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MORBIDITY AND MORTALITY WEEKLY REPORT

State-Based Chronic Disease Control: The Rocky Mountain Tobacco-Free Challenge

In 1984 the Surgeon General set as a goal a "smoke-free society" in the United States by the year 2000 (1). To help meet this goal, in February 1988, the governors of eight states—Arizona, Colorado, Montana, New Mexico, North Dakota, South Dakota, Utah, and Wyoming—initiated the Rocky Mountain Tobacco-Free Challenge (RMTFC), a regional effort to reduce the prevalences of tobacco use and chronic diseases associated with tobacco use. The RMTFC will continue until the year 2000; each year, based on evaluation of efforts to reduce tobacco use, the RMTFC plans to designate one state as the challenge leader. Based on information reviewed by the evaluation panel in May 1989, North Dakota was the leader after the first year of the RMTFC.

Health education directors of the participating states developed the following objectives for each of the eight states for the year 2000: 1) a 50% reduction in the prevalence of tobacco use among adults and adolescents, 2) an overall 50% reduction in tobacco consumption, 3) a 25% reduction in tobacco-attributable mortality, and 4) statewide clean indoor air laws that eliminate environmental tobacco smoke exposure in public places and worksites. Baseline data for these objectives are available from different national and state sources (2–5) (Table 1).

For 1988–89, the RMTFC had two components. First, 12 areas for intervention were designated: coalition building and networking; community information and education; counteradvertising; economic incentives and disincentives; higher education; legislation; policy; professional education; program planning and evaluation; schools; special populations; and miscellaneous.

State health departments solicited for review descriptions of ongoing or planned tobacco-use reduction programs from local agencies, volunteer groups, and coalitions. One hundred twenty-three descriptions were submitted in the eight states. Each state then chose one program from each of the 12 areas for evaluation by the Office on Smoking and Health (OSH), Center for Chronic Disease Prevention and Health Promotion, CDC, which is providing technical assistance to the RMTFC. OSH and experts from other federal, state, and voluntary health agencies determined from all submissions the most effective program for each area.

For the second component, OSH and the eight states collected state-specific baseline data to help the panel assess the overall tobacco prevention and control activity within each state. A standard questionnaire was used to obtain information on tobacco-use surveillance, health department policies and programs, legislative

TABLE 1. Baseline tobacco-related data — Rocky Mountain Tobacco-Free Challenge

| State | 1987 Adult smoking prevalence (%) [*] | 1987 Adolescent smoking prevalence (%) [†] | 1987–88 Per capita cigarette consumption [§] | 1985 Smoking- attributable deaths [¶] | 1985 Smoking-attributable mortality rate [¶] | 1988 Clean indoor air legislation (restrictiveness key) ^{**} | 1988 Per capita expenditures (cents) on tobacco control ^{††} |
|------------|--|--|--|---|--|--|--|
| Arizona | 26 | NA ^{§§} | 2083 | 3844 | 122.6 | 2 | 1.5 |
| Colorado | 25 | NA | 1970 | 3005 | 94.2 | 2 | 1.3 |
| Montana | 22 | 8.2 | 1788 | 1047 | 127.4 | 4 | NA |
| New Mexico | 21 | 15.0 | 1600 | 1217 | 84.9 | 2 | 5.2 |
| N. Dakota | 24 | 10.5 | 1794 | 760 | 112.8 | 3 | 6.0 |
| S. Dakota | 25 | NA | 1877 | 963 | 137.2 | 2 | NA |
| Utah | 15 | 13.0 | 1227 | 742 | 45.3 | 4 | 10.9 |
| Wyoming | NA | NA | 2247 | 497 | 98.4 | 0 | 3.5 |

*Source: Reference 2.

[†]Source: Unpublished data from state health departments.

[§]Number of cigarettes consumed per person ≥ 18 years old per year (2-year average). Source: Reference 3.

[¶]Deaths per 100,000 persons. Source: Reference 4.

^{**}Source: Reference 5. Restrictiveness key: 0, none; 1, nominal (state regulates smoking in 1–3 public places, excluding restaurants and private worksites); 2, basic (state regulates smoking in ≥ 4 public places, excluding restaurants and private worksites); 3, moderate (state regulates smoking in restaurants but not private worksites); 4, extensive (state regulates smoking in private worksites).

^{††}Expenditures by state health departments. Source: data from state health departments.

^{§§}No comparable data available.

Tobacco-Free Challenge – Continued

activities, coalitions, school activities, demographics, and state government activities. The panel used these data to determine which states had the most effective programs for reducing the prevalence of tobacco use.

North Dakota was judged to be the leader after the first year of the RMTFC; New Mexico and Colorado ranked second and third, respectively. Most states emphasized public information programs in their efforts to reduce the prevalence of tobacco use. Because less emphasis has been placed on primary and secondary education programs and surveillance, the RMTFC demonstrated an overall need in the region for improved surveillance of adolescent smoking behavior (Table 1).

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Editorial Note Key elements of the RMTFC include the active participation of the eight state governors, increased community interest, strengthened interstate and intrastate collaboration, promotion of state activities to reduce tobacco use, and implementation of long-term evaluation of tobacco-related policies. The competitive approach employed by the eight states is a model that other regions of the country can adopt for innovative tobacco-use-reduction activities.

To facilitate planning for state-based tobacco-control activities, the Association of State and Territorial Health Officials has published and distributed the *Guide to Public Health Practice: State Health Agency Tobacco Prevention and Control Plans* (6). Strategies for implementation of tobacco prevention and control plans outlined in this guide include use of federal resources; development of coalitions and advisory groups; assessment of tobacco use in the state through surveys; development of a mission with goals and objectives; analysis of existing tobacco-control programs and resources and the potential to expand on these programs; and presentation, evaluation, and revision of the plan.* Examples of successful tobacco prevention and control plans include those already developed by North Dakota, New Mexico, and Colorado.

Stimulation of activity at the local level (e.g., communities, counties, and coalitions) is essential to effective tobacco control and may promote national progress toward a smoke-free society. On November 16, the annual Great American Smokeout will emphasize nationwide efforts at the local level to reduce the prevalence of smoking. Sponsored each year by the American Cancer Society, this event serves as a focal point for support of smokers who are trying to quit. During the 24-hour period of the 1988 Smokeout, an estimated 18.4 million smokers tried to quit smoking, and approximately 5.4 million refrained from smoking during the entire 24-hour period (7).

References

1. Koop CE. Julia M. Jones Lecture: A smoke-free society by the year 2000. Presented at the annual meeting of the American Lung Association, Miami Beach, May 20, 1984.
2. CDC. Behavioral risk factor surveillance 1987, selected states. MMWR 1989;38:469-73.

*Copies of the *Guide* may be obtained after January 1, 1990, from either the Cancer Communications Branch, National Cancer Institute, telephone (301) 496-6792, or the Technical Information Center, OSH, telephone (301) 443-1690.

Tobacco-Free Challenge – Continued

3. Tobacco Institute. The tax burden on tobacco: historical compilation. Washington, DC: The Tobacco Institute, 1988;23:29.
4. CDC. State-specific estimates of smoking-attributable mortality and years of potential life lost—United States, 1985. *MMWR* 1988;37:689–93.
5. CDC. Reducing the health consequences of smoking: 25 years of progress—a report of the Surgeon General. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 1989; DHHS publication no. (CDC)89-8411.
6. Association of State and Territorial Health Officials/National Cancer Institute. Guide to public health practice: state health agency tobacco prevention and control plans. McLean, Virginia: Association of State and Territorial Health Officials, 1989.
7. Lieberman Research Inc. A study of the impact of the 1988 Great American Smokeout: summary report, Gallup Organization. New York: American Cancer Society, 1988.

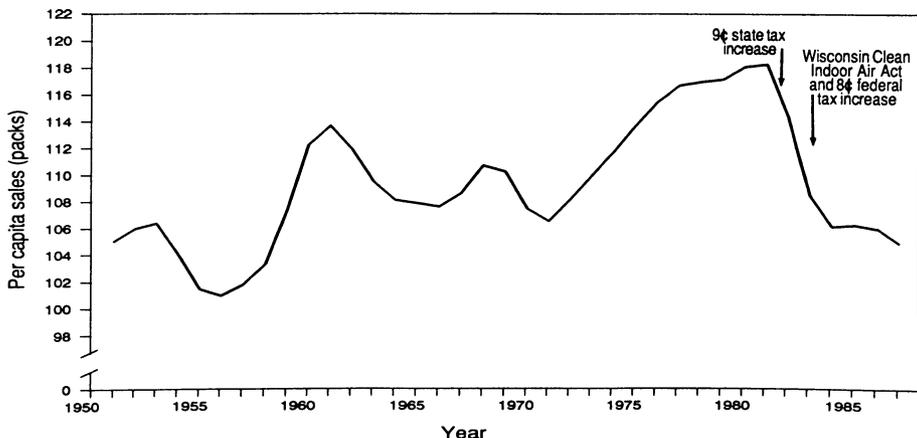
Trends in Cigarette Smoking – Wisconsin, 1950–1988

To assess progress in reducing cigarette smoking in Wisconsin, the Division of Health, Wisconsin Department of Health and Social Services, analyzed trends in cigarette sales from 1950 to 1988 (1). In Wisconsin, cigarette taxes are levied as an excise tax at the time cigarettes are shipped from tobacco distribution centers rather than as sales tax at the time consumers purchase them. To compensate for the time lag between shipment and sale, a 2-year moving average* of per capita cigarette sales (2) was calculated. In this report, per capita sales are the total number of cigarettes for which Wisconsin state excise tax was paid in a given year divided by the number of Wisconsin adults (i.e., residents ≥ 18 years old).

In 1951, 105 packs of cigarettes (20 cigarettes per pack) were sold for every adult in the state (Figure 1). Per capita cigarette sales peaked in 1981 at 118 packs per Wisconsin adult. Four periods had sustained (≥ 3 years) declines in tobacco sales:

*Incorporates data from the previous and the following year to calculate the value for a given year.

FIGURE 1. Per capita sales of cigarettes, by year – Wisconsin, 1950–1988*



*Two-year moving average incorporating data from the previous and the following year to calculate the value for a given year.

Smoking Trends – Continued

1954–1956, 1962–1966, 1969–1971, and 1982–1984. The greatest decline (10%) occurred from 1982 to 1983.

Adapted from: Wisconsin Medical Journal 1989;88(11):40–2, and reported by: PL Remington, MD, HA Anderson, MD, Div of Health, Wisconsin Dept of Health and Social Svcs. Div of Field Svcs, Epidemiology Program Office; Office on Smoking and Health, Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: Since the 1950s, when studies linking lung cancer with cigarette smoking were first published, efforts to discourage smoking have increased substantially (3). These efforts have included mandatory warning labels on cigarette packs, physicians' advice to quit, antismoking advertising, worksite smoking-cessation programs, increased restriction on places to smoke, reduced insurance premiums for nonsmokers, and increased taxes on cigarettes.

In Wisconsin, the first three periods of decline in per capita sales might have been related to major national smoking and health "events" (4). The 1954–1956 decline coincided with the first major publicity on adverse effects of smoking on health, a 1952 national magazine article linking cancer and cigarettes (4); the 1962–1966 decline, with the release of additional information about adverse effects, especially the first Surgeon General's report on smoking and health in 1964; and the 1969–1971 decline, with the television broadcast of antismoking public service announcements during 1967–1970 required by the Federal Communications Commission's Fairness Doctrine (4).

The largest decrease in cigarette sales occurred during 1982–1984, concurrent with the largest cigarette tax increases: Wisconsin tax, from 16¢ to 25¢ per pack in 1981–1982 and federal tax, from 8¢ to 16¢ per pack in 1983. This decrease in cigarette sales in Wisconsin is unlikely to be due to the purchase of cigarettes by Wisconsin residents in neighboring states. Even though the price of cigarettes was 5¢–10¢ lower per pack in Illinois and Minnesota, Wisconsin netted a 40% increase in cigarette tax collections from 1981 to 1983. In addition, cigarette sales did not increase in Wisconsin in 1986, when Illinois and Minnesota imposed higher cigarette taxes and the interstate price differential disappeared. The decrease in cigarette sales also coincided with the enactment of Wisconsin's Clear Indoor Air Act in 1983 (Figure 1) (5). This act mandated smoking restrictions in government worksites and public places to reduce the exposure of nonsmokers to environmental tobacco smoke.

Despite the limitations inherent in ecologic correlations such as this, the Wisconsin data suggest that three key antismoking publicity events (in 1952, 1964, and 1967–1970) helped to reduce cigarette sales. Nonetheless, each of these periods of reduced sales was followed by an increase in cigarette sales. Only the fourth period of reduction in cigarette sales (1982–1984) has been sustained—probably because of continuing interventions, including taxes and clean indoor air acts. This study suggests that, because of their continuous nature, public policy changes such as increased taxes and clean indoor air acts are important in achieving sustained reductions in tobacco sales.

References

1. Peterson DE, Remington PL. Publicity, policy, and trends in cigarette smoking: Wisconsin 1950–1988. *Wis Med J* 1989;88(11):40-2.
2. Tobacco Institute. The tax burden on tobacco: historical compilation. Washington, DC: The Tobacco Institute 1988;23.
3. CDC. Reducing the health consequences of smoking: 25 years of progress—a report of the Surgeon General, 1989. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 1989; DHHS publication no. (CDC)89-8411.

Smoking Trends — Continued

4. Warner KE. Cigarette advertising and media coverage of smoking and health. *N Engl J Med* 1985;12:384-8.
5. Wisconsin Statutes §101.123 (1987-88).

Medical Examiner/Coroner Reports of Deaths Associated with Hurricane Hugo — South Carolina

At 11:57 p.m. eastern daylight time on Thursday, September 21, 1989, the eye of Hurricane Hugo struck the coast of South Carolina north of Charleston (Figure 1). Peak wind velocities in Charleston were measured at 135 mph, and there was an accompanying tidal surge of 12-17 feet. Heavy rains caused additional flooding and further damage. In addition to the damage or destruction to homes and buildings, approximately 900,000 persons in North and South Carolina were left without electrical power. After striking the coast, Hugo moved across central South Carolina and North Carolina. On September 22, the National Weather Service downgraded Hugo to a tropical storm.

(Continued on page 759)

TABLE I. Summary — cases of specified notifiable diseases, United States

| Disease | 44th Week Ending | | | Cumulative, 44th Week Ending | | |
|---|------------------|--------------|------------------|------------------------------|--------------|------------------|
| | Nov. 4, 1989 | Nov. 5, 1988 | Median 1984-1988 | Nov. 4, 1989 | Nov. 5, 1988 | Median 1984-1988 |
| Acquired Immunodeficiency Syndrome (AIDS) | 264 | U* | 378 | 29,141 | 26,370 | 11,314 |
| Aseptic meningitis | 283 | 179 | 226 | 8,381 | 5,828 | 8,768 |
| Encephalitis: Primary (arthropod-borne & unspc) | 27 | 12 | 37 | 746 | 704 | 1,038 |
| Post-infectious | - | - | 1 | 72 | 109 | 101 |
| Gonorrhea: Civilian | 14,052 | 15,198 | 17,080 | 588,587 | 591,479 | 712,627 |
| Military | 201 | 286 | 286 | 9,264 | 9,937 | 14,269 |
| Hepatitis: Type A | 850 | 702 | 508 | 29,520 | 21,923 | 19,222 |
| Type B | 465 | 435 | 442 | 19,177 | 19,029 | 21,861 |
| Non A, Non B | 42 | 55 | 72 | 1,987 | 2,175 | 3,021 |
| Unspecified | 42 | 55 | 64 | 1,920 | 1,925 | 3,716 |
| Legionellosis | 27 | 15 | 22 | 919 | 837 | 689 |
| Leprosy | 2 | 3 | 3 | 140 | 137 | 195 |
| Malaria | 18 | 32 | 19 | 1,085 | 873 | 873 |
| Measles: Total [†] | 103 | 29 | 23 | 12,993 | 2,474 | 2,606 |
| Indigenous | 96 | 18 | 18 | 12,359 | 2,209 | 2,209 |
| Imported | 7 | 11 | 3 | 634 | 265 | 302 |
| Meningococcal infections | 70 | 66 | 50 | 2,247 | 2,408 | 2,284 |
| Mumps | 71 | 55 | 55 | 4,597 | 3,963 | 3,963 |
| Pertussis | 78 | 48 | 48 | 2,977 | 2,541 | 2,541 |
| Rubella (German measles) | 3 | 2 | 5 | 383 | 186 | 474 |
| Syphilis (Primary & Secondary): Civilian | 726 | 911 | 590 | 35,198 | 32,657 | 23,618 |
| Military | 4 | 3 | 3 | 205 | 136 | 142 |
| Toxic Shock syndrome | 9 | 4 | 7 | 321 | 311 | 311 |
| Tuberculosis | 341 | 477 | 407 | 17,941 | 18,007 | 18,016 |
| Tularemia | 2 | 5 | 3 | 133 | 170 | 170 |
| Typhoid Fever | 13 | 7 | 7 | 422 | 337 | 307 |
| Typhus fever, tick-borne (RMSF) | 11 | 7 | 10 | 588 | 565 | 653 |
| Rabies, animal | 53 | 91 | 101 | 3,961 | 3,705 | 4,617 |

TABLE II. Notifiable diseases of low frequency, United States

| | Cum. 1989 | | Cum. 1989 |
|------------------------------------|-----------|---|-----------|
| Anthrax | - | Leptospirosis (Hawaii 4) | 82 |
| Botulism: Foodborne (Alaska 3) | 24 | Plague | 4 |
| Infant | 16 | Poliomyelitis, Paralytic | - |
| Other | 4 | Psittacosis | 86 |
| Brucellosis (Nev. 1, Calif. 1) | 75 | Rabies, human | 1 |
| Cholera | - | Tetanus (N.C. 1, Ala. 1, Md. 1, Calif. 1) | 40 |
| Congenital rubella syndrome | 2 | Trichinosis (Alaska 1) | 17 |
| Congenital syphilis, ages < 1 year | 165 | | |
| Diphtheria | 3 | | |

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending November 4, 1989 and November 5, 1988 (44th Week)

| Reporting Area | AIDS Cum. 1989 | Aseptic Mening- itis Cum. 1989 | Encephalitis | | Gonorrhea (Civilian) | | Hepatitis (Viral), by type | | | | Legionel- losis Cum. 1989 | Leprosy Cum. 1989 |
|----------------|----------------------|--|-------------------------|--------------------------------------|-------------------------|--------------|----------------------------|-------------------|-----------------------|----------------------------------|------------------------------------|-------------------------|
| | | | Primary Cum. 1989 | Post-in- fectious Cum. 1989 | Cum. 1989 | Cum. 1988 | A Cum. 1989 | B Cum. 1989 | NA,NB Cum. 1989 | Unspec- ified Cum. 1989 | | |
| | | | | | | | | | | | | |
| UNITED STATES | 29,141 | 8,381 | 746 | 72 | 588,587 | 591,479 | 29,520 | 19,177 | 1,987 | 1,920 | 919 | 140 |
| NEW ENGLAND | 1,154 | 462 | 21 | 2 | 17,482 | 18,492 | 627 | 912 | 64 | 75 | 57 | 8 |
| Maine | 58 | 28 | 5 | - | 233 | 345 | 21 | 50 | 6 | 1 | 5 | - |
| N.H. | 38 | 51 | - | - | 150 | 226 | 58 | 51 | 8 | 4 | 2 | - |
| Vt. | 13 | 40 | 4 | - | 58 | 101 | 35 | 68 | 7 | - | 2 | - |
| Mass. | 628 | 150 | 7 | 2 | 6,804 | 6,233 | 182 | 502 | 25 | 54 | 36 | 6 |
| R.I. | 66 | 87 | - | - | 1,248 | 1,715 | 47 | 66 | 4 | 9 | 12 | 1 |
| Conn. | 351 | 106 | 5 | - | 8,989 | 9,872 | 284 | 175 | 14 | 7 | - | 1 |
| MID. ATLANTIC | 8,362 | 1,140 | 33 | 5 | 82,930 | 94,488 | 3,577 | 2,998 | 187 | 211 | 228 | 21 |
| Upstate N.Y. | 1,151 | 484 | 28 | 4 | 14,229 | 12,974 | 814 | 579 | 69 | 11 | 79 | 4 |
| N.Y. City | 4,343 | 148 | 2 | 1 | 31,867 | 41,110 | 374 | 1,177 | 32 | 172 | 34 | 15 |
| N.J. | 1,891 | - | 3 | - | 13,010 | 13,254 | 412 | 533 | 27 | 5 | 39 | 1 |
| Pa. | 977 | 508 | - | - | 23,824 | 27,150 | 1,977 | 709 | 59 | 23 | 76 | 1 |
| E.N. CENTRAL | 2,253 | 1,675 | 276 | 9 | 110,489 | 100,846 | 1,769 | 2,262 | 225 | 84 | 263 | 4 |
| Ohio | 411 | 554 | 112 | 4 | 28,994 | 22,640 | 364 | 399 | 38 | 20 | 111 | - |
| Ind. | 321 | 229 | 41 | 3 | 8,364 | 7,815 | 192 | 348 | 27 | 29 | 55 | 1 |
| Ill. | 968 | 326 | 54 | 2 | 36,607 | 29,971 | 771 | 585 | 92 | 21 | 17 | 3 |
| Mich. | 442 | 461 | 46 | - | 28,225 | 31,854 | 251 | 569 | 43 | 14 | 40 | - |
| Wis. | 111 | 105 | 23 | - | 8,299 | 8,566 | 191 | 361 | 25 | - | 40 | - |
| W.N. CENTRAL | 703 | 427 | 31 | 4 | 28,234 | 24,883 | 1,208 | 865 | 105 | 23 | 33 | 1 |
| Minn. | 154 | 49 | 2 | 1 | 3,068 | 3,404 | 143 | 100 | 18 | 4 | 2 | - |
| Iowa | 52 | 72 | 13 | - | 2,391 | 1,858 | 138 | 36 | 14 | 5 | 6 | - |
| Mo. | 350 | 189 | 3 | - | 17,306 | 14,232 | 618 | 591 | 44 | 8 | 14 | - |
| N. Dak. | 6 | 12 | 1 | - | 113 | 165 | 4 | 22 | 4 | 2 | 1 | - |
| S. Dak. | 4 | 12 | 4 | - | 234 | 428 | 13 | 10 | 9 | - | 2 | - |
| Nebr. | 27 | 18 | 5 | - | 1,304 | 1,367 | 69 | 25 | 3 | 2 | 2 | 1 |
| Kans. | 110 | 75 | 3 | 3 | 3,818 | 3,429 | 223 | 81 | 13 | 2 | 6 | - |
| S. ATLANTIC | 6,071 | 1,651 | 153 | 23 | 159,132 | 165,949 | 3,040 | 3,735 | 299 | 313 | 111 | 2 |
| Del. | 74 | 71 | 1 | - | 2,770 | 2,597 | 65 | 127 | 5 | 8 | 12 | - |
| Md. | 597 | 209 | 18 | 2 | 19,014 | 17,406 | 909 | 638 | 25 | 28 | 27 | - |
| D.C. | 410 | 23 | - | - | 9,063 | 12,445 | 8 | 27 | 2 | - | 1 | - |
| Va. | 375 | 335 | 37 | 3 | 13,799 | 12,138 | 269 | 259 | 62 | 184 | 8 | - |
| W. Va. | 48 | 92 | 82 | - | 1,227 | 1,166 | 25 | 87 | 10 | 8 | - | - |
| N.C. | 391 | 189 | 8 | 2 | 23,944 | 23,013 | 394 | 914 | 80 | - | 31 | 1 |
| S.C. | 291 | 34 | 1 | - | 14,525 | 13,198 | 72 | 529 | 3 | 10 | 7 | - |
| Ga. | 950 | 123 | 2 | 1 | 30,825 | 31,430 | 325 | 363 | 11 | 8 | 24 | - |
| Fla. | 2,935 | 575 | 4 | 15 | 43,965 | 52,556 | 973 | 791 | 101 | 67 | 12 | 1 |
| E.S. CENTRAL | 646 | 617 | 42 | 2 | 48,116 | 47,217 | 353 | 1,356 | 139 | 12 | 56 | - |
| Ky. | 108 | 194 | 15 | 1 | 4,678 | 4,786 | 104 | 335 | 46 | 5 | 9 | - |
| Tenn. | 200 | 117 | 5 | - | 16,273 | 16,227 | 136 | 711 | 31 | - | 32 | - |
| Ala. | 198 | 213 | 19 | - | 15,351 | 14,295 | 74 | 198 | 54 | 3 | 13 | - |
| Miss. | 140 | 93 | 3 | 1 | 11,814 | 11,909 | 39 | 112 | 8 | 4 | 2 | - |
| W.S. CENTRAL | 2,590 | 841 | 70 | 6 | 62,067 | 63,513 | 3,313 | 1,911 | 130 | 453 | 44 | 19 |
| Ark. | 63 | 41 | 8 | - | 7,301 | 6,326 | 226 | 66 | 15 | 9 | 2 | - |
| La. | 415 | 69 | 16 | 1 | 13,073 | 12,504 | 237 | 323 | 15 | 2 | 8 | - |
| Okla. | 130 | 74 | 12 | 3 | 5,338 | 6,013 | 403 | 168 | 33 | 33 | 25 | - |
| Tex. | 1,982 | 657 | 34 | 2 | 36,355 | 38,670 | 2,447 | 1,354 | 67 | 409 | 9 | 19 |
| MOUNTAIN | 918 | 280 | 13 | 4 | 12,491 | 12,725 | 4,267 | 1,271 | 182 | 124 | 52 | 3 |
| Mont. | 17 | 6 | - | - | 161 | 364 | 86 | 41 | 6 | 3 | 3 | 1 |
| Idaho | 20 | 2 | - | 1 | 150 | 291 | 151 | 113 | 12 | 3 | 1 | - |
| Wyo. | 14 | 5 | - | - | 92 | 178 | 46 | 8 | 2 | - | - | - |
| Colo. | 336 | 137 | 3 | 1 | 2,678 | 2,827 | 440 | 142 | 47 | 52 | 4 | - |
| N. Mex. | 78 | 10 | 1 | - | 1,118 | 1,255 | 566 | 181 | 31 | 3 | 5 | 1 |
| Ariz. | 234 | 92 | 3 | - | 5,012 | 4,658 | 2,235 | 488 | 47 | 52 | 25 | 1 |
| Utah | 59 | 19 | 1 | 2 | 389 | 456 | 427 | 98 | 23 | 4 | 7 | - |
| Nev. | 160 | 9 | 5 | - | 2,891 | 2,696 | 316 | 200 | 14 | 7 | 7 | - |
| PACIFIC | 6,444 | 1,288 | 107 | 17 | 67,646 | 63,366 | 11,366 | 3,867 | 656 | 625 | 65 | 82 |
| Wash. | 461 | - | 5 | 1 | 5,400 | 6,067 | 2,683 | 831 | 175 | 53 | 23 | 7 |
| Oreg. | 205 | - | - | - | 2,621 | 2,704 | 2,025 | 442 | 68 | 14 | 2 | 1 |
| Calif. | 5,607 | 1,168 | 88 | 16 | 58,301 | 53,169 | 5,924 | 2,467 | 399 | 543 | 37 | 61 |
| Alaska | 16 | 31 | 11 | - | 868 | 899 | 573 | 54 | 6 | 5 | 1 | - |
| Hawaii | 155 | 89 | 3 | - | 456 | 527 | 161 | 73 | 8 | 10 | 2 | 13 |
| Guam | 1 | 5 | 1 | - | 82 | 135 | 4 | - | - | 6 | - | 1 |
| P.R. | 1,065 | 84 | 2 | 1 | 945 | 1,122 | 170 | 201 | 16 | 19 | - | 8 |
| V.I. | 26 | - | - | - | 555 | 376 | - | 8 | - | - | - | - |
| Amer. Samoa | - | - | - | - | 19 | 72 | 22 | - | 1 | - | - | 3 |
| C.N.M.I. | - | - | - | - | 58 | 44 | 2 | 7 | - | 1 | - | 1 |

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 4, 1989 and November 5, 1988 (44th Week)

| Reporting Area | Malaria | Measles (Rubeola) | | | | | Meningococcal infections | Mumps | | Pertussis | | | Rubella | | |
|----------------|---------|-------------------|-----------|----------------|-----------|-----------|--------------------------|-------|-----------|-----------|-----------|-----------|---------|-----------|-----------|
| | | Indigenous | | Imported* | | Total | | 1989 | Cum. 1989 | 1989 | Cum. 1989 | Cum. 1988 | 1989 | Cum. 1989 | Cum. 1988 |
| | | 1989 | Cum. 1989 | 1989 | Cum. 1989 | Cum. 1988 | | | | | | | | | |
| UNITED STATES | 1,085 | 96 | 12,359 | 7 | 634 | 2,474 | 2,247 | 71 | 4,597 | 78 | 2,977 | 2,541 | 3 | 383 | 186 |
| NEW ENGLAND | 78 | - | 298 | - | 38 | 113 | 164 | 1 | 76 | 1 | 333 | 270 | - | 6 | 9 |
| Maine | - | - | - | - | 1 | 7 | 16 | - | - | - | 25 | 13 | - | - | - |
| N.H. | 2 | - | 8 | - | 7 | 88 | 16 | 1 | 15 | - | 16 | 47 | - | 4 | 5 |
| Vt. | 3 | - | 1 | - | 2 | - | 8 | - | 2 | - | 6 | 4 | - | 1 | - |
| Mass. | 44 | - | 42 | - | 21 | 4 | 91 | - | 50 | 1 | 257 | 169 | - | 1 | 3 |
| R.I. | 17 | - | 38 | - | 3 | - | 1 | - | - | - | 11 | 15 | - | - | 1 |
| Conn. | 12 | - | 209 | - | 4 | 14 | 32 | - | 9 | - | 18 | 22 | - | - | - |
| MID. ATLANTIC | 200 | 5 | 743 | - | 178 | 877 | 342 | 3 | 415 | 9 | 263 | 175 | - | 78 | 14 |
| Upstate N.Y. | 32 | - | 54 | - | 98 | 37 | 120 | 2 | 154 | 1 | 109 | 103 | - | 63 | 2 |
| N.Y. City | 78 | 5 | 105 | - | 16 | 52 | 40 | - | 19 | - | 11 | 5 | - | 15 | 7 |
| N.J. | 54 | - | 378 | - | 6 | 245 | 68 | - | 180 | - | 32 | 8 | - | - | 3 |
| Pa. | 36 | - | 206 | - | 58 | 543 | 114 | 1 | 62 | 8 | 111 | 59 | - | - | 2 |
| E.N. CENTRAL | 76 | 52 | 3,902 | 7 | 102 | 196 | 294 | 6 | 493 | 24 | 360 | 276 | - | 25 | 31 |
| Ohio | 11 | 50 | 1,474 | - | 35 | 34 | 107 | - | 118 | 23 | 68 | 49 | - | 3 | 1 |
| Ind. | 11 | - | 78 | - | - | 57 | 29 | - | 44 | - | 19 | 69 | - | - | - |
| Ill. | 32 | - | 1,836 | - | 1 | 72 | 76 | - | 164 | - | 112 | 50 | - | 20 | 26 |
| Mich. | 14 | 2 | 311 | 7 ⁵ | 23 | 29 | 59 | 6 | 127 | 1 | 43 | 34 | - | 1 | 4 |
| Wis. | 8 | - | 203 | - | 43 | 4 | 23 | - | 40 | - | 118 | 74 | - | 1 | - |
| W.N. CENTRAL | 31 | 1 | 668 | - | 11 | 13 | 68 | 1 | 395 | - | 168 | 122 | - | 6 | 2 |
| Minn. | 9 | - | 17 | - | - | 11 | 15 | - | 2 | - | 46 | 48 | - | - | - |
| Iowa | 4 | 1 | 12 | - | 1 | - | 2 | - | 41 | - | 15 | 29 | - | 1 | - |
| Mo. | 10 | - | 399 | - | - | 2 | 17 | 1 | 59 | - | 92 | 22 | - | 4 | - |
| N. Dak. | 2 | - | - | - | - | - | - | - | - | - | 3 | 11 | - | - | - |
| S. Dak. | 1 | - | - | - | - | - | 7 | - | - | - | 2 | 5 | - | - | - |
| Nebr. | 2 | - | 108 | - | 2 | - | 18 | - | 5 | - | 6 | - | - | - | - |
| Kans. | 3 | - | 132 | - | 8 | - | 9 | - | 288 | - | 4 | 7 | - | 1 | 2 |
| S. ATLANTIC | 187 | 2 | 578 | - | 75 | 394 | 386 | 16 | 826 | 5 | 316 | 234 | - | 10 | 17 |
| Del. | 7 | - | 42 | - | 1 | - | 2 | - | 1 | - | 1 | 7 | - | - | - |
| Md. | 35 | - | 64 | - | 36 | 14 | 68 | 8 | 406 | - | 67 | 44 | - | 2 | 1 |
| D.C. | 10 | U | 36 | U | 4 | - | 15 | U | 127 | U | 2 | 1 | U | - | - |
| Va. | 38 | - | 20 | - | 3 | 200 | 46 | 1 | 121 | - | 33 | 21 | - | - | 11 |
| W. Va. | 2 | - | 53 | - | - | 6 | 13 | 1 | 14 | - | 32 | 8 | - | - | - |
| N.C. | 20 | 2 | 187 | - | 3 | 5 | 55 | 3 | 37 | 2 | 68 | 65 | - | 1 | - |
| S.C. | 10 | - | 15 | - | - | - | 29 | - | 37 | - | - | 1 | - | - | - |
| Ga. | 12 | - | 1 | - | 16 | - | 64 | 2 | 41 | 3 | 44 | 35 | - | - | 2 |
| Fla. | 53 | - | 160 | - | 12 | 169 | 94 | 1 | 42 | - | 69 | 52 | - | 7 | 3 |
| E.S. CENTRAL | 15 | - | 239 | - | 4 | 69 | 73 | 2 | 222 | 2 | 132 | 98 | - | 5 | 2 |
| Ky. | 1 | - | 40 | - | 4 | 35 | 40 | - | 9 | - | 1 | 12 | - | - | - |
| Tenn. | 5 | - | 148 | - | - | - | 9 | 1 | 73 | - | 52 | 29 | - | 4 | 2 |
| Ala. | 6 | - | 50 | - | - | - | 19 | - | 29 | 2 | 74 | 53 | - | 1 | - |
| Miss. | 3 | - | 1 | - | - | 34 | 5 | N | N | - | 5 | 4 | - | - | - |
| W.S. CENTRAL | 63 | 33 | 3,226 | - | 75 | 17 | 160 | 32 | 1,468 | 2 | 351 | 199 | - | 50 | 10 |
| Ark. | - | - | 3 | - | 19 | 1 | 13 | 9 | 162 | 2 | 29 | 23 | - | - | 3 |
| La. | 2 | 33 | 81 | - | - | - | 38 | 14 | 643 | - | 19 | 17 | - | 5 | - |
| Okla. | 8 | - | 126 | - | - | 8 | 24 | - | 192 | - | 53 | 61 | - | 1 | 1 |
| Tex. | 53 | - | 3,016 | - | 56 | 8 | 85 | 9 | 471 | - | 250 | 98 | - | 44 | 6 |
| MOUNTAIN | 26 | - | 369 | - | 50 | 149 | 65 | 3 | 199 | 16 | 607 | 706 | - | 36 | 6 |
| Mont. | 1 | - | 12 | - | 1 | 33 | 2 | - | 4 | 1 | 38 | 2 | - | 1 | - |
| Idaho | 2 | - | 6 | - | 4 | 1 | 2 | - | 19 | 5 | 64 | 323 | - | 32 | - |
| Wyo. | 1 | - | - | - | - | - | - | - | 8 | - | - | 2 | - | 2 | - |
| Colo. | 6 | - | 79 | - | 18 | 115 | 21 | 3 | 36 | 10 | 82 | 30 | - | - | 2 |
| N. Mex. | 4 | - | 16 | - | 15 | - | 2 | N | N | - | 30 | 48 | - | - | - |
| Ariz. | 9 | - | 141 | - | 4 | - | 25 | - | 109 | - | 371 | 272 | - | - | - |
| Utah | - | - | 114 | - | - | - | 5 | - | 16 | - | 21 | 28 | - | - | 3 |
| Nev. | 3 | - | 1 | - | 8 | - | 8 | - | 7 | - | 1 | 1 | - | 1 | 1 |
| PACIFIC | 409 | 3 | 2,336 | - | 101 | 646 | 695 | 7 | 503 | 19 | 447 | 461 | 3 | 167 | 95 |
| Wash. | 31 | - | 31 | - | 18 | 7 | 77 | - | 42 | 6 | 181 | 105 | - | - | - |
| Oreg. | 20 | - | 12 | - | 48 | 8 | 47 | N | N | - | 11 | 45 | - | 3 | - |
| Calif. | 347 | 3 | 2,272 | - | 23 | 617 | 558 | 7 | 442 | 9 | 229 | 246 | 3 | 142 | 64 |
| Alaska | 3 | - | 1 | - | - | 2 | 11 | - | 2 | - | 1 | 8 | - | - | - |
| Hawaii | 8 | - | 20 | - | 12 | 12 | 2 | - | 17 | 4 | 25 | 57 | - | 22 | 31 |
| Guam | 3 | U | - | U | - | 1 | - | U | 4 | U | 1 | - | U | - | 1 |
| P.R. | 1 | 14 | 560 | - | - | 190 | 6 | - | 8 | - | 4 | 15 | - | 8 | 3 |
| V.I. | - | - | 4 | - | - | - | - | 1 | 17 | - | - | - | - | - | - |
| Amer. Samoa | - | U | - | U | - | - | - | U | 2 | U | - | - | U | - | - |
| C.N.M.I. | - | U | - | U | - | - | - | U | 6 | U | - | - | U | - | - |

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable ¹International ²Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending November 4, 1989 and November 5, 1988 (44th Week)

| Reporting Area | Syphilis (Civilian) (Primary & Secondary) | | Toxic- shock Syndrome | Tuberculosis | | Tula- remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|----------------|--|--------------|-----------------------------|--------------|--------------|----------------|------------------|--|-------------------|
| | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1989 | Cum. 1988 | Cum. 1989 | Cum. 1989 | Cum. 1989 | Cum. 1989 |
| UNITED STATES | 35,198 | 32,657 | 321 | 17,941 | 18,007 | 133 | 422 | 588 | 3,961 |
| NEW ENGLAND | 1,452 | 991 | 17 | 537 | 466 | 2 | 35 | 8 | 9 |
| Maine | 13 | 12 | 4 | 25 | 20 | - | - | - | 2 |
| N.H. | 11 | 6 | 2 | 23 | 8 | - | - | - | 2 |
| Vt. | 1 | 3 | - | 8 | 4 | - | - | - | - |
| Mass. | 430 | 366 | 5 | 294 | 273 | 2 | 24 | 4 | 2 |
| R.I. | 28 | 30 | 2 | 55 | 36 | - | 5 | 1 | - |
| Conn. | 969 | 574 | 4 | 132 | 125 | - | 6 | 3 | 3 |
| MID. ATLANTIC | 7,064 | 6,634 | 54 | 3,700 | 3,656 | 2 | 118 | 63 | 650 |
| Upstate N.Y. | 806 | 500 | 12 | 280 | 475 | 1 | 33 | 13 | 52 |
| N.Y. City | 2,950 | 4,127 | 3 | 2,129 | 2,023 | - | 52 | 3 | - |
| N.J. | 1,183 | 855 | 12 | 709 | 569 | - | 25 | 27 | 21 |
| Pa. | 2,125 | 1,152 | 27 | 582 | 589 | 1 | 8 | 20 | 577 |
| E.N. CENTRAL | 1,665 | 1,032 | 54 | 1,816 | 1,982 | 3 | 47 | 59 | 112 |
| Ohio | 150 | 89 | 17 | 314 | 380 | - | 10 | 30 | 10 |
| Ind. | 54 | 49 | 8 | 132 | 200 | 1 | 4 | 19 | 2 |
| Ill. | 745 | 459 | 12 | 847 | 858 | - | 22 | 7 | 28 |
| Mich. | 581 | 384 | 17 | 418 | 453 | 1 | 6 | 3 | 27 |
| Wis. | 135 | 51 | - | 105 | 91 | 1 | 5 | - | 45 |
| W.N. CENTRAL | 280 | 205 | 39 | 464 | 450 | 50 | 7 | 80 | 520 |
| Minn. | 49 | 17 | 11 | 91 | 76 | - | 2 | - | 114 |
| Iowa | 30 | 20 | 6 | 44 | 47 | - | 2 | 4 | 110 |
| Mo. | 147 | 133 | 10 | 220 | 221 | 37 | 2 | 58 | 57 |
| N. Dak. | 2 | 2 | - | 13 | 15 | - | - | 1 | 54 |
| S. Dak. | 1 | - | 4 | 26 | 31 | 6 | - | 5 | 94 |
| Nebr. | 23 | 27 | 5 | 18 | 13 | 3 | - | 1 | 44 |
| Kans. | 28 | 6 | 3 | 52 | 47 | 4 | 1 | 11 | 47 |
| S. ATLANTIC | 11,971 | 12,168 | 24 | 3,748 | 3,793 | 6 | 39 | 212 | 1,182 |
| Del. | 185 | 91 | 1 | 35 | 37 | - | 2 | 1 | 29 |
| Md. | 697 | 603 | 1 | 329 | 364 | 2 | 8 | 20 | 331 |
| D.C. | 649 | 598 | 1 | 148 | 169 | - | 2 | - | 2 |
| Va. | 495 | 368 | 4 | 305 | 351 | 4 | 7 | 16 | 224 |
| W. Va. | 15 | 35 | - | 63 | 66 | - | - | 2 | 47 |
| N.C. | 942 | 693 | 6 | 477 | 409 | - | 2 | 109 | 7 |
| S.C. | 728 | 639 | 4 | 423 | 404 | - | 2 | 38 | 180 |
| Ga. | 2,099 | 2,172 | 3 | 597 | 615 | - | 4 | 23 | 211 |
| Fla. | 6,161 | 6,969 | 4 | 1,371 | 1,378 | - | 12 | 3 | 151 |
| E.S. CENTRAL | 2,590 | 1,694 | 9 | 1,393 | 1,489 | 7 | 3 | 63 | 320 |
| Ky. | 48 | 56 | 2 | 338 | 319 | 1 | 1 | 14 | 125 |
| Tenn. | 1,140 | 735 | 4 | 426 | 452 | 5 | 1 | 34 | 83 |
| Ala. | 779 | 484 | 2 | 382 | 446 | - | 1 | 6 | 108 |
| Miss. | 623 | 419 | 1 | 237 | 272 | 1 | - | 9 | 4 |
| W.S. CENTRAL | 5,141 | 3,708 | 23 | 2,179 | 2,282 | 41 | 15 | 75 | 544 |
| Ark. | 328 | 204 | 2 | 234 | 259 | 30 | - | 19 | 80 |
| La. | 1,283 | 725 | - | 292 | 285 | - | 1 | 1 | 12 |
| Okla. | 95 | 131 | 12 | 190 | 209 | 11 | 1 | 42 | 86 |
| Tex. | 3,435 | 2,648 | 9 | 1,463 | 1,529 | - | 13 | 13 | 366 |
| MOUNTAIN | 726 | 735 | 42 | 409 | 523 | 16 | 12 | 24 | 242 |
| Mont. | 1 | 3 | - | 16 | 19 | 1 | - | 14 | 70 |
| Idaho | 1 | 2 | 3 | 23 | 19 | - | - | 4 | 11 |
| Wyo. | 6 | 1 | 2 | - | 5 | 3 | - | 2 | 74 |
| Colo. | 60 | 96 | 9 | 19 | 97 | 3 | 2 | 3 | 21 |
| N. Mex. | 26 | 46 | 5 | 76 | 94 | 2 | 1 | 1 | 21 |
| Ariz. | 284 | 142 | 10 | 199 | 206 | - | 8 | - | 26 |
| Utah | 15 | 14 | 9 | 37 | 29 | 6 | 1 | - | 8 |
| Nev. | 333 | 431 | 4 | 39 | 54 | 1 | - | - | 11 |
| PACIFIC | 4,309 | 5,490 | 59 | 3,695 | 3,366 | 6 | 146 | 4 | 382 |
| Wash. | 350 | 204 | 4 | 200 | 200 | - | 9 | - | - |
| Oreg. | 207 | 258 | - | 119 | 128 | 4 | 6 | 1 | - |
| Calif. | 3,734 | 4,987 | 54 | 3,174 | 2,864 | 2 | 122 | 3 | 316 |
| Alaska | 7 | 14 | - | 44 | 39 | - | - | - | 66 |
| Hawaii | 11 | 27 | 1 | 158 | 135 | - | 9 | - | - |
| Guam | 4 | 3 | - | 45 | 26 | - | 1 | - | - |
| P.R. | 469 | 589 | - | 241 | 194 | - | 9 | - | 63 |
| V.I. | 8 | 1 | - | 4 | 6 | - | 1 | - | - |
| Amer. Samoa | - | - | - | 2 | 4 | - | 2 | - | - |
| C.N.M.I. | 7 | 1 | - | 12 | 24 | - | - | - | - |

U: Unavailable

**TABLE IV. Deaths in 121 U.S. cities,* week ending
November 4, 1989 (44th Week)**

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I** | Reporting Area | All Causes, By Age (Years) | | | | | | P&I** |
|---------------------|----------------------------|-------|-------|-------|------|----|-------|-----------------------|----------------------------|----------|-------|-------|-------|------|-------|
| | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | <1 | | | Total | All Ages | ≥65 | 45-64 | 25-44 | 1-24 | |
| NEW ENGLAND | 614 | 8423 | 101 | 50 | 12 | 28 | 55 | S. ATLANTIC | 1,237 | 743 | 284 | 129 | 41 | 40 | 64 |
| Boston, Mass. | 188 | 126 | 31 | 20 | 5 | 6 | 24 | Atlanta, Ga. | 144 | 83 | 39 | 19 | 1 | 2 | 3 |
| Bridgeport, Conn. | 49 | 39 | 5 | 4 | - | 1 | 4 | Baltimore, Md. | 170 | 83 | 48 | 21 | 13 | 5 | 12 |
| Cambridge, Mass. | 21 | 15 | 5 | 1 | - | - | 2 | Charlotte, N.C. | 71 | 46 | 11 | 8 | 2 | 4 | 8 |
| Fall River, Mass. | 26 | 23 | 1 | 1 | - | 1 | - | Jacksonville, Fla. | 125 | 75 | 32 | 10 | 4 | 4 | 4 |
| Hartford, Conn. | 50 | 26 | 9 | 7 | 2 | 6 | 4 | Miami, Fla. | 124 | 74 | 29 | 10 | 2 | 9 | 2 |
| Lowell, Mass. | 17 | 16 | 1 | - | - | - | 2 | Norfolk, Va. | 70 | 46 | 15 | 6 | 1 | 2 | 5 |
| Lynn, Mass. | 9 | 9 | - | - | - | - | - | Richmond, Va. | 103 | 61 | 23 | 11 | 5 | 3 | 8 |
| New Bedford, Mass. | 23 | 20 | 2 | 1 | - | - | 2 | Savannah, Ga. | 61 | 45 | 13 | 2 | 1 | - | 9 |
| New Haven, Conn. | 45 | 24 | 11 | 5 | 4 | 1 | 7 | St. Petersburg, Fla. | 64 | 53 | 8 | 2 | - | 1 | 4 |
| Providence, R.I. | 52 | 34 | 10 | 4 | - | 4 | 4 | Tampa, Fla. | 78 | 54 | 13 | 4 | 3 | 4 | 4 |
| Somerville, Mass. | 3 | 3 | - | - | - | - | - | Washington, D.C. | 199 | 104 | 48 | 32 | 9 | 6 | 5 |
| Springfield, Mass. | 45 | 25 | 11 | 1 | 1 | 7 | 2 | Wilmington, Del. | 28 | 19 | 5 | 4 | - | - | - |
| Waterbury, Conn. | 26 | 22 | 4 | - | - | - | - | E.S. CENTRAL | 785 | 506 | 155 | 74 | 23 | 26 | 66 |
| Worcester, Mass. | 60 | 41 | 11 | 6 | - | 2 | 4 | Birmingham, Ala. | 96 | 53 | 18 | 14 | 5 | 6 | 2 |
| MID. ATLANTIC | 2,629 | 1,726 | 490 | 298 | 52 | 63 | 120 | Chattanooga, Tenn. | 63 | 40 | 16 | 4 | - | 3 | 13 |
| Albany, N.Y. | 50 | 39 | 8 | 1 | - | 2 | 1 | Knoxville, Tenn. | 86 | 60 | 16 | 7 | 1 | 2 | 9 |
| Allentown, Pa. | 17 | 13 | 1 | 3 | - | - | 1 | Louisville, Ky. | 113 | 79 | 21 | 8 | 2 | 3 | 12 |
| Buffalo, N.Y.‡ | 101 | 66 | 19 | 11 | 2 | 3 | 5 | Memphis, Tenn. | 190 | 121 | 32 | 21 | 8 | 8 | 17 |
| Camden, N.J. | 34 | 23 | 6 | 3 | 1 | 1 | - | Mobile, Ala. | 98 | 67 | 22 | 6 | 2 | - | 1 |
| Elizabeth, N.J. | 16 | 12 | 2 | 1 | 1 | - | - | Montgomery, Ala. | 27 | 16 | 7 | 3 | 1 | - | 1 |
| Erie, Pa.† | 37 | 28 | 7 | 2 | - | - | 5 | Nashville, Tenn. | 112 | 70 | 23 | 11 | 4 | 4 | 11 |
| Jersey City, N.J. | 52 | 31 | 10 | 8 | 1 | 2 | 1 | W.S. CENTRAL | 1,747 | 1,081 | 364 | 201 | 48 | 53 | 77 |
| N.Y. City, N.Y. | 1,449 | 906 | 272 | 204 | 36 | 31 | 43 | Austin, Tex. | 59 | 40 | 9 | 5 | 3 | 2 | 4 |
| Newark, N.J. | 76 | 37 | 23 | 11 | 2 | 3 | 3 | Baton Rouge, La. | 31 | 15 | 11 | 4 | 1 | - | - |
| Paterson, N.J. | 20 | 10 | 8 | 1 | - | 1 | - | Corpus Christi, Tex. | 56 | 42 | 8 | 3 | 1 | 2 | 4 |
| Philadelphia, Pa. | 298 | 203 | 62 | 22 | 3 | 8 | 15 | Dallas, Tex. | 230 | 132 | 41 | 40 | 3 | 14 | 6 |
| Pittsburgh, Pa.† | 73 | 49 | 13 | 10 | 1 | - | 3 | El Paso, Tex. | 65 | 41 | 12 | 4 | 4 | 4 | 6 |
| Reading, Pa. | 30 | 22 | 3 | 3 | - | 2 | 4 | Fort Worth, Tex. | 104 | 64 | 26 | 9 | 4 | 1 | 9 |
| Rochester, N.Y. | 146 | 110 | 20 | 9 | 1 | 6 | 17 | Houston, Tex.‡ | 734 | 436 | 169 | 89 | 24 | 16 | 18 |
| Schenectady, N.Y. | 29 | 25 | 1 | 3 | - | - | 1 | Little Rock, Ark. | 75 | 50 | 15 | 7 | - | 3 | 5 |
| Scranton, Pa.† | 36 | 29 | 7 | - | - | - | 5 | New Orleans, La. | 119 | 69 | 24 | 20 | 3 | 3 | - |
| Syracuse, N.Y. | 89 | 66 | 15 | 4 | 3 | 1 | 8 | San Antonio, Tex. | 166 | 118 | 30 | 11 | 2 | 5 | 15 |
| Trenton, N.J. | 30 | 23 | 3 | 1 | 1 | 2 | 4 | Shreveport, La. | 42 | 28 | 9 | 3 | 2 | - | 5 |
| Utica, N.Y. | 17 | 13 | 4 | - | - | - | 1 | Tulsa, Okla. | 66 | 46 | 10 | 6 | 1 | 3 | 5 |
| Yonkers, N.Y. | 29 | 21 | 6 | 1 | - | 1 | 3 | MOUNTAIN | 616 | 393 | 125 | 63 | 22 | 13 | 42 |
| E.N. CENTRAL | 2,287 | 1,493 | 473 | 178 | 59 | 84 | 108 | Albuquerque, N. Mex. | 77 | 51 | 12 | 10 | 1 | 3 | 7 |
| Akron, Ohio | 79 | 48 | 20 | 5 | 2 | 4 | - | Colo. Springs, Colo. | 36 | 24 | 8 | 3 | - | 1 | 5 |
| Canton, Ohio | 43 | 28 | 12 | 2 | 1 | - | 2 | Denver, Colo. | 127 | 89 | 21 | 9 | 6 | 2 | 3 |
| Chicago, Ill.‡ | 564 | 362 | 125 | 45 | 10 | 22 | 16 | Las Vegas, Nev. | 87 | 52 | 19 | 12 | 3 | 1 | 7 |
| Cincinnati, Ohio | 147 | 99 | 38 | 3 | 4 | 3 | 19 | Ogden, Utah | 27 | 18 | 6 | 2 | 1 | - | 7 |
| Cleveland, Ohio | 151 | 89 | 32 | 17 | 3 | 10 | 2 | Phoenix, Ariz. | 124 | 68 | 33 | 16 | 5 | 2 | 6 |
| Columbus, Ohio | 99 | 56 | 21 | 10 | 11 | 1 | 1 | Pueblo, Colo. | 24 | 17 | 6 | 1 | - | - | 2 |
| Dayton, Ohio | 121 | 86 | 18 | 14 | - | 3 | 3 | Salt Lake City, Utah | 29 | 18 | 5 | 1 | 3 | 2 | - |
| Detroit, Mich. | 237 | 140 | 49 | 27 | 9 | 12 | 6 | Tucson, Ariz. | 85 | 56 | 15 | 9 | 3 | 2 | 5 |
| Evansville, Ind. | 43 | 32 | 6 | 1 | 2 | 2 | 3 | PACIFIC | 1,822 | 1,158 | 343 | 197 | 59 | 58 | 116 |
| Fort Wayne, Ind. | 65 | 44 | 13 | 5 | 1 | 2 | 2 | Berkeley, Calif. | 17 | 10 | 4 | 3 | - | - | 2 |
| Gary, Ind. | 20 | 13 | 3 | 3 | 1 | - | 1 | Fresno, Calif. | 72 | 43 | 18 | 6 | 2 | 3 | 7 |
| Grand Rapids, Mich. | 67 | 47 | 8 | 6 | 2 | 4 | 10 | Glendale, Calif. | 17 | 12 | 2 | 2 | 1 | - | 3 |
| Indianapolis, Ind. | 180 | 105 | 47 | 15 | 4 | 9 | 5 | Honolulu, Hawaii | 66 | 42 | 16 | 3 | 2 | 3 | 11 |
| Madison, Wis. | 43 | 31 | 8 | 1 | 2 | 1 | 4 | Long Beach, Calif. | 91 | 55 | 19 | 9 | 2 | 6 | 16 |
| Milwaukee, Wis. | 139 | 105 | 22 | 6 | 2 | 4 | 3 | Los Angeles, Calif. | 475 | 296 | 81 | 61 | 19 | 12 | 10 |
| Peoria, Ill. | 41 | 32 | 6 | 2 | - | 1 | 4 | Oakland, Calif. | 86 | 52 | 16 | 9 | 3 | 6 | 8 |
| Rockford, Ill. | 38 | 23 | 9 | 4 | 2 | - | 6 | Pasadena, Calif. | 27 | 18 | 5 | 1 | 1 | 2 | 1 |
| South Bend, Ind. | 61 | 41 | 14 | 3 | 2 | 1 | 7 | Portland, Ore. | 122 | 76 | 22 | 13 | 7 | 3 | 1 |
| Toledo, Ohio | 87 | 63 | 17 | 5 | 1 | 1 | 4 | Sacramento, Calif. | 143 | 102 | 20 | 13 | 3 | 5 | 15 |
| Youngstown, Ohio | 62 | 49 | 5 | 4 | - | 4 | 10 | San Diego, Calif. | 130 | 91 | 22 | 9 | 6 | 2 | 18 |
| W.N. CENTRAL | 835 | 586 | 139 | 63 | 22 | 24 | 45 | San Francisco, Calif. | 158 | 95 | 29 | 28 | 3 | 3 | 3 |
| Des Moines, Iowa | 77 | 59 | 9 | 5 | 1 | 3 | 10 | San Jose, Calif. | 170 | 100 | 41 | 18 | 4 | 7 | 13 |
| Duluth, Minn. | 34 | 30 | 2 | 1 | 1 | - | 1 | Seattle, Wash. | 152 | 97 | 35 | 14 | 3 | 3 | 2 |
| Kansas City, Kans.‡ | 80 | 60 | 14 | 5 | 1 | - | 2 | Spokane, Wash. | 42 | 29 | 7 | 4 | 2 | - | 4 |
| Kansas City, Mo. | 127 | 89 | 19 | 9 | 5 | 5 | 6 | Tacoma, Wash. | 54 | 40 | 6 | 4 | 1 | 3 | 2 |
| Lincoln, Nebr. | 22 | 19 | 3 | - | - | - | 2 | TOTAL | 12,572 | 8,109 | 2,474 | 1,253 | 338 | 389 | 693 |
| Minneapolis, Minn. | 138 | 97 | 22 | 12 | 3 | 4 | 11 | | | | | | | | |
| Omaha, Nebr. | 95 | 59 | 22 | 8 | 3 | 3 | 5 | | | | | | | | |
| St. Louis, Mo. | 141 | 87 | 25 | 17 | 6 | 5 | 6 | | | | | | | | |
| St. Paul, Minn. | 71 | 57 | 12 | - | - | 2 | 2 | | | | | | | | |
| Wichita, Kans. | 50 | 29 | 11 | 6 | 2 | 2 | - | | | | | | | | |

*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.

§Data not available. Figures are estimates based on average of past available 4 weeks.

Hurricane Hugo – Continued

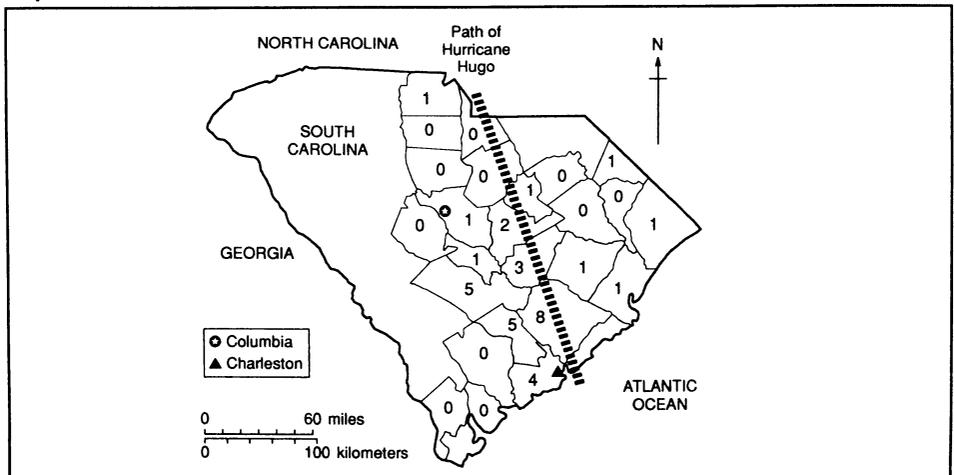
As part of the Medical Examiner and Coroner (ME/C) Information Sharing Program at CDC, public health officials, using contact information in *Medical Examiner and Coroner Jurisdictions in the United States (1)*, asked ME/Cs in 25 South Carolina counties in the path of Hurricane Hugo to report 1) the number of deaths in their jurisdictions that they investigated between September 21 and October 6; 2) the number of these deaths that were related to the hurricane; and 3) for the 35 deaths reported as hurricane related, information about the demographic characteristics, cause, and circumstances of each death. ME/Cs reported that 29 injury deaths were directly related to the hurricane (Table 1) and categorized the manner of death for these persons as "accident"*. In Dorchester and Berkeley counties, coroners reported six deaths caused by "heart attacks" attributed to stress associated with the hurricane. The manner of death in these cases was "natural," and all six occurred after the hurricane.

No deaths are known to have occurred before the storm (preimpact phase), 13 occurred during the storm (impact phase), and 22 occurred after the storm (post-impact phase). Of the 13 traumatic deaths that occurred during the impact phase, six persons drowned (five when they attempted to bring boats inland from Charleston on the Cooper River and one when her mobile home was struck by the storm surge). Four persons were crushed by their mobile homes. One person was killed when his house collapsed during the storm, and two others were crushed by trees during the storm (one when a tree fell on his house and one when a tree fell on his car).

Of the 22 postimpact-phase deaths, 16 were traumatic. Nine resulted from smoke inhalation or burns from five house fires; these fires were attributed to the use of candles during power outages. In one instance, fire officials concluded the fire was

*"Manner of death" and "accident" are medicolegal terms used on death certificates that refer to the circumstances under which a death occurs; "cause of death" refers to the injury or illness responsible for the death. When a death occurs under "accidental" circumstances, the preferred term within the public health community for the cause of death is "unintentional injury."

FIGURE 1. Path of eye of Hurricane Hugo and number of hurricane-related deaths reported by medical examiners and coroners in 25 counties – South Carolina, September 21–October 6, 1989



*Hurricane Hugo – Continued***TABLE 1. Characteristics of the 35 deaths attributed to Hurricane Hugo – South Carolina, September 21–October 6, 1989**

| Date | Age (yrs) | Sex | Cause and circumstances of death |
|-------------------------|------------------|------------|---|
| Impact phase | | | |
| September 22 | 38 | M | Drowned while bringing boats inland |
| | 41 | F | |
| | 58 | M | |
| | 59 | M | |
| | 30 | M | |
| | 60 | F | Drowned by storm surge in mobile home |
| | 1 | M | Crushed by mobile home/trailer |
| | 41 | F | |
| | 32 | M | |
| | 69 | M | Crushed by collapsing house |
| | 55 | M | |
| | 67 | M | Suffered multiple blunt trauma from tree falling into home |
| | 30 | M | Suffered head injury when car hit by falling tree |
| Postimpact phase | | | |
| September 22 | 56 | M | Electrocuted while working on power lines |
| | 7 | F | Asphyxiated (from smoke inhalation) in house fire caused by candle |
| September 23 | 77 | F | Collapsed in yard from "heart attack" |
| | 27 | F | Asphyxiated while trapped under uprooted tree |
| | 76 | M | Burned in house fire caused by candle |
| September 24 | 21 | F | Asphyxiated (from smoke inhalation) in house fire caused by candle |
| | 3 | F | |
| | 1 | M | |
| | 57 | M | Exsanguinated from neck laceration caused by chain saw |
| | 69 | F | Suffered "heart attack" related to stress |
| | 87 | M | |
| 86 | M | | |
| September 25 | 58 | M | Electrocuted while clearing debris in yard |
| September 27 | 65 | F | Asphyxiated (from smoke inhalation) in house fire caused by candles |
| September 28 | 48 | M | Suffered "heart attack" related to stress |
| September 29 | 36 | F | Asphyxiated (from smoke inhalation) in house fire caused by candles |
| | 6 | M | |
| | 2 | M | |
| September 30 | 8 | M | Suffered head injuries when hit by tree during clean-up |
| | 41 | M | Electrocuted while removing debris |
| October 2 | 64 | M | Suffered "heart attack" related to stress |
| October 3 | 22 | M | Electrocuted while repairing roof |

Hurricane Hugo – Continued

the direct consequence of adults leaving candles burning after going to bed at night. Of the five fires, two separate house fires were each responsible for the deaths of a mother and two young children. Five of the nine fire-related deaths were among children aged 1–7 years.

Four persons were electrocuted in separate incidents during clean-up activities: two of these were occupationally related deaths (one person was working on power lines, and one was repairing a roof). Two deaths resulted when bystanders were injured by falling trees (one of these was an 8-year-old child who died from head injuries sustained when a tree fell on him; the other was a 27-year-old woman who was trapped under a tree's roots as it fell back into the hole from which it had been uprooted). One death was caused by a chainsaw injury sustained during the clean-up. All deaths occurred immediately or within 8 hours of the fatal incident.

Reported by: C Copeland, Coroner, Beaufort County; WB Smith, Coroner, C Langston, Deputy Coroner, Berkeley County; JH Schuler, Coroner, Calhoun County; S Conradi, MD, Chief Medical Examiner, M Ward, MD, Medical Examiner, Charleston County; EW Wright, Coroner, Chester County; RI Stephens, Coroner, Clarendon County; AA Bryan, Coroner, Colleton County; E Norton, Coroner, Darlington County; D Grimsley, Coroner, Dillon County; J Rogers, Coroner, Dorchester County; J Silvia, Coroner, Fairfield County; JC Gregg, Coroner, Florence County; WM Williams, Coroner, Georgetown County; RL Edge, Coroner, M Crossett, Fire Chief, Horry County; LM Sauls, Coroner, Jasper County; T Horton, Coroner, Kershaw County; M Morris, Coroner, Lancaster County; M Hancock, Coroner, Lee County; HO Harmon, Coroner, Lexington County; JM Richardson, Coroner, Marion County; P Simmons, Coroner, Orangeburg County; F Baron, Coroner, J Anasti, Deputy Coroner, Richland County; DC Gamble, Coroner, D Jones, Sumter County Civil Defense; H McKnight, Coroner, Williamsburg County; J Chapman, Coroner, York County; JL Jones, MD, M Hudson, MPH, D Breeden, MD, South Carolina Dept of Health and Environmental Control. Div of Environmental Hazards and Health Effects, Center for Environmental Health and Injury Control, CDC.

Editorial Note: ME/C systems have not been fully assessed in disaster settings for the purpose of surveillance; however, a study is in progress by CDC to evaluate ME/Cs and other sources of death information in Hurricane Hugo. As part of this study, the completeness and accuracy of ME/C data will be assessed.

In South Carolina, each county has a coroner who is usually an elected official and not a physician (1,2). Charleston County, which includes the city of Charleston, has both a medical examiner and a coroner. There is no universally accepted definition of a "hurricane-related death," and for the purposes of this report, the determination was made by each ME/C. Because each county in South Carolina has a different official who used his or her own criteria for determining which deaths were hurricane related, the types of deaths reported as hurricane related vary among counties. Furthermore, other organizations, such as the American Red Cross and the National Weather Service, collect information on disaster-related deaths and might apply different criteria in determining disaster-related deaths. These variations suggest the need for an improved and uniform definition of "disaster-related" deaths.

In the past, hurricane-related mortality has resulted primarily from impact-phase drownings associated with storm surges (3). However, as in Puerto Rico, relatively few impact-phase drownings occurred in South Carolina (4). The principal public health response to Hurricane Hugo in South Carolina was early warning and a coordinated evacuation plan. By the evening of September 21, South Carolina officials had ordered the evacuation of persons in low-lying and high-risk areas in six coastal counties (Beaufort, Charleston, Colleton, Georgetown, Horry, and Jasper) with a total population of 624,000. Approximately 250,000 persons were evacuated.

Hurricane Hugo — Continued

In contrast to Puerto Rico, where only two (22%) of nine hurricane-related deaths occurred during the impact phase, 13 (45%) of 29 trauma-related deaths in South Carolina reported here were impact-phase fatalities. Four of the postimpact-phase deaths in South Carolina were electrocutions (one power company employee, compared with five in Puerto Rico [5]).

The South Carolina data suggest opportunities for prevention of hurricane-related deaths. Accordingly, efforts to educate and prepare the public should focus on: 1) hazards of power outages, including electrocution and the danger of using candles or open flames for light and heat; 2) the need to evacuate from mobile homes potentially in the path of the hurricane to a safe location; 3) hazards of boating during high winds; and 4) risks of injuries during disaster clean-up.

References

1. Parrish RG, Ing R. Medical examiner and coroner jurisdictions in the United States. Colorado Springs, Colorado: American Academy of Forensic Sciences, 1988.
2. CDC. Death investigation—United States, 1987. *MMWR* 1989;38:1–4.
3. French J. Hurricanes. In: Gregg MB, ed. Public health consequences of disasters. Atlanta: US Department of Health and Human Services, Public Health Service (in press).
4. CDC. Deaths associated with Hurricane Hugo—Puerto Rico. *MMWR* 1989;38:680–2.
5. CDC. Update: work-related electrocutions associated with Hurricane Hugo—Puerto Rico. *MMWR* 1989;38:718–20,725.

Trends in Gonorrhea in Homosexually Active Men — King County, Washington, 1989

Analysis of gonorrhea morbidity in King County, Washington, shows an increase in gonorrhea among homosexually active men in 1989. During the 1980s, substantial declines in the occurrence of gonorrhea in homosexual and bisexual men have been documented in the United States and other countries (1–3). These trends have been considered to reflect changes in sexual behavior in response to the epidemic of acquired immunodeficiency syndrome (AIDS).

King County has a population of 1.4 million and includes Seattle (population 496,000). Gonorrhea cases are reported to the Seattle-King County Department of Public Health by age, gender, race/ethnicity, and anatomic site of infection. Patients diagnosed in the Seattle-King County Department of Public Health's sexually transmitted disease (STD) clinic at Harborview Medical Center are further classified as heterosexual, homosexual, or bisexual on the basis of the reported gender of their sex partners.

From 1982 through 1988, declines occurred for the annual number of cases of gonorrhea in homosexual and bisexual men attending the STD clinic, and of rectal gonococcal infection reported by the private medical sector (Figure 1). STD clinic gonorrhea cases in homosexually active men declined from 720 in 1982 to 27 in 1988 (–96%). However, 71 cases were reported in the first 9 months of 1989. Based on this observation, an estimated 100 cases (seasonally adjusted) are anticipated in 1989. A similar decline occurred for cases of rectal gonococcal infection in men reported by the private medical sector: from 217 cases in 1982 to six in 1988 (–97%). Eight cases were reported through September 1989, and 12 are projected for the year.

In contrast, the number of gonorrhea cases in the total population continued to decrease in 1989. Total reported gonorrhea cases in King County declined 27%, from 4709 (371 per 100,000 population) in 1982 to 3443 (244 per 100,000 population) in

Gonorrhea — Continued

1988. Through September 1989, 2416 cases were reported, with an estimated 3200 cases (223 per 100,000 population) projected for the year, a further 6% decline.

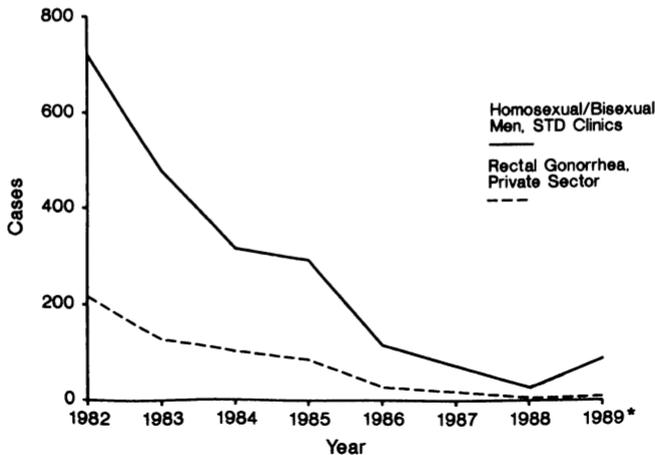
The age distribution of public clinic cases in homosexual and bisexual men remained relatively constant from 1982 through September 1989. In 1989, 79% of the homosexual or bisexual men with gonorrhea were non-Hispanic whites, 13% were non-Hispanic blacks, and 8% belonged to other racial or ethnic groups (primarily Hispanics); this distribution did not change from 1982 to 1989. Among STD clinic heterosexuals with gonorrhea in 1989, 36% were non-Hispanic whites, 50% were non-Hispanic blacks, and 13% belonged to other racial or ethnic groups.

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Editorial Note: These data suggest that the number of gonorrhea cases in homosexually active men in King County may triple in 1989 from 1988. This increase cannot be readily explained by differences in screening or testing procedures at the STD clinic. Throughout the 1980s, patient-care approaches have been constant, case reporting systems for the private sector have not been revised, and emphasis on partner referral activities for patients with gonorrhea has not been modified. In addition, the age and race distributions of homosexually active men with gonorrhea have not changed during the 1980s. These demographic patterns suggest that the increase is not limited to a group of younger men nor to a specific racial group for which different levels of commitment to safer sex practices may exist.

Although reasons for this increase are uncertain, at least two hypotheses can be considered. First, the increase may be confined to men who have never fully adopted safer sex practices. Strains of *Neisseria gonorrhoeae* may have been introduced or reintroduced into a subpopulation of men with stable high-risk patterns of sexual behavior. Thus, the increase might reflect variation within existing STD core populations (4). Second, the frequency of high-risk behavior may have increased. For

FIGURE 1. Cases of gonorrhea in homosexual/bisexual men attending the Department of Public Health STD Clinic and reported cases of rectal gonococcal infection in men in the private sector — King County, Washington, 1982–1989*



*Figures for 1989 are projections based on cases through September.

Gonorrhoea – Continued

example, because of declining incidence of STD and human immunodeficiency virus (HIV) infections, some homosexually active men may have relaxed behaviors regarding sexual safety (1–3,5). In addition, maintenance of profound lifestyle changes, such as abstinence or monogamy, may become more difficult with time and "risky sexual relapse" (6) could occur. Additional efforts may be required to maintain positive lifestyle changes of homosexually active men. These positive behavior changes are considered to have contributed to the substantial overall decline during the 1980s in gonorrhoea among homosexually active men in King County (Figure 1).

Studies of homosexually active men with gonorrhoea are now being planned in Seattle-King County to evaluate these two possible explanations. However, these data from King County support the need for continued careful monitoring of STD trends in homosexual and bisexual men at the local level. State and local health departments are encouraged to implement such monitoring in areas where it is not under way.

References

1. Judson FN. Fear of AIDS and gonorrhoea rates in homosexual men. *Lancet* 1983;2:159–60.
2. Handsfield HH. Decreasing incidence of gonorrhoea in homosexually active men—minimal effect on risk of AIDS. *West J Med* 1985;143:469–70.
3. Peterson CS, Sndergaard J, Wantain GL. AIDS related changes in pattern of sexually transmitted disease (STD) in an STD clinic in Copenhagen. *Genitourin Med* 1988;64:270–2.
4. Rothenberg RB. The geography of gonorrhoea: empirical demonstration of core group transmission. *Am J Epidemiol* 1983;117:688–92.
5. Hessol NA, O'Malley P, Lifson A, et al. Incidence and prevalence of HIV infection among homosexual and bisexual men, 1978–1988 [Abstract]. V International Conference on AIDS. Montreal, June 4–9, 1989:50.
6. Ekstrand ML, Stall RD, Coates TJ, McKusick L. Risky sex relapse, the next challenge for AIDS prevention programs: the AIDS Behavioral Research Project [Abstract]. V International Conference on AIDS. Montreal, June 4–9, 1989:699.

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