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## Self-Reported Frequent Mental Distress Among Adults — United States, 1993–1996

In the United States, an estimated 10% of persons have some recent disability from a diagnosable mental illness (e.g., schizophrenia, phobias, depression, and anxiety disorders), and up to 24% of adults have experienced a mental disorder during the preceding year (*1,2*). In 1997, the estimated cost of mental illness exceeded $150 billion for treatment, social services, disability payments, lost productivity, and premature mortality (*1*). However, information is limited about the overall prevalence of general mental distress, which can be associated with the incidence and prevalence of specific mental illnesses and conditions (*3*). This report describes differences in the prevalence of self-reported frequent mental distress (FMD) for noninstitutionalized adults in the United States for specific demographic groups and by state and age-sex group using data from the Behavioral Risk Factor Surveillance System (BRFSS) for 1993–1996. The findings indicate high prevalences of FMD among persons who are unemployed or unable to work, indicated a "separated" or "widowed" marital status, or had annual household incomes of <$15,000.

The BRFSS is an ongoing, state-based, random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years that tracks the prevalence of key health- and safety-related behaviors and characteristics. Since January 1993, the interviews have included four health-related quality-of-life (HRQOL) questions (*4*), including the following general mental health question: "Now thinking about your mental health, which includes stress, depression and problems with emotions, for how many days during the past 30 days was your mental health not good?" Persons who reported that their mental health was not good for ≥14 of the preceding 30 days were defined as having FMD. This 14-day minimum period was selected because a similar period is often used by clinicians and clinical researchers as a marker for clinical depression and anxiety disorders, and a longer duration of reported symptoms is associated with a higher level of activity limitation (*5*). To permit comparisons, data were statistically weighted to reflect the age, race/ethnicity, and sex distribution of the state population and, when appropriate, age-standardized to the 1990 U.S. population aged ≥18 years using SUDAAN® (Software for the Statistical Analysis of Correlated Data).

*Frequent Mental Distress — Continued*

Persons who reported ≥14 days of recent mental health problems had a comparatively high level of disability (i.e., they reported that poor physical or mental health had prevented them from performing their usual activities an average of 7.7 of the previous 30 days). In comparison, respondents with ≤2 recent days of mental distress reported having 0.9 recent days when illness restricted their usual activities.

During 1993–1996, the overall state-weighted prevalence of adults with FMD was 8.6% (Table 1). Of the demographic groups studied, the FMD prevalence was highest among persons who reported being unable to work (33.2%), indicated a "separated" marital status (18.5%), had annual household incomes of <$15,000 (15.5%), had less than a high school (or equivalent) education (12.9%), were American Indians/Alaskan Natives (12.9%), or were aged 18–24 years (10.0%). Persons with the lowest FMD prevalence were those with annual household incomes of ≥$50,000 (5.7%), college graduates (5.9%), aged 65–74 years (6.1%), Asians/Pacific Islanders (6.1%), employed for wages (6.7%), or married (7.3%). Women were more likely to report FMD (10.2%) than men (6.9%), and persons with no health insurance were more likely to report FMD (12.5%) than persons with insurance (8.0%).

The overall state-level prevalence of FMD among adults ranged from 4.9% in South Dakota to 12.8% in Kentucky. State-level FMD prevalences among men were highest

**TABLE 1. Number of respondents to a question about mental health and percentage of those respondents who self-reported frequent mental distress (FMD),* by demographic characteristics — United States, Behavioral Risk Factor Surveillance System, 1993–1996**

| Characteristic | No. respondents | % | (SE†) | Characteristic | No. respondents | % | (SE†) |
|---|---|---|---|---|---|---|---|
| **Sex** | | | | **Education level** | | | |
| Women | 254,250 | 10.2 | (0.1) | Less than high school graduate | 60,801 | 12.9 | (0.3) |
| Men | 181,857 | 6.9 | (0.1) | High school graduate | 143,542 | 9.0 | (0.1) |
| **Age group (yrs)** | | | | Some college or technical school | 118,529 | 8.6 | (0.1) |
| 18–24 | 41,197 | 10.0 | (0.3) | College graduate | 112,381 | 5.9 | (0.1) |
| 25–34 | 90,678 | 8.7 | (0.1) | **Employment status** | | | |
| 35–44 | 99,864 | 9.4 | (0.1) | Employed for wages | 231,815 | 6.7 | (0.1) |
| 45–54 | 69,982 | 9.1 | (0.2) | Self-employed | 37,698 | 7.0 | (0.3) |
| 55–64 | 48,709 | 7.8 | (0.2) | Unemployed ≤1 year | 9,593 | 14.7 | (0.6) |
| 65–74 | 51,473 | 6.1 | (0.2) | Unemployed >1 year | 6,985 | 17.8 | (0.9) |
| ≥75 | 34,204 | 6.5 | (0.2) | Homemaker | 35,648 | 9.4 | (0.3) |
| **Race/Ethnicity** | | | | Student | 15,145 | 9.6 | (0.8) |
| White, non-Hispanic | 358,755 | 8.3 | (0.1) | Retired | 82,786 | 11.9 | (2.1) |
| Black, non-Hispanic | 37,245 | 9.7 | (0.2) | Unable to work | 12,903 | 33.2 | (0.9) |
| Hispanic | 23,127 | 10.3 | (0.3) | **Annual household income** | | | |
| Asian/Pacific Islander | 9,228 | 6.1 | (0.5) | <$15,000 | 76,807 | 15.5 | (0.2) |
| American Indian/ Alaskan Native | 4,667 | 12.9 | (0.8) | $15,000–$24,999 | 82,792 | 10.0 | (0.2) |
| Other | 2,292 | 10.7 | (1.0) | $25,000–$49,999 | 136,984 | 7.2 | (0.1) |
| **Marital status** | | | | ≥$50,000 | 84,546 | 5.7 | (0.2) |
| Married | 240,530 | 7.3 | (0.1) | **Health insurance** | | | |
| Divorced | 53,653 | 13.4 | (0.4) | Yes | 382,600 | 8.0 | (0.1) |
| Widowed | 47,055 | 15.9 | (1.2) | No | 52,457 | 12.5 | (0.3) |
| Separated | 11,266 | 18.5 | (0.7) | | | | |
| Never married | 74,291 | 9.3 | (0.3) | **Total** | **436,107** | **8.6** | **(0.1)** |
| Unmarried couple | 8,574 | 12.0 | (1.1) | | | | |

* FMD applies to persons reporting ≥14 days of the preceding 30 days when their mental health was not good. Numbers in groups may not add to the overall sample size because persons for which values were missing were excluded from this analysis. Percentages in all groups except the age groups were age-adjusted to the 1990 U.S. population aged ≥18 years.
† Standard error.

*Frequent Mental Distress — Continued*

in Colorado (13.1%) for persons aged 18–24 years and lowest in South Dakota for persons aged ≥65 years (2.6%) (Table 2).* State-level FMD prevalences among women were highest in New York (19.1%) for persons aged 18–24 years and lowest in Oklahoma for persons aged ≥65 years (3.3%).

During 1993–1996, overall FMD prevalence among men was highest among persons aged 18–24 years (7.8%) and lowest among persons aged ≥65 years (5.4%) (Table 2). Similarly, the overall FMD prevalence among women was highest among persons aged 18–24 years (12.3%) and lowest among persons aged ≥65 years (6.8%). The difference between FMD among women and among men was highest among persons aged 18–24 years and lowest among persons aged ≥65 years.

*Reported by the following BRFSS coordinators: J Cook, MBA, Alabama; P Owen, Alaska; B Bender, MBA, Arizona; J Senner, PhD, Arkansas; B Davis, PhD, California; M Leff, MSPH, Colorado; M Adams, MPH, Connecticut; F Breukelman, Delaware; C Mitchell, District of Columbia; D McTague, MS, Florida; K Powell, MD, Georgia; A Onaka, PhD, Hawaii; J Aydelotte, Idaho; B Steiner, MS, Illinois; K Horvath, Indiana; A Wineski, Iowa; M Perry, Kansas; K Asher, Kentucky; R Jiles, PhD, Louisiana; D Maines, Maine; A Weinstein, MA, Maryland; D Brooks, MPH, Massachusetts; H McGee, MPH, Michigan; N Salem, PhD, Minnesota; D Johnson, Mississippi; T Murayi, PhD, Missouri; F Ramsey, Montana; S Huffman, Nebraska; E DeJan, MPH, Nevada; L Powers, MA, New Hampshire; G Boeselager, MS, New Jersey; W Honey, MPH, New Mexico; T Melnik, DrPH, New York; K Passaro, PhD, North Carolina; J Kaske, MPH, North Dakota; R Indian, MS, Ohio; N Hann, MPH, Oklahoma; J Grant-Worley, MS, Oregon; L Mann, Pennsylvania; J Hesser, PhD, Rhode Island; M Lane, MPH, South Carolina; M Gildemaster, South Dakota; D Ridings, Tennessee; K Condon, Texas; R Giles, Utah; C Roe, MS, Vermont; L Redman, MPH, Virginia; K Wynkoop-Simmons, PhD, Washington; F King, West Virginia; P Imm, MS, Wisconsin; M Futa, MA, Wyoming. E Borawski, G Wu, H Jia, Case Western Reserve Univ School of Medicine, Cleveland, Ohio. Survey and Analysis Br, Center for Mental Health Svcs, Substance Abuse and Mental Health Svcs Administration. Health Care and Aging Studies Br, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.*

**Editorial Note:** Perceived mental distress is a key component of HRQOL and is believed to be an important determinant of health behaviors related to chronic disease and disability prevention (*4*). Mental illness includes a broad range of emotional and psychological conditions ranging in severity from clinically diagnosed disorders requiring hospitalization and sometimes resulting in suicide to the more common and often undiagnosed affective conditions (*2,6*). Survey data about the prevalence of mental distress and mental illness have been difficult to obtain because of concerns about potential respondent objections to including mental health questions on a health survey and because earlier batteries of questions to evaluate mental health were too long to be easily added to a general population survey. Administrative data about the prevalence of mental illness are limited because only small proportions of adults with treatable conditions actually seek professional help; for example, only 34.2% of nonrural, noninstitutionalized persons aged 18–54 years with major depressive disorders sought help in 1992, and only 14.3% of adults with personal and emotional problems sought help in 1993 (*2*). The BRFSS data in this report, based on a 99% response rate to the one mental health question in the survey, indicate that respondents' objections to a question about mental health were minimal and identified differences in self-reported FMD between states and between age and sex groups in each state.

*The District of Columbia was not included in state comparisons, but during 1993–1996 the prevalence of FMD for men aged 25–44 years and 45–64 years was lower than in any of the states.

**TABLE 2. Frequent mental distress (FMD) among adults,* by state, age group, and sex — United States, Behavioral Risk Factor Surveillance System, 1993–1996**

| | 18–24 yrs | | | | 25–44 yrs | | | | 45–64 yrs | | | | ≥65 yrs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Men | | Women | | Men | | Women | | Men | | Women | | Men | | Women | |
| State | % | (SE†) | % | (SE) | % | (SE) | % | (SE) | % | (SE) | % | (SE) | % | (SE) | % | (SE) |
| Alabama | 8.8 | (1.7) | 8.2 | (1.4) | 6.1 | (0.7) | 9.8 | (0.7) | 7.2 | (1.0) | 9.6 | (0.9) | 6.3 | (1.1) | 7.1 | (0.8) |
| Alaska | 5.1 | (2.0) | 8.7 | (2.3) | 7.4 | (0.9) | 10.7 | (1.0) | 5.4 | (1.0) | 6.9 | (1.2) | 7.7 | (2.8) | 7.2 | (2.4) |
| Arizona | 5.9 | (1.5) | 9.9 | (1.9) | 8.0 | (1.3) | 9.8 | (0.9) | 6.5 | (1.1) | 10.9 | (1.2) | 4.9 | (1.1) | 6.4 | (0.9) |
| Arkansas | 4.7 | (1.2) | 9.3 | (1.5) | 6.1 | (0.8) | 10.9 | (0.9) | 6.5 | (0.9) | 10.3 | (0.9) | 6.3 | (1.2) | 8.3 | (1.0) |
| California | 9.1 | (1.5) | 13.6 | (1.4) | 7.6 | (0.5) | 12.3 | (0.6) | 8.7 | (0.9) | 10.4 | (0.7) | 5.1 | (0.8) | 6.6 | (0.7) |
| Colorado | 13.1 | (2.2) | 17.3 | (2.3) | 7.9 | (0.7) | 11.8 | (0.8) | 6.0 | (0.9) | 9.6 | (0.9) | 4.3 | (1.1) | 8.1 | (1.1) |
| Connecticut | 5.8 | (1.6) | 9.9 | (1.7) | 5.7 | (0.7) | 7.8 | (0.6) | 5.3 | (0.8) | 9.1 | (1.0) | 2.9 | (0.8) | 4.4 | (0.8) |
| Delaware | 5.8 | (1.5) | 13.5 | (1.8) | 7.5 | (0.8) | 11.9 | (0.8) | 6.9 | (0.9) | 12.3 | (1.0) | 4.3 | (0.8) | 6.8 | (0.8) |
| District of Columbia | 4.9 | (1.8) | 7.0 | (2.0) | 3.6 | (0.8) | 6.7 | (0.9) | 2.5 | (0.8) | 7.0 | (1.3) | 6.4 | (1.9) | 6.4 | (1.5) |
| Florida | 12.6 | (1.7) | 13.7 | (1.5) | 8.2 | (0.6) | 13.8 | (0.7) | 8.8 | (0.8) | 10.8 | (0.7) | 5.3 | (0.6) | 7.5 | (0.6) |
| Georgia | 6.8 | (1.5) | 8.0 | (1.4) | 6.4 | (0.6) | 8.6 | (0.6) | 6.2 | (0.8) | 8.0 | (0.8) | 7.0 | (1.1) | 6.7 | (0.8) |
| Hawaii | 7.7 | (1.6) | 8.4 | (1.4) | 6.3 | (0.7) | 8.8 | (0.7) | 5.0 | (0.9) | 8.0 | (0.9) | 3.4 | (0.9) | 4.7 | (0.8) |
| Idaho | 7.0 | (1.4) | 14.1 | (1.9) | 7.9 | (0.9) | 12.0 | (0.8) | 5.9 | (0.9) | 11.9 | (1.1) | 4.7 | (0.9) | 6.0 | (0.8) |
| Illinois | 6.5 | (1.4) | 10.3 | (1.5) | 4.3 | (0.5) | 8.5 | (0.6) | 5.7 | (0.7) | 8.5 | (0.8) | 5.3 | (1.0) | 5.3 | (0.7) |
| Indiana | 10.1 | (1.7) | 13.9 | (1.8) | 7.4 | (0.7) | 13.8 | (0.8) | 7.3 | (0.9) | 12.4 | (1.0) | 5.3 | (1.0) | 7.8 | (0.8) |
| Iowa | 5.7 | (1.0) | 10.7 | (1.4) | 5.2 | (0.5) | 9.3 | (0.6) | 6.5 | (0.8) | 10.5 | (0.8) | 6.9 | (0.9) | 7.3 | (0.7) |
| Kansas | 6.1 | (1.7) | 10.9 | (1.8) | 5.9 | (0.7) | 8.8 | (0.7) | 5.8 | (0.9) | 8.4 | (0.9) | 4.4 | (0.9) | 4.7 | (0.7) |
| Kentucky | 7.9 | (1.4) | 14.9 | (1.6) | 9.4 | (0.8) | 16.5 | (0.8) | 11.8 | (1.0) | 18.0 | (1.0) | 8.0 | (1.0) | 11.4 | (0.9) |
| Louisiana | 6.2 | (1.5) | 11.8 | (1.9) | 7.5 | (0.9) | 12.3 | (0.9) | 6.8 | (1.1) | 11.5 | (1.1) | 5.0 | (1.2) | 5.9 | (0.9) |
| Maine | 4.2 | (1.5) | 9.1 | (2.2) | 6.3 | (0.9) | 8.3 | (0.8) | 7.1 | (1.1) | 8.2 | (1.0) | 5.5 | (1.2) | 4.9 | (0.8) |
| Maryland | 6.9 | (1.1) | 9.9 | (1.1) | 5.7 | (0.4) | 8.0 | (0.4) | 5.1 | (0.5) | 8.5 | (0.6) | 4.9 | (0.7) | 6.3 | (0.7) |
| Massachusetts | 8.8 | (1.9) | 14.7 | (2.2) | 9.4 | (0.9) | 13.0 | (0.9) | 7.6 | (1.0) | 11.4 | (1.1) | 4.0 | (0.9) | 8.2 | (1.1) |
| Michigan | 9.5 | (1.7) | 14.5 | (1.7) | 7.6 | (0.7) | 13.2 | (0.8) | 6.8 | (0.8) | 10.0 | (0.8) | 5.6 | (1.1) | 10.0 | (1.0) |
| Minnesota | 8.6 | (1.2) | 12.0 | (1.3) | 7.5 | (0.5) | 10.9 | (0.5) | 6.2 | (0.6) | 8.3 | (0.6) | 8.0 | (0.9) | 7.8 | (0.7) |
| Mississippi | 4.7 | (1.3) | 11.8 | (2.0) | 6.2 | (0.8) | 9.5 | (0.8) | 6.9 | (1.0) | 12.5 | (1.1) | 5.9 | (1.3) | 7.9 | (1.0) |
| Missouri | 6.0 | (1.7) | 11.1 | (1.9) | 8.2 | (0.9) | 12.3 | (0.9) | 6.1 | (1.0) | 12.2 | (1.1) | 8.0 | (1.5) | 6.8 | (0.9) |
| Montana | 3.5 | (1.7) | 9.6 | (1.9) | 6.6 | (0.8) | 9.6 | (0.9) | 6.7 | (1.1) | 9.4 | (1.0) | 3.5 | (0.9) | 4.5 | (0.8) |
| Nebraska | 6.7 | (4.1) | 8.9 | (2.7) | 6.6 | (0.8) | 9.7 | (0.7) | 5.5 | (0.9) | 8.9 | (0.9) | 5.6 | (1.0) | 5.5 | (0.7) |
| Nevada | 10.7 | (1.9) | 18.4 | (2.1) | 11.2 | (1.0) | 12.7 | (0.9) | 7.4 | (1.1) | 12.9 | (1.2) | 4.8 | (1.2) | 10.7 | (1.6) |
| New Hampshire | 8.8 | (2.4) | 11.2 | (2.1) | 7.2 | (0.8) | 10.6 | (0.8) | 5.1 | (0.8) | 9.2 | (1.0) | 4.4 | (1.1) | 6.9 | (1.1) |
| New Jersey | 5.1 | (1.4) | 8.4 | (1.5) | 5.3 | (0.7) | 9.4 | (0.8) | 6.3 | (1.0) | 7.3 | (0.8) | 6.4 | (1.4) | 6.9 | (1.0) |
| New Mexico | 7.1 | (1.9) | 8.8 | (2.0) | 6.0 | (0.9) | 11.4 | (1.1) | 5.6 | (1.0) | 9.4 | (1.1) | 4.1 | (1.0) | 6.3 | (1.1) |
| New York | 9.5 | (1.5) | 19.1 | (2.6) | 7.8 | (0.6) | 11.3 | (0.6) | 6.2 | (0.7) | 11.3 | (0.9) | 5.9 | (1.0) | 6.5 | (0.8) |
| North Carolina | 3.5 | (0.9) | 5.9 | (1.1) | 5.8 | (0.6) | 8.2 | (0.6) | 4.2 | (0.6) | 9.2 | (0.8) | 4.3 | (0.8) | 6.8 | (0.8) |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Dakota | 3.7 | (0.9) | 13.7 | (1.8) | 6.1 | (0.7) | 12.0 | (0.9) | 8.3 | (1.1) | 9.9 | (1.0) | 4.6 | (0.8) | 7.4 | (0.8) |
| Ohio | 4.4 | (1.7) | 8.7 | (1.7) | 6.9 | (1.0) | 8.9 | (0.8) | 5.7 | (1.0) | 9.3 | (1.0) | 3.7 | (1.0) | 5.1 | (0.8) |
| Oklahoma | 9.0 | (2.0) | 7.3 | (1.9) | 7.1 | (1.0) | 8.6 | (0.8) | 3.9 | (0.8) | 9.7 | (1.0) | 2.9 | (0.7) | 3.3 | (0.5) |
| Oregon | 8.9 | (1.4) | 14.7 | (1.6) | 8.0 | (0.6) | 12.0 | (0.7) | 6.4 | (0.7) | 11.1 | (0.8) | 4.0 | (0.7) | 6.1 | (0.7) |
| Pennsylvania | 8.4 | (1.4) | 8.6 | (1.3) | 6.5 | (0.5) | 13.1 | (0.9) | 6.8 | (0.7) | 9.7 | (0.7) | 5.5 | (0.8) | 6.7 | (0.7) |
| Rhode Island | 9.4 | (2.3) | 11.7 | (2.0) | 8.8 | (0.9) | 13.8 | (1.0) | 7.8 | (1.1) | 11.5 | (1.2) | 5.0 | (1.1) | 4.6 | (0.9) |
| South Carolina | 6.6 | (1.4) | 9.0 | (1.4) | 5.9 | (0.7) | 11.4 | (0.8) | 8.2 | (1.1) | 10.5 | (0.9) | 5.3 | (1.2) | 7.6 | (1.0) |
| South Dakota | 2.9 | (0.8) | 7.9 | (1.4) | 4.3 | (0.6) | 6.6 | (0.7) | 4.3 | (0.7) | 5.8 | (0.8) | 2.6 | (0.6) | 4.3 | (0.7) |
| Tennessee | 4.2 | (1.0) | 10.1 | (1.5) | 5.0 | (0.5) | 9.6 | (0.6) | 6.8 | (0.8) | 9.7 | (0.7) | 7.9 | (1.2) | 7.5 | (0.8) |
| Texas | 8.4 | (1.9) | 16.0 | (2.2) | 8.4 | (0.9) | 11.0 | (0.8) | 8.7 | (1.1) | 9.6 | (1.0) | 6.7 | (1.6) | 6.7 | (1.1) |
| Utah | 7.9 | (1.3) | 11.3 | (1.4) | 7.0 | (0.7) | 12.3 | (0.9) | 6.1 | (0.9) | 10.1 | (1.0) | 4.9 | (1.0) | 6.2 | (0.9) |
| Vermont | 6.5 | (1.6) | 8.6 | (1.5) | 7.5 | (0.7) | 12.0 | (0.7) | 6.5 | (0.8) | 10.5 | (0.8) | 3.8 | (0.8) | 5.5 | (0.7) |
| Virginia | 7.0 | (1.4) | 15.2 | (2.1) | 6.3 | (0.7) | 10.0 | (0.7) | 6.5 | (1.0) | 8.0 | (0.9) | 3.7 | (1.1) | 7.2 | (1.1) |
| Washington | 9.0 | (1.3) | 15.0 | (1.5) | 7.2 | (0.5) | 12.2 | (0.6) | 6.5 | (0.6) | 9.7 | (0.7) | 3.9 | (0.8) | 5.7 | (0.8) |
| West Virginia | 5.9 | (1.4) | 7.6 | (1.4) | 6.6 | (0.7) | 11.5 | (0.7) | 10.0 | (1.0) | 11.0 | (0.8) | 5.4 | (0.9) | 7.6 | (0.7) |
| Wisconsin | 4.8 | (1.4) | 9.8 | (1.9) | 6.5 | (0.7) | 9.7 | (0.8) | 6.2 | (1.0) | 8.4 | (1.0) | 4.3 | (1.1) | 7.0 | (1.1) |
| Wyoming | 8.7 | (1.9) | 7.5 | (2.4) | 7.4 | (1.0) | 10.9 | (0.9) | 6.6 | (1.1) | 9.1 | (1.0) | 4.0 | (1.0) | 5.8 | (1.1) |
| **Total** | **7.8** | **(0.3)** | **12.3** | **(0.4)** | **7.1** | **(0.1)** | **11.1** | **(0.1)** | **6.9** | **(0.2)** | **10.0** | **(0.2)** | **5.4** | **(0.2)** | **6.8** | **(0.2)** |

* FMD applies to persons reporting ≥14 days of the preceding 30 days when their mental health was not good. Total sample size=436,107.
† Standard error.

*Frequent Mental Distress — Continued*

The measure of recent mental health described in this report correlates strongly with other BRFSS HRQOL questions used by some states that specifically ask about days of recent depression and anxiety (*4*). The BRFSS measure also correlates well in a general population comparison with the widely used and clinically validated Medical Outcomes Study Short Form 36 (SF-36)[†] (*7*). In that comparison, the measure of recent mental health had acceptable validity and correlated most strongly with the related SF-36 scales, including its mental health, role emotional, and mental component summary scales. The BRFSS mental health measure has correlated acceptably (0.59) with the widely-used and clinically validated Center for Epidemiological Studies of Depression scale in a recent study of older, low-income black males (*8*). The finding of large but expected (*6*) differences in FMD across socioeconomic and demographic groups known to differ in their mental health characteristics further supports the construct validity of the measure in this study. Although these validation findings suggest that persons with FMD may have a high prevalence of diagnosable mental illness, the proportion cannot be estimated accurately without a population study that includes both the BRFSS measure and a clinical psychiatric examination.

This analysis has at least four limitations. First, the BRFSS underrepresents persons with FMD because it excludes homeless persons and persons in institutional settings (including hospitals, prisons, and group homes), who are known to have a very high prevalence of severe mental illness (*9*). Second, the BRFSS also may underrepresent persons with FMD because households without telephones (which generally have a higher percentage of high-risk persons) are excluded and because adequate respondent physical and mental functional capacity (which can be lacking for distressed persons) are needed to complete the survey. Third, observed state-specific FMD differences may reflect uncontrolled differences in population composition, socioeconomic conditions, climate, natural and human-made disasters, environmental quality, and other unknown factors. Finally, the BRFSS mental health measure was not validated for detection of mental illness with clinical psychiatric examinations.

Additional analyses of these data are planned to examine the relations between reported mental distress, activity limitation, and chronic health conditions, and the effects of mental distress on the adoption and maintenance of preventive health behaviors. The large amount of BRFSS data that state health agencies are collecting about recent mental health and related HRQOL items (>500,000 adults have been surveyed through 1997) gives public health planners a valuable resource of population data (*4*). This information can help set population health goals and objectives and help monitor the performance of health programs over time (*10*). The data reported here suggest that public health strategies are needed—particularly for younger adults, women, Hispanics, and American Indians/Alaskan Natives, and for persons who reported the loss of a marital partner, are not working, or have limited socioeconomic resources—to ensure that community health objectives associated with mental health can be met (e.g., increasing adult access to community mental health services and increasing the proportion of persons with clinically significant mental distress who obtain treatment).

[†]The SF-36 is a set of 36 survey questions and associated subscales designed to measure key aspects of HRQOL in patient and community populations.

*Frequent Mental Distress — Continued*

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## Silicosis Deaths Among Young Adults — United States, 1968–1994

Silicosis is a potentially fatal and typically chronic fibrotic lung disease caused by occupational exposure to respirable crystalline silica dust (*1*). In the United States, most silicosis-associated deaths occur among persons aged ≥65 years (*2*), often following many years of silica dust exposure. However, the continuing occurrence of silicosis deaths in young adults reflects relatively recent overexposures, some of sufficient magnitude to cause severe disease and death after relatively short periods of exposure. This report describes deaths among two young adults with silicosis and underscores the risk for deaths from silicosis at relatively young ages.

### Case Reports

Two sandblasters died from progressive massive fibrosis (PMF), an advanced form of silicosis, following intensive dust exposure during abrasive sandblasting of oil field pipes and tanks in western Texas (*3*). The first death occurred in a 36-year-old man who had worked as a sandblaster for 36 months from 1984 to 1988, when PMF was diagnosed. He died from respiratory failure in 1995, 11 years after his initial exposure. The second death occurred in a 30-year-old man who had worked as a sandblaster for 48 months during 1986–1990. He died from respiratory failure in 1996, 10 years after initial exposure.

At diagnosis, each worker had radiographic evidence of severe silicosis; one underwent a lung biopsy that revealed silicotic nodules and fibrosis. Autopsies for both

*Silicosis — Continued*

revealed grey and hard upper and middle lobes of the lungs, with multiple small nodules palpable in the lower lobes. Microscopic examination revealed widespread interstitial inflammation and fibrosis, and mineralogic analysis revealed extremely high silica particle content.

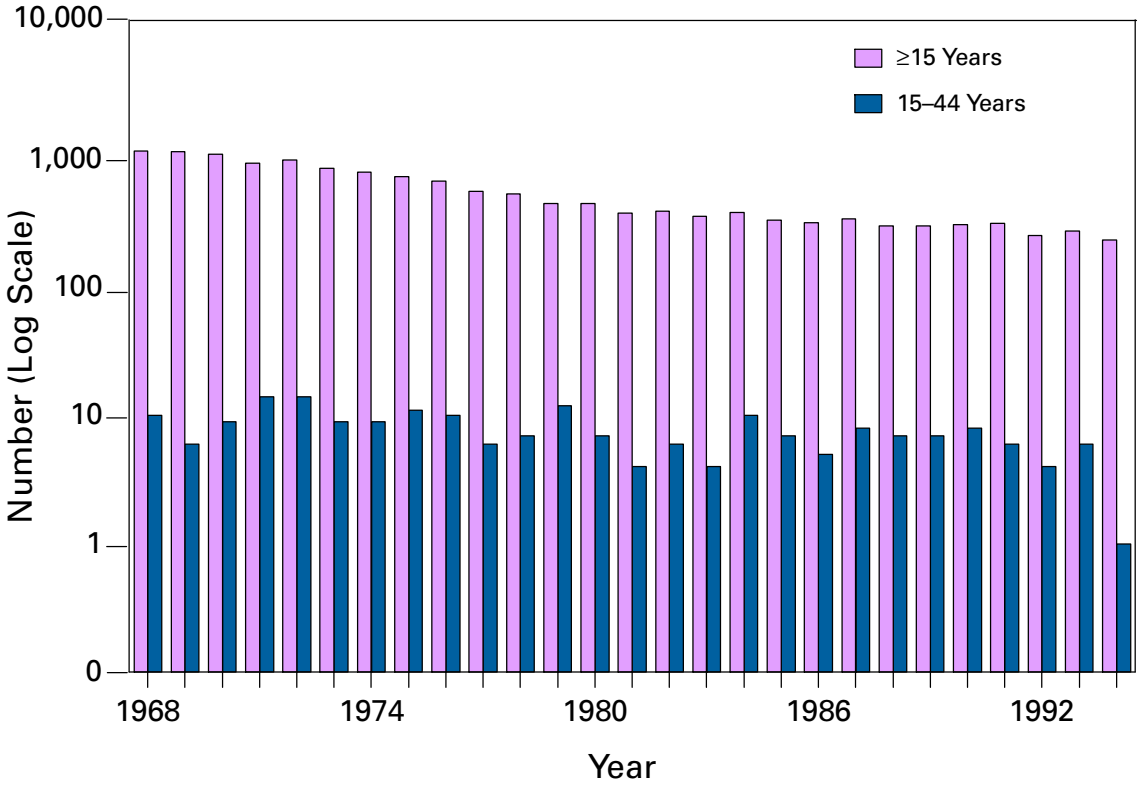
**Mortality Surveillance Trends**

Using CDC's National Center for Health Statistics (NCHS) multiple cause-of-death data files for all U.S. deaths from 1968 through 1994, presumptive silicosis deaths were identified using *International Classification of Diseases* (ICD) codes* listed as either an underlying or contributing cause of death among persons aged ≥15 years. Descriptive analyses were conducted using three age groups (15–44 years, 45–64 years, and ≥65 years). Usual industry and occupation, coded in accordance with Bureau of Census industry and occupation codes, were examined in the NCHS data files.

During 1968–1994, a total of 14,824 silicosis-associated deaths were recorded; 11,250 (75.9%) occurred among persons aged ≥65 years, 3367 (22.7%) among persons aged 45–64 years, and 207 (1.4%) among persons aged 15–44 years. Overall, silicosis deaths declined substantially from 1157 in 1968 to <400 annually after 1980 (Figure 1). Among young persons (i.e., aged 15–44 years), deaths from silicosis declined less

*The Eighth Revision (ICD-8) codes 010 and 515.0 were used for 1968–1978, and the Ninth Revision (ICD-9) code 502 was used for 1979–1994.

**FIGURE 1. Number of silicosis-associated deaths, by age group and year — United States, 1968–1994**



*Silicosis — Continued*

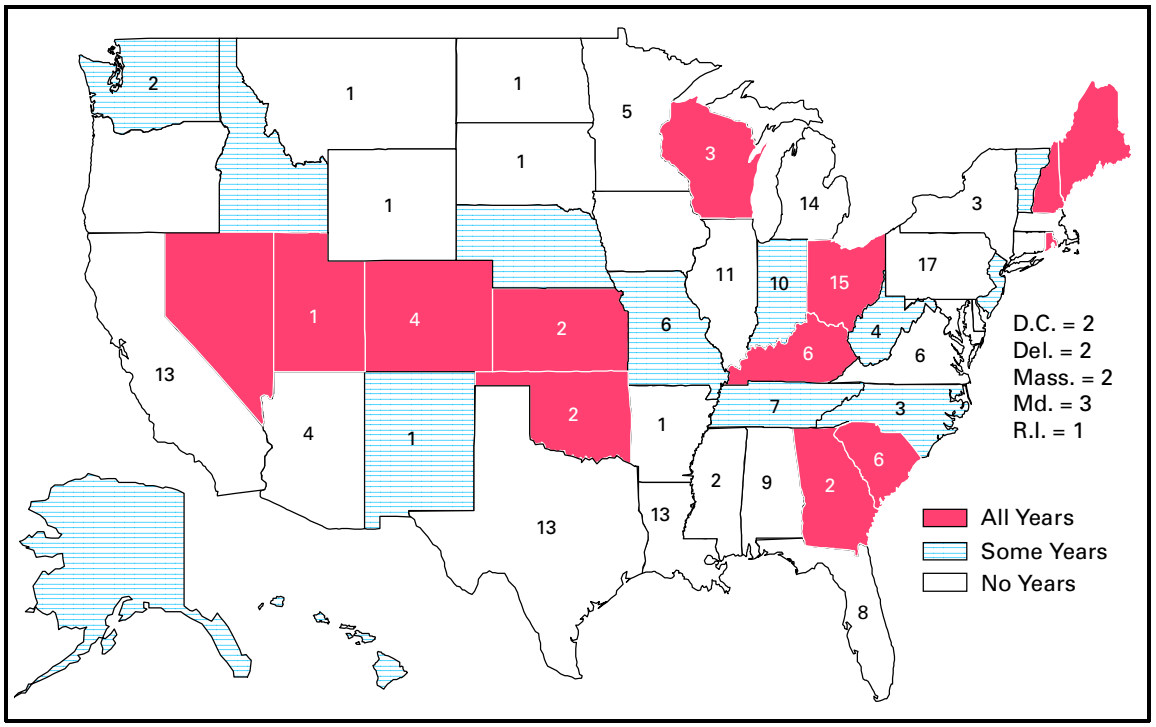
during 1968–1994 (Figure 1). Young silicosis decedents resided in 38 states and the District of Columbia (Figure 2); 17 (8.2%) were aged 15–24 years; 40 (19.3%), aged 25–34 years; and 150 (72.5%), aged 35–44 years.

Among young silicosis decedents, 57.0% were white, and 90.8% were male. Among silicosis decedents aged ≥65 years, 90.0% were white, and 98.1% were male. The proportion of decedents of races other than white generally increased during 1968–1994 in both the 45–64 and ≥65 age groups, but remained relatively stable among young decedents. In all three age groups, the proportion of female decedents generally increased. Of the nine silicosis deaths that occurred among young women during 1985–1994, six were of races other than white.

Reporting to NCHS of the "usual" industry and occupation of decedents began in 1985, with varying numbers of states (range: 16–22 states) providing this information in that and subsequent years (Figure 2). Of the 59 young silicosis decedents during 1985–1994, a total of 25 (42.4%) died in a year for which their state of residence provided decedents' employment information to NCHS. Construction and manufacturing were coded most frequently as the usual industry (28.0% each); no deaths were attributed to mining. In comparison, among 897 silicosis decedents aged ≥65 years, manufacturing accounted for 46.2% , mining for 21.1%, and construction for 9.5% of deaths. Usual occupations for the 25 young silicosis decedents included operators of various machines used to crush, grind, mix, and blend materials (six [24.0%]); painters/paint spray operators (five [20.0%]); construction trades (four [16.0%]); and laborers, except construction (four [16.0%]).

*Reported by: Div of Respiratory Disease Studies, National Institute for Occupational Safety and Health; and an EIS officer, CDC.*

**FIGURE 2. Number of silicosis-associated deaths among persons aged 15–44 years, by state, and frequency of provision of usual employment data by states — United States, 1985–1995**



*Silicosis — Continued*

**Editorial Note:** Primary prevention of silicosis through exposure control is important because no effective medical treatment exists for this disease, which continues to progress even after a worker is removed from further exposure (*4*). Despite the existence of legally enforceable limits on worker exposure to respirable crystalline silica dust, overexposures of sufficient magnitude to cause premature deaths continue to occur in the United States. Silicosis latency and rate of progression correlate with intensity of exposure (*5*); extremely high exposures are associated with much shorter latency and more rapid disease progression. Consequently, silicosis-associated deaths in young persons generally result from more recent and intense exposure to silica dust.

The sex, racial, and employment differences between young and older silicosis decedents presented in this report may reflect changes in both workforce demographics and industrial activity over recent decades, especially given the increasing proportion of females among young silicosis decedents. The high, but temporally constant, proportion of minorities among young silicosis decedents may reflect the generally higher levels of dust to which minority workers have been exposed (*6,7*). For example, in the foundry industry, higher levels of silica dust exposure accounted for apparently higher risk for silicosis among black workers than among white workers (*7*).

Extreme overexposures to respirable silica have been documented during sandblasting (*5*) and in the construction industry (*8*). Abrasive blasting with silica sand, often used to prepare surfaces for painting, has been associated with exposures up to 200 times the CDC's National Institute for Occupational Safety and Health (NIOSH)-recommended exposure limit for respirable crystalline silica dust (0.05 $mg/m^3$) (*5*). NIOSH has recommended that silica sand be prohibited as an abrasive blasting agent (*5*).

The findings in this report are subject to several limitations. The ICD code used to identify presumptive silicosis is not entirely specific for silicosis, and cause-of-death coding errors can occur. However, a review of a sample of death certificates of 10 young decedents in whom silicosis was presumptively diagnosed found that only two were not attributable to silicosis. In addition, many states do not provide decedents' employment data to NCHS, and the Census employment codes lack substantial detail. Even when recorded accurately and coded appropriately, silicosis decedents' usual employment does not always represent employment relevant to silica exposure. Finally, the NCHS data lack personal identifiers necessary for follow-back to confirm silicosis as cause of death, to ascertain details about occupational exposure to silica dust, and to investigate specific workplaces for potential ongoing hazardous exposure.

The Sentinel Event Notification System for Occupational Risks (SENSOR) program[†] and a preexisting surveillance program in New Jersey have demonstrated that identifying silicosis deaths from state mortality data files is one of several useful case-ascertainment methods for state-based silicosis surveillance and related preventive intervention (*9*). Although implementation of all silicosis case ascertainment methods and case follow-up activities field-tested through SENSOR may be optimal, state health departments often do not have sufficient resources for a comprehensive approach.

[†] The SENSOR program, involving cooperative agreements between NIOSH and state health departments, is designed to develop and field test surveillance and intervention strategies for selected occupational conditions.

*Silicosis — Continued*

In 1997, the Council of State and Territorial Epidemiologists adopted a resolution recommending that silicosis be made a reportable condition. Regardless of reporting requirement status, state health departments can initiate active efforts in silicosis prevention by identifying silicosis deaths through annual review of state mortality data and giving priority to investigation of circumstances surrounding those that occur at younger ages. Additional information about silicosis prevention activities and technical assistance for worksite investigations and other follow-back activities are available from NIOSH, telephone (304) 285-6115.

*References*

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## *Notice to Readers*

### Publication of Surgeon General's Report on Smoking and Health

The Surgeon General's report, *Tobacco Use Among U.S. Racial/Ethnic Minority Groups*, was released on April 27, 1998. This report is the first to focus on tobacco use among four U.S. racial/ethnic minority groups: African Americans, American Indians and Alaska Natives, Asian Americans and Pacific Islanders, and Hispanics.

The five major conclusions in the report are

1. Cigarette smoking is a major cause of disease and death in each of the four population groups studied in this report. African Americans currently bear the greatest health burden. Differences in the magnitude of disease risk are directly related to differences in patterns of smoking.
2. Tobacco use varies within and among racial/ethnic minority groups; among adults, American Indians and Alaska Natives have the highest prevalence of tobacco use, and African American and Southeast Asian men also have a high

*Notice to Readers — Continued*

prevalence of smoking. Asian American and Hispanic women have the lowest prevalence.

3. Among adolescents, cigarette smoking prevalence increased in the 1990s among African Americans and Hispanics after several years of substantial decline among adolescents of all four racial/ethnic minority groups. This increase is particularly striking among African American youths, who had the greatest decline of the four groups during the 1970s and 1980s.
4. No single factor determines patterns of tobacco use among racial/ethnic minority groups; these patterns are the result of complex interactions of multiple factors, such as socioeconomic status, cultural characteristics, acculturation, stress, biological elements, targeted advertising, price of tobacco products, and varying capacities of communities to mount effective tobacco control initiatives.
5. Rigorous surveillance and prevention research are needed on the changing cultural, psychosocial, and environmental factors that influence tobacco use to improve our understanding of racial/ethnic smoking patterns and identify strategic tobacco control opportunities. The capacity of tobacco control efforts to keep pace with patterns of tobacco use and cessation depends on timely recognition of emerging prevalence and cessation patterns and the resulting development of appropriate community-based programs to address the factors involved.

Additional information about the report or a free copy of the executive summary is available from CDC's National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, Mailstop K-50, 4770 Buford Highway, N.E., Atlanta, GA 30341-3724; telephone (770) 488-5705 (press 2); or World-Wide Web http://www.cdc.gov/tobacco. Faxed copies of the executive summary may be obtained from the Office on Smoking and Health's fax information system, telephone (800) 232-1311 and select "hot topics." Copies of the full report (stock no. 017-001-00527-4) are available for $20 from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-9328; telephone (202) 512-1800; fax (202) 512-1650. The executive summary of the report will be published as an *MMWR Recommendations and Reports.*

*Reference*

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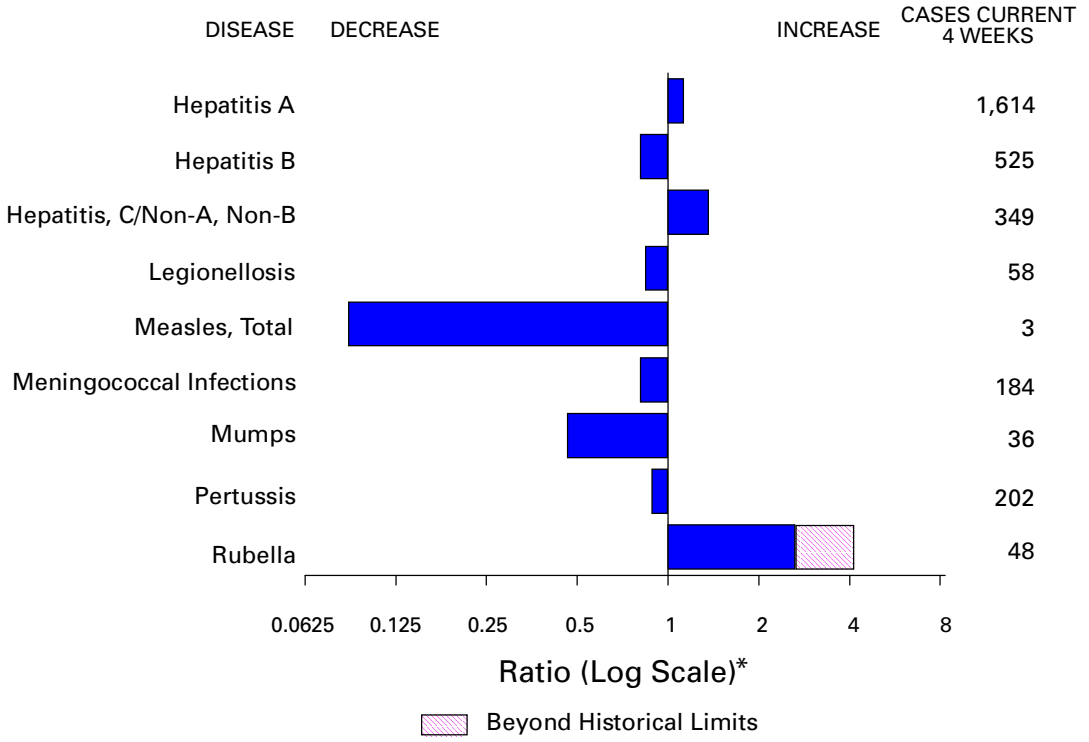
**FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending April 25, 1998, with historical data — United States**




*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

**TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending April 25, 1998 (16th Week)**

| | Cum. 1998 | | Cum. 1998 |
|---|---|---|---|
| Anthrax | - | Plague | - |
| Brucellosis | 7 | Poliomyelitis, paralytic¶ | - |
| Cholera | - | Psittacosis | 12 |
| Congenital rubella syndrome | 1 | Rabies, human | - |
| Cryptosporidiosis* | 554 | Rocky Mountain spotted fever (RMSF) | 19 |
| Diphtheria | - | Streptococcal disease, invasive Group A | 779 |
| Encephalitis: California* | - | Streptococcal toxic-shock syndrome* | 22 |
| eastern equine* | - | Syphilis, congenital** | 10 |
| St. Louis* | - | Tetanus | 5 |
| western equine* | - | Toxic-shock syndrome | 42 |
| Hansen Disease | 41 | Trichinosis | 2 |
| Hantavirus pulmonary syndrome*† | - | Typhoid fever | 96 |
| Hemolytic uremic syndrome, post-diarrheal* | 5 | Yellow fever | - |
| HIV infection, pediatric*§ | 72 | | |

-:no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update March 29, 1998.
¶ One suspected case of polio with onset in 1998 has also been reported to date.
**Updated from reports to the Division of STD Prevention, NCHSTP.

## TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending April 25, 1998, and April 19, 1997 (16th Week)

| Reporting Area | AIDS | | Chlamydia | | *Escherichia coli* O157:H7 | | Gonorrhea | | Hepatitis C/NA,NB | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NETSS† | PHLIS§ | | | | |
| | Cum. 1998* | Cum. 1997 | Cum. 1998 | Cum. 1997 | Cum. 1998 | Cum. 1998 | Cum. 1998 | Cum. 1997 | Cum. 1998 | Cum. 1997 |
| UNITED STATES | 12,103 | 17,701 | 153,032 | 138,573 | 243 | 99 | 90,877 | 84,365 | 1,382 | 833 |
| NEW ENGLAND | 320 | 467 | 5,738 | 5,378 | 28 | 14 | 1,501 | 1,856 | 16 | 25 |
| Maine | 8 | 18 | 284 | 287 | 1 | - | 14 | 14 | - | - |
| N.H. | 13 | 4 | 283 | 237 | 5 | 2 | 29 | 47 | - | 2 |
| Vt. | 8 | 16 | 113 | 126 | - | - | 8 | 16 | - | 1 |
| Mass. | 98 | 217 | 2,714 | 2,244 | 12 | 10 | 656 | 719 | 16 | 20 |
| R.I. | 32 | 43 | 766 | 653 | 3 | 1 | 102 | 166 | - | 2 |
| Conn. | 161 | 169 | 1,578 | 1,831 | 7 | 1 | 692 | 894 | - | - |
| MID. ATLANTIC | 3,425 | 5,525 | 19,433 | 17,439 | 18 | 5 | 10,806 | 10,865 | 116 | 78 |
| Upstate N.Y. | 425 | 845 | N | N | 14 | - | 1,644 | 1,808 | 100 | 58 |
| N.Y. City | 1,936 | 2,636 | 10,465 | 9,366 | - | 3 | 4,587 | 4,406 | - | - |
| N.J. | 580 | 1,256 | 2,435 | 3,256 | 4 | 2 | 1,692 | 2,220 | - | - |
| Pa. | 484 | 788 | 6,533 | 4,817 | N | - | 2,883 | 2,431 | 16 | 20 |
| E.N. CENTRAL | 995 | 1,246 | 26,076 | 22,137 | 41 | 12 | 18,027 | 13,224 | 145 | 206 |
| Ohio | 169 | 267 | 7,078 | 6,891 | 14 | 3 | 4,360 | 4,227 | 5 | 5 |
| Ind. | 261 | 283 | 2,706 | 2,700 | 6 | 3 | 1,769 | 1,849 | 3 | 4 |
| Ill. | 376 | 377 | 7,425 | 3,444 | 10 | - | 5,874 | 1,739 | 7 | 29 |
| Mich. | 143 | 248 | 6,674 | 5,843 | 11 | 2 | 5,215 | 4,086 | 130 | 155 |
| Wis. | 46 | 71 | 2,193 | 3,259 | N | 4 | 809 | 1,323 | - | 13 |
| W.N. CENTRAL | 215 | 382 | 9,301 | 9,622 | 29 | 15 | 4,332 | 4,137 | 84 | 21 |
| Minn. | 32 | 54 | 1,521 | 2,314 | 12 | 9 | 526 | 777 | - | - |
| Iowa | 11 | 51 | 1,268 | 1,509 | 2 | - | 391 | 380 | 8 | 11 |
| Mo. | 101 | 209 | 3,751 | 3,492 | 5 | 5 | 2,463 | 2,197 | 73 | 2 |
| N. Dak. | 3 | 3 | 290 | 295 | 1 | 1 | 29 | 22 | - | 2 |
| S. Dak. | 7 | 2 | 522 | 331 | - | - | 84 | 37 | - | - |
| Nebr. | 26 | 28 | 806 | 626 | 4 | - | 317 | 239 | 1 | 1 |
| Kans. | 35 | 35 | 1,143 | 1,055 | 5 | - | 522 | 485 | 2 | 5 |
| S. ATLANTIC | 3,235 | 4,401 | 32,400 | 26,036 | 25 | 9 | 26,087 | 25,132 | 49 | 63 |
| Del. | 40 | 52 | 724 | 612 | - | 1 | 398 | 331 | - | - |
| Md. | 334 | 564 | 2,541 | 2,054 | 9 | 4 | 2,740 | 3,897 | 3 | 6 |
| D.C. | 266 | 305 | N | N | - | - | 1,096 | 1,319 | - | - |
| Va. | 231 | 326 | 3,052 | 3,441 | N | 4 | 2,081 | 2,560 | 1 | 6 |
| W. Va. | 30 | 23 | 825 | 1,000 | N | - | 223 | 303 | 3 | 3 |
| N.C. | 217 | 218 | 6,929 | 5,232 | 7 | - | 5,806 | 4,792 | 7 | 18 |
| S.C. | 187 | 237 | 5,875 | 3,720 | 1 | - | 3,639 | 3,243 | - | 14 |
| Ga. | 371 | 533 | 7,328 | 2,406 | 2 | - | 6,148 | 3,425 | 8 | - |
| Fla. | 1,559 | 2,143 | 5,126 | 7,571 | 6 | - | 3,956 | 5,262 | 27 | 16 |
| E.S. CENTRAL | 444 | 542 | 11,535 | 10,162 | 17 | 6 | 11,025 | 10,389 | 37 | 106 |
| Ky. | 65 | 48 | 1,883 | 1,984 | 3 | - | 1,067 | 1,358 | 4 | 5 |
| Tenn. | 144 | 246 | 3,770 | 3,772 | 10 | 6 | 3,192 | 3,233 | 30 | 61 |
| Ala. | 119 | 152 | 3,151 | 2,479 | 4 | - | 3,993 | 3,405 | 3 | 5 |
| Miss. | 116 | 96 | 2,731 | 1,927 | - | - | 2,773 | 2,393 | - | 35 |
| W.S. CENTRAL | 1,370 | 1,941 | 19,980 | 15,267 | 12 | 1 | 11,662 | 10,453 | 431 | 76 |
| Ark. | 52 | 83 | 1,071 | 777 | 1 | - | 1,092 | 1,330 | - | 1 |
| La. | 212 | 308 | 3,144 | 2,161 | - | - | 2,702 | 2,092 | 1 | 55 |
| Okla. | 71 | 116 | 3,023 | 2,320 | 1 | 1 | 1,624 | 1,494 | - | 4 |
| Tex. | 1,035 | 1,434 | 12,742 | 10,009 | 10 | - | 6,244 | 5,537 | 430 | 16 |
| MOUNTAIN | 389 | 551 | 5,612 | 7,655 | 21 | 12 | 2,079 | 2,382 | 254 | 101 |
| Mont. | 10 | 12 | 330 | 276 | 1 | - | 17 | 14 | 4 | 4 |
| Idaho | 8 | 17 | 564 | 468 | 2 | - | 48 | 33 | 77 | 15 |
| Wyo. | 1 | 11 | 218 | 151 | - | - | 11 | 18 | 111 | 36 |
| Colo. | 65 | 170 | - | 1,252 | 2 | 1 | 755 | 631 | 11 | 14 |
| N. Mex. | 55 | 35 | 1,117 | 1,148 | 5 | 4 | 201 | 418 | 24 | 17 |
| Ariz. | 128 | 123 | 2,676 | 2,966 | N | 3 | 908 | 958 | 1 | 10 |
| Utah | 35 | 39 | 454 | 467 | 7 | 1 | 47 | 53 | 14 | 2 |
| Nev. | 87 | 144 | 253 | 927 | 4 | 3 | 92 | 257 | 12 | 3 |
| PACIFIC | 1,710 | 2,646 | 22,957 | 24,877 | 52 | 25 | 5,358 | 5,927 | 250 | 157 |
| Wash. | 137 | 238 | 3,372 | 2,867 | 14 | 11 | 580 | 649 | 6 | 8 |
| Oreg. | 40 | 97 | 1,711 | 1,451 | 13 | 8 | 247 | 216 | 2 | 1 |
| Calif. | 1,499 | 2,269 | 16,671 | 19,635 | 25 | 3 | 4,316 | 4,780 | 207 | 96 |
| Alaska | 11 | 18 | 624 | 428 | - | - | 96 | 145 | 1 | - |
| Hawaii | 23 | 24 | 579 | 496 | N | 3 | 119 | 137 | 34 | 52 |
| Guam | - | 2 | 8 | 139 | N | - | 2 | 16 | - | - |
| P.R. | 460 | 419 | U | U | - | U | 121 | 177 | - | 29 |
| V.I. | 13 | 16 | N | N | N | U | - | - | - | - |
| Amer. Samoa | - | - | - | - | N | U | - | - | - | - |
| C.N.M.I. | - | - | N | N | N | U | 7 | 11 | - | 2 |

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

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update March 29, 1998.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

## TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending April 25, 1998, and April 19, 1997 (16th Week)

| Reporting Area | Legionellosis | | Lyme Disease | | Malaria | | Syphilis (Primary & Secondary) | | Tuberculosis | | Rabies, Animal |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cum. 1998 | Cum. 1997 | Cum. 1998 | Cum. 1997 | Cum. 1998 | Cum. 1997 | Cum. 1998 | Cum. 1997 | Cum. 1998* | Cum. 1997 | Cum. 1998 |
| UNITED STATES | 301 | 253 | 1,076 | 924 | 309 | 381 | 2,079 | 2,680 | 1,656 | 4,573 | 2,110 |
| NEW ENGLAND | 17 | 21 | 197 | 175 | 13 | 15 | 20 | 47 | 70 | 104 | 418 |
| Maine | 1 | 1 | - | 2 | 1 | - | 1 | - | U | 11 | 71 |
| N.H. | 2 | 3 | 5 | 4 | 2 | 2 | - | - | 2 | 1 | 33 |
| Vt. | 1 | 3 | 2 | 2 | - | 1 | - | - | 1 | - | 22 |
| Mass. | 3 | 9 | 52 | 35 | 10 | 11 | 17 | 23 | 53 | 50 | 122 |
| R.I. | 4 | 1 | 19 | 29 | - | 1 | - | - | 14 | 7 | 29 |
| Conn. | 6 | 4 | 119 | 103 | - | - | 2 | 24 | U | 35 | 141 |
| MID. ATLANTIC | 66 | 42 | 683 | 611 | 87 | 98 | 76 | 128 | 147 | 808 | 477 |
| Upstate N.Y. | 22 | 9 | 385 | 71 | 25 | 15 | 4 | 15 | U | 93 | 325 |
| N.Y. City | 6 | 1 | - | 47 | 39 | 55 | 16 | 21 | U | 452 | U |
| N.J. | 3 | 5 | 52 | 152 | 14 | 18 | 18 | 64 | 147 | 174 | 61 |
| Pa. | 35 | 27 | 246 | 341 | 9 | 10 | 38 | 28 | U | 89 | 91 |
| E.N. CENTRAL | 102 | 106 | 22 | 10 | 21 | 39 | 298 | 239 | 83 | 456 | 15 |
| Ohio | 47 | 52 | 21 | 5 | 2 | 3 | 54 | 79 | 5 | 104 | 15 |
| Ind. | 16 | 12 | 1 | 4 | 1 | 4 | 54 | 54 | U | 40 | - |
| Ill. | 9 | 4 | - | 1 | 5 | 16 | 120 | 19 | 78 | 214 | - |
| Mich. | 22 | 28 | - | - | 12 | 13 | 52 | 35 | U | 70 | - |
| Wis. | 8 | 10 | U | U | 1 | 3 | 18 | 52 | U | 28 | - |
| W.N. CENTRAL | 24 | 15 | 9 | 9 | 16 | 9 | 52 | 62 | 55 | 129 | 194 |
| Minn. | 3 | - | 3 | 7 | 8 | 4 | - | 16 | U | 34 | 30 |
| Iowa | 2 | 2 | 5 | - | 2 | 2 | - | 3 | U | 15 | 41 |
| Mo. | 8 | 2 | - | 1 | 4 | 2 | 42 | 29 | 50 | 49 | 12 |
| N. Dak. | - | 1 | - | - | - | - | - | - | U | 2 | 42 |
| S. Dak. | - | 1 | - | - | - | - | - | - | 4 | 2 | 33 |
| Nebr. | 8 | 5 | - | 1 | - | 1 | 4 | - | 1 | 4 | - |
| Kans. | 3 | 4 | 1 | - | 2 | - | 6 | 14 | U | 23 | 36 |
| S. ATLANTIC | 44 | 31 | 115 | 85 | 76 | 76 | 860 | 1,075 | 294 | 785 | 711 |
| Del. | 6 | 3 | - | 17 | 1 | 2 | 7 | 8 | - | 8 | 17 |
| Md. | 8 | 10 | 93 | 57 | 26 | 25 | 198 | 305 | 75 | 78 | 168 |
| D.C. | 3 | 1 | 4 | 4 | 4 | 5 | 30 | 41 | 33 | 23 | - |
| Va. | 4 | 4 | 4 | - | 9 | 18 | 66 | 94 | 53 | 86 | 200 |
| W. Va. | N | N | 4 | - | - | - | - | 2 | 19 | 15 | 31 |
| N.C. | 4 | 5 | 1 | 2 | 7 | 5 | 244 | 220 | 114 | 109 | 136 |
| S.C. | 4 | 2 | - | 1 | - | 4 | 96 | 119 | U | 80 | 41 |
| Ga. | - | - | 2 | 1 | 13 | 11 | 148 | 192 | U | 130 | 45 |
| Fla. | 15 | 6 | 7 | 3 | 16 | 6 | 71 | 94 | U | 256 | 73 |
| E.S. CENTRAL | 6 | 8 | 13 | 17 | 8 | 9 | 364 | 582 | - | 352 | 71 |
| Ky. | 3 | - | 2 | 1 | - | 3 | 41 | 52 | U | 46 | 13 |
| Tenn. | 3 | 3 | 6 | 3 | 5 | 2 | 183 | 235 | U | 128 | 39 |
| Ala. | - | 2 | 5 | 2 | 3 | 1 | 79 | 151 | U | 118 | 19 |
| Miss. | - | 3 | - | 11 | - | 3 | 61 | 144 | U | 60 | - |
| W.S. CENTRAL | 3 | 1 | 3 | 2 | 9 | 6 | 235 | 380 | 33 | 679 | 60 |
| Ark. | - | - | 2 | - | - | 1 | 46 | 53 | 33 | 59 | 1 |
| La. | - | - | - | 1 | 3 | 3 | 87 | 133 | - | 39 | - |
| Okla. | - | 1 | - | - | 1 | 2 | 13 | 35 | U | 49 | 59 |
| Tex. | 3 | - | 1 | 1 | 5 | - | 89 | 159 | U | 532 | - |
| MOUNTAIN | 17 | 16 | 1 | 1 | 16 | 21 | 62 | 52 | 74 | 122 | 45 |
| Mont. | 1 | 1 | - | - | - | 2 | - | - | 2 | 2 | 15 |
| Idaho | - | 1 | - | - | 1 | - | - | - | 3 | 4 | - |
| Wyo. | 1 | 1 | - | - | - | 1 | - | - | 1 | 1 | 29 |
| Colo. | 4 | 4 | - | - | 6 | 10 | 4 | 2 | U | 26 | - |
| N. Mex. | 2 | - | - | - | 6 | 2 | - | - | 7 | 6 | - |
| Ariz. | 2 | 4 | - | - | 2 | 3 | 54 | 43 | 43 | 51 | 1 |
| Utah | 6 | 4 | - | - | 1 | - | 2 | 1 | 18 | 4 | - |
| Nev. | 1 | 1 | 1 | 1 | - | 3 | 2 | 6 | U | 28 | - |
| PACIFIC | 22 | 13 | 33 | 14 | 63 | 108 | 112 | 115 | 900 | 1,138 | 119 |
| Wash. | 2 | 3 | 1 | - | 3 | 3 | 6 | 5 | U | 87 | - |
| Oreg. | - | - | 1 | 7 | 6 | 7 | 2 | 3 | U | 41 | - |
| Calif. | 20 | 9 | 31 | 7 | 53 | 96 | 104 | 106 | 840 | 914 | 109 |
| Alaska | - | - | - | - | - | 2 | - | - | 11 | 29 | 10 |
| Hawaii | - | 1 | - | - | 1 | - | - | 1 | 49 | 67 | - |
| Guam | - | - | - | - | - | - | - | 2 | - | 13 | - |
| P.R. | - | - | - | - | - | 3 | 69 | 64 | - | - | 23 |
| V.I. | - | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | - | - | - | - | - | - | - | - | - | - | - |
| C.N.M.I. | - | - | - | - | - | - | 1 | 4 | 8 | - | - |

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

*Additional information about areas displaying "U" for cumulative 1998 Tuberculosis cases can be found in Notice to Readers, *MMWR* Vol. 47, No. 2, p. 39.

## TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending April 25, 1998, and April 19, 1997 (16th Week)

| Reporting Area | *H. influenzae*, invasive | | Hepatitis (Viral), by type | | | | Measles (Rubeola) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | A | | B | | Indigenous | | Imported† | | Total | |
| | Cum. 1998* | Cum. 1997 | Cum. 1998 | Cum. 1997 | Cum. 1998 | Cum. 1997 | 1998 | Cum. 1998 | 1998 | Cum. 1998 | Cum. 1998 | Cum. 1997 |
| UNITED STATES | 356 | 371 | 6,197 | 8,166 | 2,197 | 2,669 | - | 3 | 1 | 10 | 13 | 28 |
| NEW ENGLAND | 20 | 21 | 94 | 198 | 20 | 56 | - | - | - | 1 | 1 | - |
| Maine | 2 | 2 | 10 | 18 | - | 3 | - | - | - | - | - | - |
| N.H. | 1 | 3 | 6 | 9 | 5 | 5 | - | - | - | - | - | - |
| Vt. | 2 | - | 7 | 5 | - | 1 | - | - | - | - | - | - |
| Mass. | 13 | 14 | 21 | 107 | 9 | 29 | - | - | - | 1 | 1 | - |
| R.I. | 2 | 1 | 7 | 11 | 6 | 6 | - | - | - | - | - | - |
| Conn. | - | 1 | 43 | 48 | - | 12 | - | - | - | - | - | - |
| MID. ATLANTIC | 49 | 46 | 391 | 739 | 283 | 416 | - | - | - | 1 | 1 | 10 |
| Upstate N.Y. | 18 | 1 | 115 | 73 | 101 | 62 | - | - | - | - | - | 3 |
| N.Y. City | 10 | 18 | 99 | 364 | 82 | 176 | - | - | - | - | - | 5 |
| N.J. | 19 | 17 | 82 | 121 | - | 84 | - | - | - | - | - | 1 |
| Pa. | 2 | 10 | 95 | 181 | 100 | 94 | - | - | - | 1 | 1 | 1 |
| E.N. CENTRAL | 51 | 57 | 756 | 1,051 | 225 | 530 | - | - | - | 2 | 2 | 6 |
| Ohio | 25 | 28 | 117 | 144 | 24 | 32 | - | - | - | - | - | - |
| Ind. | 9 | 4 | 66 | 90 | 20 | 34 | U | - | U | 1 | 1 | - |
| Ill. | 16 | 16 | 106 | 270 | 34 | 103 | - | - | - | - | - | 5 |
| Mich. | - | 9 | 418 | 478 | 141 | 164 | - | - | - | 1 | 1 | 1 |
| Wis. | 1 | - | 49 | 69 | 6 | 197 | - | - | - | - | - | - |
| W.N. CENTRAL | 27 | 19 | 564 | 577 | 104 | 175 | - | - | - | - | - | 2 |
| Minn. | 16 | 10 | 28 | 35 | 11 | 5 | - | - | - | - | - | 1 |
| Iowa | 1 | 2 | 263 | 77 | 15 | 11 | - | - | - | - | - | - |
| Mo. | 6 | 3 | 213 | 331 | 60 | 138 | - | - | - | - | - | 1 |
| N. Dak. | - | - | 2 | 6 | 1 | 1 | - | - | - | - | - | - |
| S. Dak. | - | 2 | 3 | 6 | 1 | - | - | - | - | - | - | - |
| Nebr. | - | 1 | 13 | 21 | 4 | 7 | U | - | U | - | - | - |
| Kans. | 4 | 1 | 42 | 101 | 12 | 13 | - | - | - | - | - | - |
| S. ATLANTIC | 79 | 73 | 557 | 437 | 328 | 313 | - | 1 | 1 | 5 | 6 | 1 |
| Del. | - | - | 1 | 10 | - | 2 | - | - | 1 | 1 | 1 | - |
| Md. | 19 | 28 | 122 | 109 | 44 | 56 | - | - | - | 1 | 1 | 1 |
| D.C. | - | - | 21 | 11 | 5 | 18 | - | - | - | - | - | - |
| Va. | 11 | 5 | 86 | 54 | 30 | 35 | - | - | - | 2 | 2 | - |
| W. Va. | 2 | 2 | - | 5 | 2 | 6 | - | - | - | - | - | - |
| N.C. | 10 | 12 | 32 | 61 | 69 | 72 | - | - | - | - | - | - |
| S.C. | 1 | 3 | 11 | 36 | - | 32 | - | - | - | - | - | - |
| Ga. | 18 | 16 | 112 | 41 | 59 | 15 | - | - | - | 1 | 1 | - |
| Fla. | 18 | 7 | 172 | 110 | 119 | 77 | - | 1 | - | - | 1 | - |
| E.S. CENTRAL | 19 | 21 | 117 | 210 | 145 | 197 | - | - | - | - | - | 1 |
| Ky. | 2 | 4 | 2 | 27 | 9 | 11 | - | - | - | - | - | - |
| Tenn. | 12 | 12 | 83 | 118 | 111 | 124 | - | - | - | - | - | - |
| Ala. | 5 | 5 | 32 | 37 | 25 | 28 | - | - | - | - | - | 1 |
| Miss. | - | - | - | 28 | - | 34 | U | - | U | - | - | - |
| W.S. CENTRAL | 22 | 17 | 1,026 | 1,209 | 333 | 170 | - | - | - | - | - | 2 |
| Ark. | - | 1 | 15 | 80 | 21 | 17 | - | - | - | - | - | - |
| La. | 11 | 1 | 12 | 64 | 8 | 39 | - | - | - | - | - | - |
| Okla. | 10 | 13 | 161 | 529 | 16 | 9 | - | - | - | - | - | - |
| Tex. | 1 | 2 | 838 | 536 | 288 | 105 | - | - | - | - | - | 2 |
| MOUNTAIN | 54 | 41 | 1,032 | 1,288 | 263 | 272 | - | - | - | - | - | - |
| Mont. | - | - | 10 | 39 | 2 | 2 | - | - | - | - | - | - |
| Idaho | - | - | 77 | 58 | 13 | 8 | - | - | - | - | - | - |
| Wyo. | - | 1 | 20 | 14 | 7 | 6 | - | - | - | - | - | - |
| Colo. | 10 | 5 | 80 | 150 | 35 | 55 | - | - | - | - | - | - |
| N. Mex. | 3 | 2 | 59 | 81 | 103 | 94 | - | - | - | - | - | - |
| Ariz. | 31 | 12 | 661 | 588 | 62 | 58 | - | - | - | - | - | - |
| Utah | 4 | 3 | 69 | 250 | 21 | 31 | - | - | - | - | - | - |
| Nev. | 6 | 18 | 56 | 108 | 20 | 18 | - | - | - | - | - | - |
| PACIFIC | 35 | 76 | 1,660 | 2,457 | 496 | 540 | - | 2 | - | 1 | 3 | 6 |
| Wash. | 1 | 1 | 285 | 172 | 38 | 17 | - | - | - | - | - | - |
| Oreg. | 21 | 14 | 125 | 126 | 40 | 37 | - | - | - | - | - | - |
| Calif. | 10 | 58 | 1,229 | 2,092 | 412 | 472 | - | 2 | - | 1 | 3 | 3 |
| Alaska | 1 | 1 | 3 | 15 | 2 | 10 | - | - | - | - | - | - |
| Hawaii | 2 | 2 | 18 | 52 | 4 | 4 | - | - | - | - | - | 3 |
| Guam | - | - | - | - | - | 1 | U | - | U | - | - | - |
| P.R. | 1 | - | 10 | 113 | 188 | 405 | - | - | - | - | - | - |
| V.I. | - | - | - | - | - | - | U | - | U | - | - | - |
| Amer. Samoa | - | - | - | - | - | - | U | - | U | - | - | - |
| C.N.M.I. | - | 4 | - | 1 | 7 | 19 | U | - | U | - | - | 1 |

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

*Of 85 cases among children aged <5 years, serotype was reported for 42 and of those, 22 were type b.

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

## TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending April 25, 1998, and April 19, 1997 (16th Week)

| Reporting Area | Meningococcal Disease | | Mumps | | | Pertussis | | | Rubella | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cum. 1998 | Cum. 1997 | 1998 | Cum. 1998 | Cum. 1997 | 1998 | Cum. 1998 | Cum. 1997 | 1998 | Cum. 1998 | Cum. 1997 |
| UNITED STATES | 986 | 1,306 | 12 | 149 | 186 | 46 | 1,144 | 1,611 | 7 | 157 | 20 |
| NEW ENGLAND | 52 | 82 | - | - | 6 | 5 | 201 | 416 | 1 | 24 | - |
| Maine | 4 | 8 | - | - | - | - | 5 | 6 | - | - | - |
| N.H. | 1 | 7 | - | - | - | 1 | 19 | 45 | - | - | - |
| Vt. | 1 | 2 | - | - | - | - | 22 | 142 | - | - | - |
| Mass. | 24 | 48 | - | - | 1 | 4 | 150 | 207 | - | 2 | - |
| R.I. | 3 | 4 | - | - | 4 | - | - | 11 | - | - | - |
| Conn. | 19 | 13 | - | - | 1 | - | 5 | 5 | 1 | 22 | - |
| MID. ATLANTIC | 106 | 133 | - | 6 | 25 | 7 | 145 | 145 | - | 79 | 7 |
| Upstate N.Y. | 28 | 29 | - | 3 | 4 | 7 | 88 | 55 | - | 79 | 1 |
| N.Y. City | 10 | 21 | - | - | 1 | - | - | 34 | - | - | 6 |
| N.J. | 29 | 27 | - | - | 3 | - | - | 9 | - | - | - |
| Pa. | 39 | 56 | - | 3 | 17 | - | 57 | 47 | - | - | - |
| E.N. CENTRAL | 137 | 187 | 2 | 22 | 24 | 5 | 129 | 177 | - | - | 3 |
| Ohio | 55 | 68 | 1 | 11 | 8 | 5 | 49 | 55 | - | - | - |
| Ind. | 25 | 19 | U | 2 | 4 | U | 40 | 13 | U | - | - |
| Ill. | 28 | 63 | 1 | 1 | 7 | - | 7 | 24 | - | - | - |
| Mich. | 14 | 17 | - | 8 | 4 | - | 16 | 25 | - | - | - |
| Wis. | 15 | 20 | - | - | 1 | - | 17 | 60 | - | - | 3 |
| W.N. CENTRAL | 84 | 97 | - | 16 | 7 | - | 84 | 94 | - | 1 | - |
| Minn. | 16 | 8 | - | 9 | 3 | - | 55 | 59 | - | - | - |
| Iowa | 11 | 22 | - | 5 | 3 | - | 13 | 7 | - | - | - |
| Mo. | 33 | 50 | - | 1 | - | - | 9 | 12 | - | 1 | - |
| N. Dak. | - | - | - | 1 | - | - | - | 2 | - | - | - |
| S. Dak. | 5 | 3 | - | - | - | - | 4 | 1 | - | - | - |
| Nebr. | 4 | 4 | U | - | 1 | U | 3 | 2 | U | - | - |
| Kans. | 15 | 10 | - | - | - | - | - | 11 | - | - | - |
| S. ATLANTIC | 183 | 223 | 7 | 27 | 23 | 6 | 90 | 144 | 2 | 5 | 1 |
| Del. | 1 | 4 | - | - | - | - | - | - | - | - | - |
| Md. | 16 | 26 | - | 2 | 4 | - | 17 | 61 | - | - | - |
| D.C. | - | 5 | - | - | - | 1 | 1 | 2 | - | - | - |
| Va. | 17 | 19 | - | 4 | 2 | - | 6 | 17 | - | - | 1 |
| W. Va. | 4 | 8 | - | - | - | - | 1 | 3 | - | - | - |
| N.C. | 24 | 39 | - | 6 | 6 | 2 | 40 | 28 | 2 | 3 | - |
| S.C. | 27 | 33 | - | 3 | 1 | 2 | 9 | 7 | - | 1 | - |
| Ga. | 40 | 37 | - | - | 2 | - | - | 2 | - | - | - |
| Fla. | 54 | 52 | 7 | 12 | 8 | 1 | 16 | 24 | - | 1 | - |
| E.S. CENTRAL | 70 | 92 | - | - | 11 | 1 | 26 | 35 | - | - | - |
| Ky. | 8 | 22 | - | - | - | - | 9 | 10 | - | - | - |
| Tenn. | 32 | 28 | - | - | 3 | 1 | 7 | 10 | - | - | - |
| Ala. | 30 | 27 | - | - | 4 | - | 10 | 9 | - | - | - |
| Miss. | - | 15 | U | - | 4 | U | - | 6 | U | - | - |
| W.S. CENTRAL | 72 | 108 | 1 | 22 | 22 | 1 | 54 | 33 | 3 | 36 | 1 |
| Ark. | 13 | 21 | - | - | - | 1 | 7 | 2 | - | - | - |
| La. | 20 | 22 | 1 | 1 | 6 | - | - | 7 | - | - | - |
| Okla. | 21 | 13 | - | - | - | - | 6 | 5 | - | - | - |
| Tex. | 18 | 52 | - | 21 | 16 | - | 41 | 19 | 3 | 36 | 1 |
| MOUNTAIN | 65 | 83 | - | 13 | 8 | 20 | 264 | 336 | - | 5 | - |
| Mont. | 2 | 4 | - | - | - | - | 1 | 2 | - | - | - |
| Idaho | 3 | 5 | - | - | 2 | 9 | 124 | 212 | - | - | - |
| Wyo. | 3 | - | - | 1 | - | - | 7 | 3 | - | - | - |
| Colo. | 14 | 25 | - | 2 | 2 | 7 | 41 | 93 | - | - | - |
| N. Mex. | 12 | 14 | N | N | N | 1 | 49 | 12 | - | 1 | - |
| Ariz. | 22 | 16 | - | 4 | - | - | 22 | 9 | - | 1 | - |
| Utah | 6 | 10 | - | 1 | 2 | 1 | 13 | 1 | - | 2 | - |
| Nev. | 3 | 9 | - | 5 | 2 | 2 | 7 | 4 | - | 1 | - |
| PACIFIC | 217 | 301 | 2 | 43 | 60 | 1 | 151 | 231 | 1 | 7 | 8 |
| Wash. | 25 | 33 | - | 4 | 4 | 1 | 81 | 104 | 1 | 5 | - |
| Oreg. | 42 | 66 | N | N | N | - | 8 | 8 | - | - | - |
| Calif. | 146 | 199 | 2 | 27 | 43 | - | 58 | 113 | - | 1 | 4 |
| Alaska | 1 | 1 | - | 2 | 3 | - | - | 2 | - | - | - |
| Hawaii | 3 | 2 | - | 10 | 10 | - | 4 | 4 | - | 1 | 4 |
| Guam | - | 1 | U | - | 1 | U | - | - | U | - | - |
| P.R. | 1 | 6 | - | 2 | 4 | - | 2 | - | - | - | - |
| V.I. | - | - | U | - | - | U | - | - | U | - | - |
| Amer. Samoa | - | - | U | - | - | U | - | - | U | - | - |
| C.N.M.I. | - | - | U | - | - | U | - | - | U | - | - |

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

# TABLE IV. Deaths in 122 U.S. cities,* week ending April 25, 1998 (16th Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | P&I† Total |
|---|---|---|---|---|---|---|---|
| | All Ages | >65 | 45-64 | 25-44 | 1-24 | <1 | |
| NEW ENGLAND | 520 | 367 | 98 | 34 | 9 | 12 | 37 |
| Boston, Mass. | 123 | 74 | 30 | 13 | 3 | 3 | 13 |
| Bridgeport, Conn. | 36 | 27 | 8 | 1 | - | - | 3 |
| Cambridge, Mass. | 7 | 6 | - | 1 | - | - | 2 |
| Fall River, Mass. | 37 | 30 | 4 | 2 | - | 1 | 1 |
| Hartford, Conn. | 51 | 32 | 12 | 4 | 2 | 1 | 1 |
| Lowell, Mass. | 26 | 18 | 3 | 3 | 1 | 1 | - |
| Lynn, Mass. | 8 | 5 | 2 | 1 | - | - | - |
| New Bedford, Mass. | 16 | 15 | 1 | - | - | - | - |
| New Haven, Conn. | 29 | 19 | 7 | 1 | 1 | 1 | 1 |
| Providence, R.I. | 50 | 41 | 6 | 2 | - | 1 | 1 |
| Somerville, Mass. | 8 | 6 | 1 | 1 | - | - | - |
| Springfield, Mass. | 40 | 30 | 5 | 2 | - | 3 | 6 |
| Waterbury, Conn. | 26 | 18 | 7 | - | 1 | - | - |
| Worcester, Mass. | 63 | 46 | 12 | 3 | 1 | 1 | 9 |
| MID. ATLANTIC | 2,174 | 1,522 | 423 | 162 | 35 | 32 | 111 |
| Albany, N.Y. | 48 | 38 | 5 | 3 | 1 | 1 | 6 |
| Allentown, Pa. | 15 | 10 | 3 | 2 | - | - | - |
| Buffalo, N.Y. | U | U | U | U | U | U | U |
| Camden, N.J. | 25 | 13 | 5 | 3 | 1 | 3 | 3 |
| Elizabeth, N.J. | 19 | 14 | 5 | - | - | - | - |
| Erie, Pa. | 51 | 45 | 5 | 1 | - | - | 3 |
| Jersey City, N.J. | 38 | 20 | 12 | 6 | - | - | - |
| New York City, N.Y. | 1,170 | 791 | 250 | 102 | 16 | 11 | 39 |
| Newark, N.J. | U | U | U | U | U | U | U |
| Paterson, N.J. | 29 | 16 | 6 | 2 | 1 | 4 | - |
| Philadelphia, Pa. | 399 | 282 | 70 | 31 | 10 | 6 | 26 |
| Pittsburgh, Pa.§ | 53 | 33 | 12 | 2 | 1 | 5 | 3 |
| Reading, Pa. | 34 | 28 | 5 | 1 | - | - | 3 |
| Rochester, N.Y. | 113 | 87 | 21 | 3 | 1 | 1 | 14 |
| Schenectady, N.Y. | 19 | 14 | 5 | - | - | - | - |
| Scranton, Pa. | 28 | 27 | 1 | - | - | - | 1 |
| Syracuse, N.Y. | 90 | 66 | 13 | 6 | 4 | 1 | 13 |
| Trenton, N.J. | 21 | 18 | 3 | - | - | - | - |
| Utica, N.Y. | 22 | 20 | 2 | - | - | - | - |
| Yonkers, N.Y. | U | U | U | U | U | U | U |
| E.N. CENTRAL | 2,172 | 1,480 | 395 | 155 | 61 | 78 | 144 |
| Akron, Ohio | 43 | 29 | 9 | 3 | 1 | 1 | - |
| Canton, Ohio | 38 | 29 | 5 | 2 | 1 | 1 | 3 |
| Chicago, Ill. | 416 | 254 | 71 | 37 | 12 | 39 | 32 |
| Cincinnati, Ohio | 105 | 69 | 23 | 4 | 4 | 5 | 11 |
| Cleveland, Ohio | 125 | 81 | 26 | 12 | 1 | 5 | 5 |
| Columbus, Ohio | 213 | 148 | 41 | 16 | 3 | 5 | 23 |
| Dayton, Ohio | 125 | 95 | 23 | 3 | 3 | 1 | 14 |
| Detroit, Mich. | 220 | 134 | 46 | 26 | 9 | 5 | 6 |
| Evansville, Ind. | 58 | 49 | 3 | 5 | 1 | - | 2 |
| Fort Wayne, Ind. | 82 | 51 | 20 | 5 | 5 | 1 | 1 |
| Gary, Ind. | 29 | 18 | 6 | 3 | 2 | - | - |
| Grand Rapids, Mich. | 66 | 47 | 11 | 5 | 1 | 2 | 4 |
| Indianapolis, Ind. | 179 | 113 | 38 | 15 | 9 | 4 | 11 |
| Lansing, Mich. | 35 | 25 | 8 | 1 | 1 | - | 4 |
| Milwaukee, Wis. | 117 | 85 | 22 | 5 | 1 | 4 | 10 |
| Peoria, Ill. | 44 | 33 | 9 | 1 | - | 1 | 4 |
| Rockford, Ill. | 44 | 34 | 4 | 2 | 3 | 1 | 4 |
| South Bend, Ind. | 52 | 40 | 7 | 5 | - | - | 1 |
| Toledo, Ohio | 118 | 93 | 18 | 2 | 2 | 3 | 7 |
| Youngstown, Ohio | 63 | 53 | 5 | 3 | 2 | - | 2 |
| W.N. CENTRAL | 819 | 586 | 139 | 44 | 23 | 22 | 47 |
| Des Moines, Iowa | 109 | 85 | 14 | 6 | 3 | 1 | 15 |
| Duluth, Minn. | 27 | 19 | 3 | 5 | - | - | 2 |
| Kansas City, Kans. | 33 | 20 | 7 | 5 | 1 | - | 1 |
| Kansas City, Mo. | 86 | 61 | 14 | 4 | 1 | 1 | 5 |
| Lincoln, Nebr. | 32 | 28 | 2 | 1 | 1 | - | - |
| Minneapolis, Minn. | 189 | 134 | 34 | 10 | 7 | 4 | 14 |
| Omaha, Nebr. | 71 | 52 | 13 | 2 | 2 | 2 | 3 |
| St. Louis, Mo. | 112 | 66 | 30 | 7 | 5 | 4 | - |
| St. Paul, Minn. | 78 | 59 | 11 | 2 | 2 | 4 | 6 |
| Wichita, Kans. | 82 | 62 | 11 | 2 | 1 | 6 | 1 |
| S. ATLANTIC | 1,466 | 991 | 285 | 127 | 38 | 24 | 87 |
| Atlanta, Ga. | U | U | U | U | U | U | U |
| Baltimore, Md. | 207 | 151 | 40 | 5 | 9 | 2 | 9 |
| Charlotte, N.C. | 80 | 58 | 14 | 8 | - | - | 11 |
| Jacksonville, Fla. | 134 | 92 | 25 | 12 | 1 | 4 | 4 |
| Miami, Fla. | 110 | 68 | 27 | 13 | 1 | 1 | - |
| Norfolk, Va. | 51 | 30 | 13 | 4 | 4 | - | 2 |
| Richmond, Va. | 57 | 43 | 6 | 6 | 1 | - | 6 |
| Savannah, Ga. | 60 | 43 | 10 | 4 | - | 3 | 6 |
| St. Petersburg, Fla. | 54 | 41 | 6 | 4 | - | 3 | 5 |
| Tampa, Fla. | 216 | 156 | 41 | 11 | 4 | 4 | 26 |
| Washington, D.C. | 486 | 303 | 103 | 55 | 18 | 7 | 18 |
| Wilmington, Del. | 11 | 6 | - | 5 | - | - | - |
| E.S. CENTRAL | 1,041 | 678 | 225 | 81 | 32 | 22 | 87 |
| Birmingham, Ala. | 237 | 147 | 54 | 18 | 9 | 7 | 17 |
| Chattanooga, Tenn. | 93 | 62 | 21 | 9 | - | - | 4 |
| Knoxville, Tenn. | 83 | 53 | 21 | 4 | 5 | - | 18 |
| Lexington, Ky. | 98 | 67 | 18 | 9 | 1 | 3 | 9 |
| Memphis, Tenn. | 237 | 157 | 54 | 20 | 1 | 5 | 28 |
| Mobile, Ala. | 65 | 49 | 10 | 2 | 4 | - | - |
| Montgomery, Ala. | 59 | 31 | 14 | 5 | 5 | 4 | 5 |
| Nashville, Tenn. | 169 | 112 | 33 | 14 | 7 | 3 | 6 |
| W.S. CENTRAL | 1,529 | 967 | 322 | 156 | 39 | 44 | 97 |
| Austin, Tex. | 82 | 63 | 12 | 5 | 1 | 1 | 3 |
| Baton Rouge, La. | 27 | 17 | 3 | 5 | 1 | 1 | - |
| Corpus Christi, Tex. | 59 | 39 | 14 | 4 | 1 | 1 | 2 |
| Dallas, Tex. | 199 | 115 | 34 | 33 | 10 | 7 | 5 |
| El Paso, Tex. | 63 | 36 | 15 | 7 | - | 5 | 1 |
| Ft. Worth, Tex. | 133 | 81 | 27 | 12 | 3 | 10 | 15 |
| Houston, Tex. | 412 | 253 | 99 | 37 | 13 | 9 | 33 |
| Little Rock, Ark. | 83 | 61 | 15 | 5 | 1 | 1 | - |
| New Orleans, La. | 97 | 50 | 24 | 20 | 2 | 1 | - |
| San Antonio, Tex. | 165 | 109 | 31 | 16 | 4 | 5 | 11 |
| Shreveport, La. | 89 | 59 | 24 | 4 | 2 | - | 9 |
| Tulsa, Okla. | 120 | 84 | 24 | 8 | 1 | 3 | 18 |
| MOUNTAIN | 868 | 595 | 176 | 65 | 19 | 13 | 63 |
| Albuquerque, N.M. | 72 | 49 | 16 | 5 | 1 | 1 | 4 |
| Boise, Idaho | 58 | 39 | 9 | 4 | 2 | 4 | 6 |
| Colo. Springs, Colo. | 57 | 41 | 13 | 2 | 1 | - | 1 |
| Denver, Colo. | U | U | U | U | U | U | U |
| Las Vegas, Nev. | 180 | 124 | 42 | 12 | 1 | 1 | 16 |
| Ogden, Utah | 23 | 19 | 3 | 1 | - | - | 2 |
| Phoenix, Ariz. | 206 | 132 | 45 | 14 | 9 | 6 | 12 |
| Pueblo, Colo. | 30 | 25 | 1 | 4 | - | - | 3 |
| Salt Lake City, Utah | 117 | 78 | 27 | 8 | 3 | 1 | 11 |
| Tucson, Ariz. | 125 | 88 | 20 | 15 | 2 | - | 8 |
| PACIFIC | 1,954 | 1,409 | 337 | 139 | 37 | 32 | 185 |
| Berkeley, Calif. | 23 | 16 | 5 | - | 1 | 1 | 2 |
| Fresno, Calif. | 96 | 65 | 18 | 4 | 6 | 3 | 7 |
| Glendale, Calif. | 36 | 30 | 5 | - | - | 1 | 3 |
| Honolulu, Hawaii | 83 | 63 | 14 | 2 | 2 | 2 | 7 |
| Long Beach, Calif. | 58 | 42 | 7 | 6 | 1 | 2 | 6 |
| Los Angeles, Calif. | 613 | 448 | 111 | 44 | 5 | 5 | 53 |
| Pasadena, Calif. | U | U | U | U | U | U | U |
| Portland, Oreg. | 111 | 84 | 20 | 6 | - | 1 | 10 |
| Sacramento, Calif. | 197 | 150 | 27 | 7 | 5 | 8 | 35 |
| San Diego, Calif. | 153 | 103 | 27 | 18 | 4 | 1 | 13 |
| San Francisco, Calif. | 116 | 72 | 28 | 13 | 1 | 2 | 11 |
| San Jose, Calif. | 152 | 109 | 28 | 11 | 2 | 2 | 16 |
| Santa Cruz, Calif. | 34 | 30 | 3 | 1 | - | - | 2 |
| Seattle, Wash. | 140 | 94 | 20 | 17 | 8 | 1 | 4 |
| Spokane, Wash. | 59 | 47 | 9 | 1 | 1 | 1 | 8 |
| Tacoma, Wash. | 83 | 56 | 15 | 9 | 1 | 2 | 8 |
| TOTAL | 12,543¶ | 8,595 | 2,400 | 963 | 293 | 279 | 858 |

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 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 this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

*Notice to Readers*

## National Melanoma/Skin Cancer Detection and Prevention Month — May 1998

May has been designated National Melanoma/Skin Cancer Detection and Prevention Month by the American Academy of Dermatology (AAD). In 1998, approximately 1 million new cases of basal cell and squamous cell carcinomas will be detected, and approximately 41,600 new cases of malignant melanoma will be diagnosed (*1*). In addition, in 1998, an estimated 9200 persons will die from skin cancer. This month is dedicated to increasing the awareness of the importance of skin cancer prevention, early detection, and treatment.

Overexposure to ultraviolet (UV) rays is the most important behavioral risk factor for skin cancer. Measures to prevent skin cancer include 1) reducing direct exposure to the sun, especially during midday hours (i.e., 10 a.m.–4 p.m.) when the sun's rays are the strongest; 2) wearing protective clothing (e.g., broad-brimmed hat, long-sleeved shirt, long pants, and sun glasses); and 3) using sunscreen with a sun protection factor of at least 15 to protect against UV A and B rays (*1*). Persons should also avoid artificial sources of UV light, such as tanning beds and sun lamps (*2*).

CDC's National Skin Cancer Prevention Education Program, in collaboration with AAD, the American Cancer Society, the U.S. Environmental Protection Agency, the National Weather Service, state health departments, universities, and other public and private organizations, has focused on increasing public awareness about skin cancer risk factors and appropriate sun protection behaviors. Program efforts include media campaigns and health education efforts among target groups, prevention education for nurses, evaluation of a UV index and UV index worksite demonstration project, development of school and community health guidelines for skin cancer prevention/sun protection, and formation of a national council for skin cancer prevention.

Additional information about skin cancer is available from the National Cancer Institute, telephone (800) 422-6237, and from the American Cancer Society, telephone (800) 227-2345. Information about AAD's program is available from the World-Wide Web http://www.aad.org. Information about CDC's program is available at http://www.cdc.gov/nccdphp/dcpc/nscpep.

*References*

1. American Cancer Society. Cancer facts and figures, January 1998. Atlanta, Georgia: American Cancer Society, 1998.
2. 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, 1990; DHHS publication no. (PHS)91-50212.

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**Data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the following Friday. Address inquiries about the *MMWR* Series, including material to be considered for publication, to: Editor, *MMWR* Series, Mailstop C-08, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333; telephone (888) 232-3228.**





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