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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  $\geq 18$  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  $\geq 14$  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  $\geq 18$  years using SUDAAN® (Software for the Statistical Analysis of Correlated Data).

*Frequent Mental Distress — Continued*

Persons who reported  $\geq 14$  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  $\leq 2$  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  $\geq \$50,000$  (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) <sup>†</sup>	Characteristic	No. respondents	%	(SE) <sup>†</sup>
<b>Sex</b>				<b>Education level</b>			
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)
<b>Age group (yrs)</b>				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)	<b>Employment status</b>			
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 $\leq 1$ year	9,593	14.7	(0.6)
65–74	51,473	6.1	(0.2)	Unemployed $> 1$ year	6,985	17.8	(0.9)
$\geq 75$	34,204	6.5	(0.2)	Homemaker	35,648	9.4	(0.3)
<b>Race/Ethnicity</b>				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)	<b>Annual household income</b>			
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)
<b>Marital status</b>				$\geq \$50,000$	84,546	5.7	(0.2)
Married	240,530	7.3	(0.1)	<b>Health insurance</b>			
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)	<b>Total</b>	<b>436,107</b>	<b>8.6</b>	<b>(0.1)</b>
Never married	74,291	9.3	(0.3)				
Unmarried couple	8,574	12.0	(1.1)				

\* FMD applies to persons reporting  $\geq 14$  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  $\geq 18$  years.

<sup>†</sup> Standard error.

*Frequent Mental Distress — Continued*

in Colorado (13.1%) for persons aged 18–24 years and lowest in South Dakota for persons aged  $\geq 65$  years (2.6%) (Table 2).<sup>\*</sup> 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  $\geq 65$  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  $\geq 65$  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  $\geq 65$  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  $\geq 65$  years.

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**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.

<sup>\*</sup>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**

State	18–24 yrs		25–44 yrs		45–64 yrs		≥65 yrs									
	Men		Women		Men		Women									
	%	(SE) <sup>†</sup>	%	(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)
<b>Total</b>	<b>7.8</b>	<b>(0.3)</b>	<b>12.3</b>	<b>(0.4)</b>	<b>7.1</b>	<b>(0.1)</b>	<b>11.1</b>	<b>(0.1)</b>	<b>6.9</b>	<b>(0.2)</b>	<b>10.0</b>	<b>(0.2)</b>	<b>5.4</b>	<b>(0.2)</b>	<b>6.8</b>	<b>(0.2)</b>

\* FMD applies to persons reporting  $\geq 14$  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)<sup>†</sup> (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).

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<sup>†</sup>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**References*

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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  $\geq 65$  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.

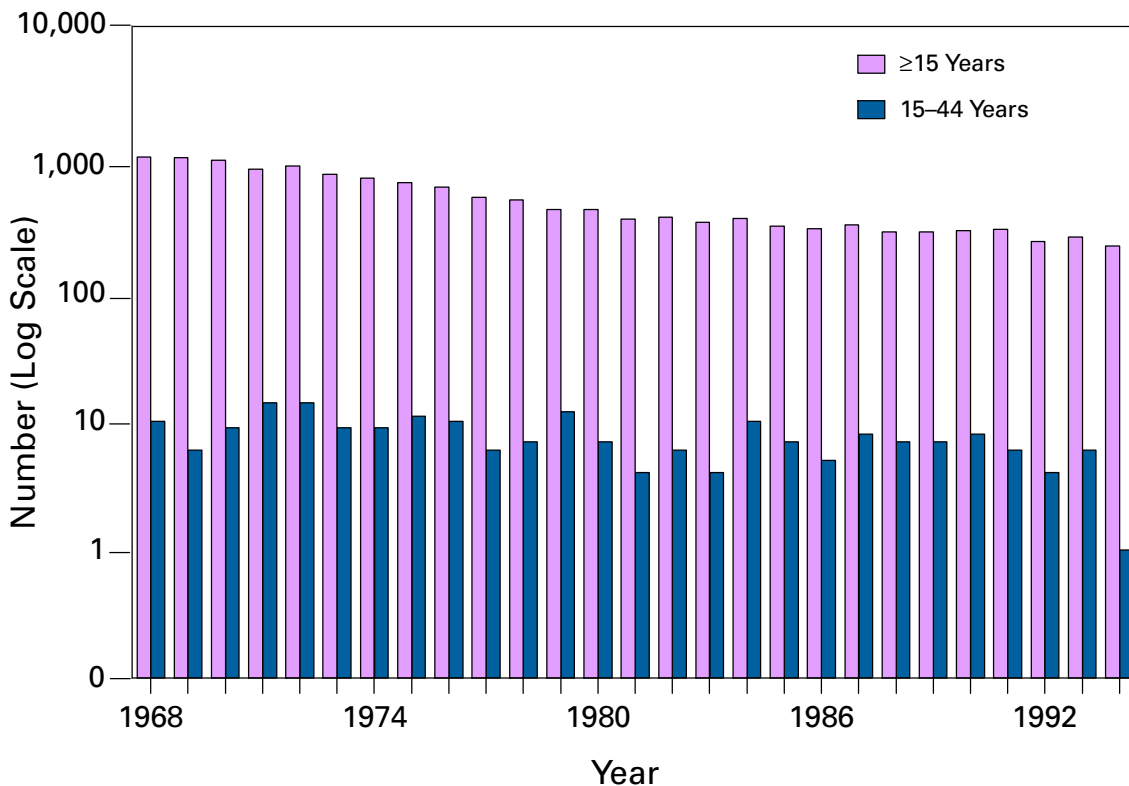
**Mortality Surveillance Trends**

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*

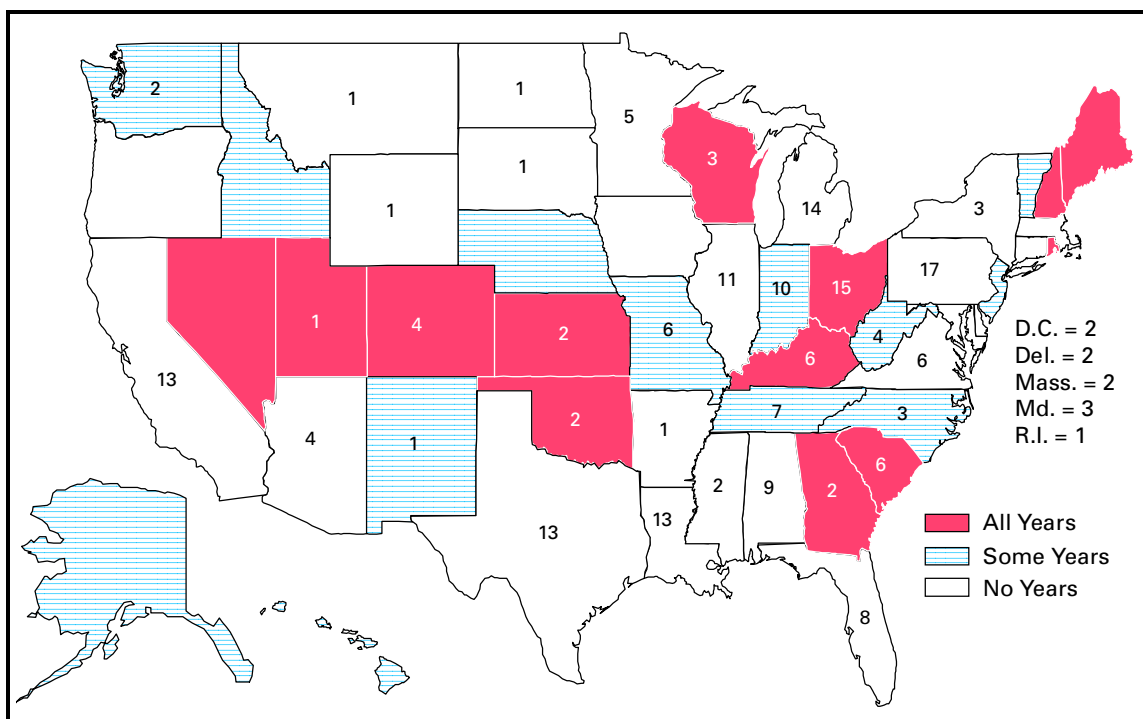
during 1968–1994 (Figure 1). Young silicosis decedents resided in 38 states and the District of Columbia (Figure 2); 17 (8.2%) were aged 15–24 years; 40 (19.3%), aged 25–34 years; and 150 (72.5%), aged 35–44 years.

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<sup>3</sup>) (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<sup>†</sup> 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.

<sup>†</sup>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.

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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.

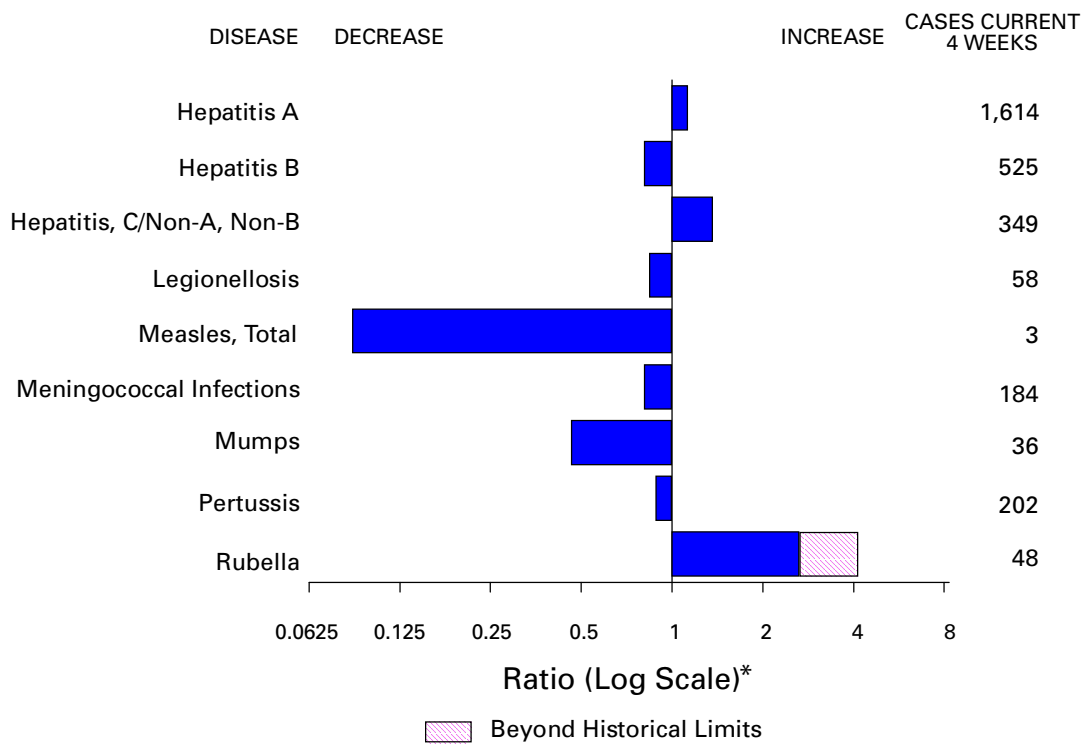
3. Among adolescents, cigarette smoking prevalence increased in the 1990s among African Americans and Hispanics after several years of substantial decline among adolescents of all four racial/ethnic minority groups. This increase is particularly striking among African American youths, who had the greatest 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 <sup>¶</sup>	-
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* <sup>†</sup>	-	Typhoid fever	96
Hemolytic uremic syndrome, post-diarrheal*	5	Yellow fever	-
HIV infection, pediatric* <sup>§</sup>	72		

-:no reported cases  
 \*Not notifiable in all states.  
<sup>†</sup> Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).  
<sup>§</sup> 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.  
<sup>¶</sup> 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	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	NETSS <sup>†</sup>	PHLIS <sup>§</sup>	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
					Cum. 1998	Cum. 1998				
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	<i>H. influenzae</i> , invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
	Cum. 1998*	Cum. 1997	A		B		Indigenous		Imported†		Total	
			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&J†	Total	Reporting Area	All Causes, By Age (Years)						P&J†	Total
	All Ages	>65	45-64	25-44	1-24	<1				All Ages	>65	45-64	25-44	1-24	<1		
NEW ENGLAND	520	367	98	34	9	12	37	S. ATLANTIC	1,466	991	285	127	38	24	87		
Boston, Mass.	123	74	30	13	3	3	13	Atlanta, Ga.	U	U	U	U	U	U	U		
Bridgeport, Conn.	36	27	8	1	-	-	3	Baltimore, Md.	207	151	40	5	9	2	9		
Cambridge, Mass.	7	6	-	1	-	-	2	Charlotte, N.C.	80	58	14	8	-	-	11		
Fall River, Mass.	37	30	4	2	-	1	1	Jacksonville, Fla.	134	92	25	12	1	4	4		
Hartford, Conn.	51	32	12	4	2	1	1	Miami, Fla.	110	68	27	13	1	1	-		
Lowell, Mass.	26	18	3	3	1	1	-	Norfolk, Va.	51	30	13	4	4	-	2		
Lynn, Mass.	8	5	2	1	-	-	-	Richmond, Va.	57	43	6	6	1	-	6		
New Bedford, Mass.	16	15	1	-	-	-	-	Savannah, Ga.	60	43	10	4	-	3	6		
New Haven, Conn.	29	19	7	1	1	1	1	St. Petersburg, Fla.	54	41	6	4	-	3	5		
Providence, R.I.	50	41	6	2	-	1	1	Tampa, Fla.	216	156	41	11	4	4	26		
Somerville, Mass.	8	6	1	1	-	-	-	Washington, D.C.	486	303	103	55	18	7	18		
Springfield, Mass.	40	30	5	2	-	3	6	Wilmington, Del.	11	6	-	5	-	-	-		
Waterbury, Conn.	26	18	7	-	1	-	-	E.S. CENTRAL	1,041	678	225	81	32	22	87		
Worcester, Mass.	63	46	12	3	1	1	9	Birmingham, Ala.	237	147	54	18	9	7	17		
MID. ATLANTIC	2,174	1,522	423	162	35	32	111	Chattanooga, Tenn.	93	62	21	9	-	-	4		
Albany, N.Y.	48	38	5	3	1	1	6	Knoxville, Tenn.	83	53	21	4	5	-	18		
Allentown, Pa.	15	10	3	2	-	-	-	Lexington, Ky.	98	67	18	9	1	3	9		
Buffalo, N.Y.	U	U	U	U	U	U	U	Memphis, Tenn.	237	157	54	20	1	5	28		
Camden, N.J.	25	13	5	3	1	3	3	Mobile, Ala.	65	49	10	2	4	-	-		
Elizabeth, N.J.	19	14	5	-	-	-	-	Montgomery, Ala.	59	31	14	5	5	4	5		
Erie, Pa.	51	45	5	1	-	-	3	Nashville, Tenn.	169	112	33	14	7	3	6		
Jersey City, N.J.	38	20	12	6	-	-	-	W.S. CENTRAL	1,529	967	322	156	39	44	97		
New York City, N.Y.	1,170	791	250	102	16	11	39	Austin, Tex.	82	63	12	5	1	1	3		
Newark, N.J.	U	U	U	U	U	U	U	Baton Rouge, La.	27	17	3	5	1	1	-		
Paterson, N.J.	29	16	6	2	1	4	-	Corpus Christi, Tex.	59	39	14	4	1	1	2		
Philadelphia, Pa.	399	282	70	31	10	6	26	Dallas, Tex.	199	115	34	33	10	7	5		
Pittsburgh, Pa.‡	53	33	12	2	1	5	3	El Paso, Tex.	63	36	15	7	-	5	1		
Reading, Pa.	34	28	5	1	-	-	3	Ft. Worth, Tex.	133	81	27	12	3	10	15		
Rochester, N.Y.	113	87	21	3	1	1	14	Houston, Tex.	412	253	99	37	13	9	33		
Schenectady, N.Y.	19	14	5	-	-	-	-	Little Rock, Ark.	83	61	15	5	1	1	-		
Scranton, Pa.	28	27	1	-	-	-	1	New Orleans, La.	97	50	24	20	2	1	-		
Syracuse, N.Y.	90	66	13	6	4	1	13	San Antonio, Tex.	165	109	31	16	4	5	11		
Trenton, N.J.	21	18	3	-	-	-	-	Shreveport, La.	89	59	24	4	2	-	9		
Utica, N.Y.	22	20	2	-	-	-	-	Tulsa, Okla.	120	84	24	8	1	3	18		
Yonkers, N.Y.	U	U	U	U	U	U	U	MOUNTAIN	868	595	176	65	19	13	63		
E.N. CENTRAL	2,172	1,480	395	155	61	78	144	Albuquerque, N.M.	72	49	16	5	1	1	4		
Akron, Ohio	43	29	9	3	1	1	-	Boise, Idaho	58	39	9	4	2	4	6		
Canton, Ohio	38	29	5	2	1	1	3	Colo. Springs, Colo.	57	41	13	2	1	-	1		
Chicago, Ill.	416	254	71	37	12	39	32	Denver, Colo.	U	U	U	U	U	U	U		
Cincinnati, Ohio	105	69	23	4	4	5	11	Las Vegas, Nev.	180	124	42	12	1	1	16		
Cleveland, Ohio	125	81	26	12	1	5	5	Ogden, Utah	23	19	3	1	-	-	2		
Columbus, Ohio	213	148	41	16	3	5	23	Phoenix, Ariz.	206	132	45	14	9	6	12		
Dayton, Ohio	125	95	23	3	3	1	14	Pueblo, Colo.	30	25	1	4	-	-	3		
Detroit, Mich.	220	134	46	26	9	5	6	Salt Lake City, Utah	117	78	27	8	3	1	11		
Evansville, Ind.	58	49	3	5	1	-	2	Tucson, Ariz.	125	88	20	15	2	-	8		
Fort Wayne, Ind.	82	51	20	5	5	1	1	PACIFIC	1,954	1,409	337	139	37	32	185		
Gary, Ind.	29	18	6	3	2	-	-	Berkeley, Calif.	23	16	5	-	1	1	2		
Grand Rapids, Mich.	66	47	11	5	1	2	4	Fresno, Calif.	96	65	18	4	6	3	7		
Indianapolis, Ind.	179	113	38	15	9	4	11	Glendale, Calif.	36	30	5	-	-	1	3		
Lansing, Mich.	35	25	8	1	1	-	4	Honolulu, Hawaii	83	63	14	2	2	2	7		
Milwaukee, Wis.	117	85	22	5	1	4	10	Long Beach, Calif.	58	42	7	6	1	2	6		
Peoria, Ill.	44	33	9	1	-	1	4	Los Angeles, Calif.	613	448	111	44	5	5	53		
Rockford, Ill.	44	34	4	2	3	1	4	Pasadena, Calif.	U	U	U	U	U	U	U		
South Bend, Ind.	52	40	7	5	-	-	1	Portland, Oreg.	111	84	20	6	-	1	10		
Toledo, Ohio	118	93	18	2	2	3	7	Sacramento, Calif.	197	150	27	7	5	8	35		
Youngstown, Ohio	63	53	5	3	2	-	2	San Diego, Calif.	153	103	27	18	4	1	13		
W.N. CENTRAL	819	586	139	44	23	22	47	San Francisco, Calif.	116	72	28	13	1	2	11		
Des Moines, Iowa	109	85	14	6	3	1	15	San Jose, Calif.	152	109	28	11	2	2	16		
Duluth, Minn.	27	19	3	5	-	-	2	Santa Cruz, Calif.	34	30	3	1	-	-	2		
Kansas City, Kans.	33	20	7	5	1	-	1	Seattle, Wash.	140	94	20	17	8	1	4		
Kansas City, Mo.	86	61	14	4	1	1	5	Spokane, Wash.	59	47	9	1	1	1	8		
Lincoln, Nebr.	32	28	2	1	1	-	-	Tacoma, Wash.	83	56	15	9	1	2	8		
Minneapolis, Minn.	189	134	34	10	7	4	14	TOTAL	12,543‡	8,595	2,400	963	293	279	858		
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										

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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