1989 are based on the number of live births tabulated by race of child.

In 1989, the mortality rates (by race of mother) for white† and black† infants were 8.1 and 18.6 per 1000 live births, respectively. For white infants, the rate (by race of child) in 1989 (8.2 per 1000 live births) was 4% lower than the rate from the previous year (8.5); for black infants, the rate (by race of child) was 17.7 in 1989, compared with 17.6 in 1988.

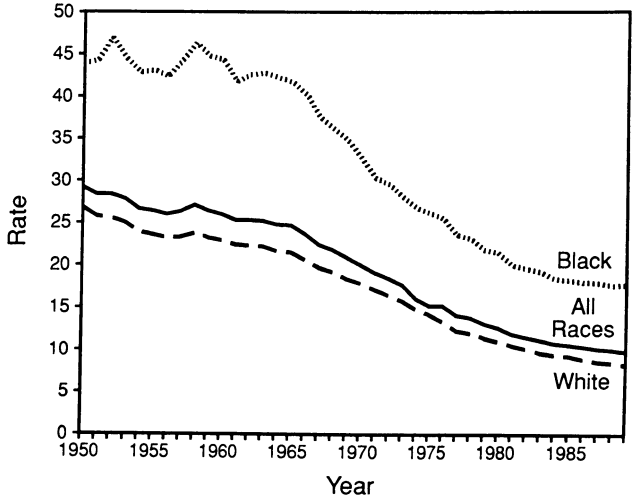
From 1988 to 1989, the neonatal (infants <28 days of age) mortality rate declined from 6.3 to 6.2 deaths per 1000 live births. In 1989, the neonatal mortality rates (by race of mother) for white and black infants were 5.1 and 11.9 per 1000 live births, respectively. For white infants, the rate (by race of child) in 1989 (5.2) was 4% lower than the 1988 rate (5.4); for black infants, the rate (by race of child) was 11.3 in 1989, compared with 11.5 in 1988.

In 1989, the overall postneonatal (infants aged 28 days–11 months) mortality rate was 3.6 per 1000 live births for the fourth consecutive year. The rates (by race of

*Defined by the World Health Organization's *International Classification of Diseases, Ninth Revision* (ICD-9) as "(a) the disease or injury which initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence which produced the fatal injury."

†Includes Hispanic and non-Hispanic infants.

**FIGURE 1. Infant mortality rates,* by race† of child — United States, 1950–1989**




*Per 1000 live births.

†Includes Hispanic and non-Hispanic infants.

*Infant Mortality — Continued*

mother) were 2.9 and 6.7 per 1000 live births for white and black infants, respectively. The 1989 rate (by race of child) for white infants (3.0) was 3% lower than the 1988 rate (3.1); the rate (by race of child) for black infants was 6.4 in 1989, compared with 6.2 in 1988.

From 1988 to 1989, among the 10 leading causes of death, the largest increases were for disorders relating to short gestation and unspecified low birthweight (LBW) (16%); respiratory distress syndrome (10%); and newborn affected by maternal complications of pregnancy and newborn affected by complications of placenta, cord, and membranes (5% each). The largest decreases were for intrauterine hypoxia and birth asphyxia (10%), and congenital anomalies and pneumonia and influenza (4% each).

The rank order of the 10 leading causes of infant death differed by race (Table 1). For white infants, the leading cause of death was congenital anomalies (197.7 deaths per 100,000 live births), accounting for nearly 25% of all deaths among white infants. For black infants, the leading cause of death was disorders relating to short gestation and unspecified LBW (277.4 deaths per 100,000 live births), accounting for 15% of all deaths among black infants. The first four leading causes of death accounted for 56% of all infant deaths among whites and 49% of all infant deaths among blacks; the remaining six leading causes accounted for 15% or less of infant deaths for each race group.

In 1989, the risk of dying within the first year of life was 2.3 times greater for black than for white infants, and for all of the leading causes of death, the risk was higher for black than for white infants; however, there were large variations by cause. The causes of death with the highest black-to-white rate ratios were disorders relating to short gestation and unspecified LBW (4.5:1); accidents[§] and adverse effects (2.6:1); and pneumonia and influenza, newborn affected by maternal complications of pregnancy, and infections specific to the perinatal period (2.5:1 each). The causes with the lowest ratios were congenital anomalies (1.1:1) and sudden infant death syndrome and newborn affected by complications of placenta, cord, and membranes (2.0:1 each).

Three of the 10 leading causes of infant death accounted for 41% of the difference in infant mortality between black and white infants: disorders relating to short gestation and unspecified LBW, 20%; sudden infant death syndrome, 12%; and respiratory distress syndrome, 9%.

*Reported by: Div of Vital Statistics, National Center for Health Statistics, CDC.*

**Editorial Note:** Infant mortality is one of the most widely used general indices of health in the United States and other countries. During the 1970s, the infant mortality rate in the United States declined rapidly (by an average of 4.7% per year). The rate of decline slowed during the 1980s, to an annual average of 2.8%. In 1987 (the latest year these data are available), the United States ranked 24th in the world in infant mortality (*3*), compared with 20th in 1980 (*4*).

Since the mid-1970s, the ratio of mortality rates between black and white infants has steadily increased—primarily because the mortality rate for black infants has declined more slowly than that for white infants. The ratio of black-to-white infant mortality increased from 1.8:1 during the early 1970s, to 2.1:1 in 1987 and 1988, and 2.2:1 in 1989, based on rates computed from the number of live births by race of child.

[§]When a death occurs under "accidental" circumstances, the preferred term within the public health community is "unintentional injury."

*Infant Mortality — Continued*

**TABLE 1. Number of infant deaths, mortality rate, and percentage of deaths attributed to each cause, by race — United States, 1989**

| Race/Rank order | Cause of death (ICD-9 codes) | No. | Rate* | % Distribution |
|---|---|---|---|---|
| **BLACK** | | | | |
| 1 | Disorders relating to short gestation and unspecified low birth weight (765) | 1,867 | 277.4 | 14.9 |
| 2 | Sudden infant death syndrome (798.0) | 1,617 | 240.2 | 12.9 |
| 3 | Congenital anomalies (740–759) | 1,498 | 222.5 | 12.0 |
| 4 | Respiratory distress syndrome (769) | 1,159 | 172.2 | 9.3 |
| 5 | Newborn affected by maternal complications of pregnancy (761) | 516 | 76.7 | 4.1 |
| 6 | Accidents† and adverse effects (E800–E949) | 335 | 49.8 | 2.7 |
| 7 | Infections specific to the perinatal period (771) | 300 | 44.6 | 2.4 |
| 8 | Newborn affected by complications of placenta, cord, and membranes (762) | 288 | 42.8 | 2.3 |
| 9 | Intrauterine hypoxia and birth asphyxia (768) | 227 | 33.7 | 1.8 |
| 10 | Pneumonia and influenza (480–487) | 210 | 31.2 | 1.7 |
| | All other causes (residual) | 4,510 | 670.0 | 36.0 |
| **All causes** | | **12,527** | **1,861.0** | **100.0** |
| **WHITE** | | | | |
| 1 | Congenital anomalies (740–759) | 6,312 | 197.7 | 24.5 |
| 2 | Sudden infant death syndrome (798.0) | 3,773 | 118.2 | 14.6 |
| 3 | Respiratory distress syndrome (769) | 2,384 | 74.7 | 9.2 |
| 4 | Disorders relating to short gestation and unspecified low birth weight (765) | 1,981 | 62.1 | 7.7 |
| 5 | Newborn affected by maternal complications of pregnancy (761) | 987 | 30.9 | 3.8 |
| 6 | Newborn affected by complications of placenta, cord, and membranes (762) | 672 | 21.1 | 2.6 |
| 7 | Accidents† and adverse effects (E800–E949) | 614 | 19.2 | 2.4 |
| 8 | Infections specific to the perinatal period (771) | 571 | 17.9 | 2.2 |
| 9 | Intrauterine hypoxia and birth asphyxia (768) | 466 | 14.6 | 1.8 |
| 10 | Pneumonia and influenza (480–487) | 396 | 12.4 | 1.5 |
| | All other causes (residual) | 7,638 | 239.3 | 29.6 |
| **All causes** | | **25,794** | **808.0** | **100.0** |
| **TOTAL§** | | | | |
| 1 | Congenital anomalies (740–759) | 8,120 | 200.9 | 20.5 |
| 2 | Sudden infant death syndrome (798.0) | 5,634 | 139.4 | 14.2 |
| 3 | Disorders relating to short gestation and unspecified low birth weight (765) | 3,931 | 97.3 | 9.9 |
| 4 | Respiratory distress syndrome (769) | 3,631 | 89.9 | 9.2 |
| 5 | Newborn affected by maternal complications of pregnancy (761) | 1,534 | 38.0 | 3.9 |
| 6 | Accidents† and adverse effects (E800–E949) | 996 | 24.6 | 2.5 |
| 7 | Newborn affected by complications of placenta, cord, and membranes (762) | 984 | 24.4 | 2.5 |
| 8 | Infections specific to the perinatal period (771) | 892 | 22.1 | 2.2 |
| 9 | Intrauterine hypoxia and birth asphyxia (768) | 725 | 17.9 | 1.8 |
| 10 | Pneumonia and influenza (480–487) | 636 | 15.7 | 1.6 |
| | All other causes (residual) | 12,572 | 311.1 | 31.7 |
| **All causes** | | **39,655** | **981.3** | **100.0** |

*Deaths at <1 year of age per 100,000 live births in the specified group.
†When a death occurs under "accidental" circumstances, the preferred term within the public health community is "unintentional injury."
§Includes races other than black and white.

*Infant Mortality — Continued*

The downward trend in overall infant mortality has slowed since 1981 for the black population; for white infants, before the 4% decline from 1988 through 1989, the rate of decline had slowed since the late 1970s. Since 1960, neonatal mortality rates have decreased for both races, but the rate of decline was more rapid for white (4%) than for black infants (3%). However, from 1960 through 1989, the rate of decline in postneonatal mortality was faster for black (3%) than for white infants (2%).

One of the national health objectives for the year 2000 is to reduce the infant mortality rate for the total population to ≤7 infant deaths per 1000 live births, and for the black population to ≤11 (*5*). If the average annual decline of 2.8% for the total population during the 1980s continues, the overall infant mortality objective for the year 2000 will be achieved. However, for the black population, the year 2000 objective for infant mortality is unlikely to be met if current trends continue. For the objective to be met, the rate of decline of 2.1% per year for black infants from 1980 to 1989 would need to double from 1989 to 2000.

Current efforts to reduce infant mortality include expanding access to prenatal care for low income families through changes in Medicaid eligibility. Increased use of prenatal care is likely to have greatest impact on neonatal deaths resulting from causes other than birth defects. Because the underlying etiologies of some of the major causes of neonatal death (particularly birth defects and preterm delivery) are poorly understood, these problems are high priorities for research efforts. Most postneonatal deaths resulting from "pneumonia and influenza" (ICD-9 codes 480–487) and "accidents and adverse effects" (ICD-9 codes E800–E949) are preventable with current knowledge. To prevent these deaths, programmatic efforts need to emphasize well-baby care and parenting skills. However, strategies to prevent the leading cause of postneonatal death—sudden infant death syndrome—will require identification of the underlying pathologic mechanisms for this problem.

*References*

1. NCHS. Advance report of final mortality statistics, 1989. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1992. (Monthly vital statistics report; vol 40, no. 8, suppl 2).
2. NCHS. Advance report of final natality statistics, 1989. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991. (Monthly vital statistics report; vol 40, no. 8, suppl).
3. NCHS. Health, United States, 1990. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991; DHHS publication no. (PHS)91-1232.
4. NCHS. Health, United States, 1988. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1989; DHHS publication no. (PHS)89-1232.
5. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives—full report, with commentary. Washington, DC: US Department of Health and Human Services, Public Health Service, 1991; DHHS publication no. (PHS)91-50212.

## *Surveillance Summaries*

### Publication of *CDC Surveillance Summaries*

Since 1983, CDC has published the *CDC Surveillance Summaries* under separate cover as part of the *MMWR* Series. Each report published in the *CDC Surveillance Summaries* focuses on public health surveillance; surveillance findings were reported for a broad range of risk factors and health conditions.

Surveillance Summaries — *Continued*

Summaries for each of the reports published in the most recent (December 1991) issue of the *CDC Surveillance Summaries* (*1*) are provided below. All subscribers to *MMWR* receive the *CDC Surveillance Summaries,* as well as the *MMWR Recommendations and Reports,* as part of their subscriptions.

## WATERBORNE-DISEASE OUTBREAKS, 1989–1990

For the 2-year period 1989–1990, 16 states reported 26 outbreaks due to water intended for drinking; an estimated total of 4288 persons became ill in these outbreaks. *Giardia lamblia* was implicated as the etiologic agent for seven of the 12 outbreaks for which an agent was identified. The outbreaks of giardiasis were all associated with ingestion of unfiltered surface water or surface-influenced groundwater. An outbreak with four deaths was attributed to *Escherichia coli* O157:H7, the only bacterial pathogen implicated in any of the outbreak investigations. An outbreak of remitting, relapsing diarrhea was associated with cyanobacteria (blue-green algae)-like bodies, whose role in causing diarrheal illness is being studied. Two outbreaks due to hepatitis A and one due to a Norwalk-like agent were associated with use of well water. Eighteen states reported a total of 30 outbreaks due to the use of recreational water, which resulted in illness among an estimated total of 1062 persons. These 30 reports comprised 13 outbreaks of whirlpool or hot tub-associated *Pseudomonas* folliculitis; 13 outbreaks of swimming-associated gastroenteritis, including five outbreaks of shigellosis; one outbreak of hepatitis A associated with a swimming pool; and three cases of primary amebic meningoencephalitis caused by *Naegleria.* The national surveillance of outbreaks of waterborne diseases, which has proceeded for 2 decades, continues to be a useful means for characterizing the epidemiology of waterborne diseases.

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## TUBERCULOSIS MORBIDITY IN THE UNITED STATES: FINAL DATA, 1990

The number of tuberculosis cases reported to CDC has been increasing since 1988, after a long historic decline. In 1990, 25,701 cases were reported, an increase of 9.4% over the 1989 figure and the largest annual increase since 1953. From 1985 to 1990, reported cases increased by 15.8%. Disproportionately greater increases in reported cases occurred among Hispanics, non-Hispanic blacks, and Asians/Pacific Islanders. In contrast, decreases were observed among non-Hispanic whites and American Indians/Alaskan Natives. By age, the largest increase in reported cases occurred in the 25- to 44-year age group; this increase may be largely attributable to rising numbers of tuberculosis cases among persons with human immunodeficiency virus infection or acquired immunodeficiency syndrome. Notable increases also occurred among children. The proportion of cases among foreign-born persons has risen steadily, from 21.6% in 1986 to 24.4% in 1990.

**Authors**: *John A. Jereb, M.D., Gloria D. Kelly, Samuel W. Dooley, Jr., M.D., George M. Cauthen, Sc.D., Dixie E. Snider, Jr., M.D., M.P.H., Division of Tuberculosis Elimination, National Center for Prevention Services, CDC.*

Surveillance Summaries — *Continued*

## REGIONAL AND TEMPORAL TRENDS IN THE SURVEILLANCE OF SYPHILIS, UNITED STATES, 1986–1990

During the latter half of the 1980s, an epidemic of syphilis occurred throughout the United States. A comparison of regional rates of primary and secondary syphilis in 1990 indicated that the rates were highest in the South, followed by the Northeast, the West, and the Midwest. Primary and secondary syphilis rates from 1986 through 1990 exhibited different regional patterns. Rates of primary and secondary syphilis in the West peaked in 1987 and declined from 1987 to 1990. Rates increased in the Northeast and the South from 1986 to 1990, but the increase reached a plateau in the Northeast in 1990. Rates did not begin to increase in the Midwest until 1988. More detailed analyses of the syphilis epidemics in the specific communities in each region are needed to better understand the regional patterns. A comparison of these findings across regions could be helpful in evaluating which sexually transmitted disease intervention and control programs are most effective during epidemic periods.

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## TRICHINOSIS SURVEILLANCE, UNITED STATES, 1987–1990

Since the Public Health Service began recording statistics on trichinosis in 1947, the number of cases reported by state health departments each year has declined. In the late 1940s, health departments reported an average of 400 cases and 10–15 deaths each year; from 1982 through 1986, the number declined to an average of 57 cases per year and a total of three deaths for the period.

From 1987 through 1990, 206 cases of trichinosis from 22 states, including 14 multiple-case outbreaks, were reported to CDC. In 1990, two large outbreaks associated with commercial pork accounted for 106 cases.

In the 192 instances in which a suspect food item was identified, pork was implicated in 144 (75%) cases, walrus meat in 34 (18%), and bear meat in 14 (7%). Sausage, the most frequently implicated pork product, was associated with 128 of the 139 cases for which a form of ingested pork was specified. Before 1990, the proportion of cases of trichinosis attributable to consumption of commercial pork had declined steadily. This decline was probably due to a combination of factors, including laws prohibiting the feeding of garbage to hogs, the increased use of home freezers, and the practice of thoroughly cooking pork.

Although the incidence of trichinosis has decreased substantially since national reporting was initiated in 1947, a dramatic increase in 1990, resulting from two large outbreaks, emphasizes the need for further education and control measures.

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*Reference*

1. CDC. CDC surveillance summaries. MMWR 1991;40(no. SS-3).

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HHS Publication No. (CDC) 92-8017