The Great American Smokeout — November 21, 1996

Since 1977, the American Cancer Society (ACS) has sponsored the Great American Smokeout to foster community-based activities that encourage smokers to stop smoking for at least 24 hours. This year, the Great American Smokeout is Thursday, November 21. The primary goal of this year's event is to prevent initiation of tobacco use among children and adolescents.

Most smokers began smoking as teenagers (*1*); each day, approximately 6000 young persons try a cigarette and approximately 3000 become daily smokers (Substance Abuse and Mental Health Services Administration, unpublished data, 1994). Among persons who have ever smoked daily, 82% began smoking before age 18 years (*1*). In August 1996, the Executive Branch of the federal government announced the nation's first comprehensive program to prevent children and adolescents from smoking cigarettes or using smokeless tobacco (*2*).

Events this year will include a program to encourage high school-aged children to sign a Great American Smokeout pledge promising to stay smoke-free or to try to quit smoking during the Great American Smokeout. In addition, ACS volunteers will conduct smoking-cessation and -prevention activities for persons of all ages at shopping malls, worksites, hospitals, military installations, and other locations.

Additional information is available from the ACS, telephone (800) 227-2345 or (404) 320-3333; CDC, telephone (800) 232-1311 or (770) 488-5705; or the ACS Great American Smokeout website on the World Wide Web (http://www.cancer.org).

Reported by: American Cancer Society, Atlanta. Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

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State-Specific Prevalence of Cigarette Smoking — United States, 1995

State-specific variation in the prevalence of cigarette smoking contributes to differences in the mortality patterns of smoking-related diseases, such as lung cancer, coronary heart disease, chronic bronchitis, and emphysema (1). In 1990, approximately 400,000 deaths were attributable to smoking: the median percentage of deaths attributable to smoking in all states was 19.2% (range: 13.4% in Utah to 24.0% in Nevada) (1). State-specific surveillance of the prevalence of cigarette smoking can be used to direct and evaluate public health interventions to reduce smoking and the burden of smoking-related diseases on society. In June 1996, the Council of State and Territorial Epidemiologists (CSTE) recommended that cigarette smoking be added to the list of conditions designated as reportable by states to CDC (2). This report responds to the CSTE recommendation and summarizes state-specific prevalences of cigarette smoking by U.S. adults in 1995. During 1995, the prevalence of smoking varied among states and ranged from 13.2% (Utah) to 27.8% (Kentucky).

The 1995 Behavioral Risk Factor Surveillance System (BRFSS)—a state-based, random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years—was conducted in 50 states and was used to determine self-reported cigarette smoking among adults. Respondents were asked "Have you smoked at least 100 cigarettes in your entire life?" and "Do you smoke cigarettes now?" Current smokers were persons who reported having smoked ≥100 cigarettes during their lifetimes and who smoke now. Every-day smoking was determined by asking current smokers "On how many of the past 30 days did you smoke cigarettes?" A quit attempt was determined by asking current every-day smokers "During the past 12 months, have you quit smoking for one day or longer?" Data from the 50 states were weighted to represent state populations and used to produce point estimates; 95% confidence intervals were calculated using SUDAAN.

During 1995, the median prevalence of current smoking was 22.4%; state-specific prevalences ranged from 13.2% (Utah) to 27.8% (Kentucky) (Table 1). Range endpoints were higher for men (16.4% to 31.6%) than for women (10.0% to 27.8%); however, state-specific prevalences were significantly higher for men than for women in only eight states (Alabama, Arizona, Georgia, Illinois, Missouri, North Carolina, Ohio, and Utah). Among current smokers, reported every-day smoking during the preceding 30 days ranged from 79.7% (New Jersey) to 92.9% (Oklahoma) (Table 2). The percentage of every-day smokers who reported having quit for ≥1 day during the previous year ranged from 32.4% (Georgia) to 59.4% (Hawaii) (Table 2).

Prevalence of Cigarette Smoking — Continued

TABLE 1. Prevalence of current cigarette smoking among adults,* by state and sex — United States, Behavioral Risk Factor Surveillance System, 1995

State[†]	Men %	Men (95% CI[§])	Women %	Women (95% CI)	Total %	Total (95% CI)
Alabama	30.0	(±3.9%)	19.7	(±2.6%)	**24.5**	**(±2.3%)**
Alaska	26.5	(±4.7%)	23.3	(±4.0%)	**25.0**	**(±3.1%)**
Arizona	26.8	(±4.5%)	19.1	(±3.1%)	**22.9**	**(±2.7%)**
Arkansas	26.8	(±3.6%)	23.8	(±2.7%)	**25.2**	**(±2.2%)**
California	17.5	(±2.2%)	13.6	(±2.3%)	**15.5**	**(±1.6%)**
Colorado	22.2	(±3.2%)	21.4	(±2.7%)	**21.8**	**(±2.1%)**
Connecticut	21.0	(±3.3%)	20.6	(±2.7%)	**20.8**	**(±2.1%)**
Delaware	27.5	(±3.3%)	23.6	(±2.7%)	**25.5**	**(±2.1%)**
Florida	24.9	(±2.5%)	21.6	(±2.0%)	**23.1**	**(±1.6%)**
Georgia	24.3	(±3.0%)	16.9	(±2.3%)	**20.5**	**(±1.9%)**
Hawaii	18.8	(±3.0%)	16.8	(±2.6%)	**17.8**	**(±2.0%)**
Idaho	20.4	(±2.5%)	19.2	(±2.1%)	**19.8**	**(±1.6%)**
Illinois	26.6	(±2.9%)	19.9	(±2.1%)	**23.1**	**(±1.8%)**
Indiana	28.5	(±2.8%)	26.0	(±2.6%)	**27.2**	**(±1.9%)**
Iowa	24.8	(±2.4%)	21.7	(±1.9%)	**23.2**	**(±1.5%)**
Kansas	24.0	(±3.0%)	20.1	(±2.5%)	**22.0**	**(±2.0%)**
Kentucky	28.8	(±3.2%)	26.9	(±2.5%)	**27.8**	**(±2.0%)**
Louisiana	26.3	(±3.8%)	24.2	(±3.0%)	**25.2**	**(±2.5%)**
Maine	26.9	(±4.1%)	23.2	(±3.5%)	**25.0**	**(±2.6%)**
Maryland	22.4	(±2.0%)	20.1	(±1.6%)	**21.2**	**(±1.3%)**
Massachusetts	22.5	(±3.3%)	21.0	(±2.8%)	**21.7**	**(±2.2%)**
Michigan	26.3	(±2.9%)	25.2	(±2.4%)	**25.7**	**(±1.9%)**
Minnesota	22.5	(±2.2%)	18.6	(±1.7%)	**20.5**	**(±1.4%)**
Mississippi	27.6	(±4.0%)	20.9	(±2.9%)	**24.0**	**(±2.5%)**
Missouri	28.0	(±4.0%)	20.9	(±2.9%)	**24.3**	**(±2.5%)**
Montana	22.5	(±3.8%)	19.8	(±3.1%)	**21.1**	**(±2.5%)**
Nebraska	24.8	(±3.4%)	19.3	(±2.5%)	**21.9**	**(±2.1%)**
Nevada	24.8	(±3.6%)	27.8	(±3.2%)	**26.3**	**(±2.4%)**
New Hampshire	21.9	(±3.8%)	21.0	(±3.0%)	**21.4**	**(±2.4%)**
New Jersey	21.6	(±4.5%)	17.0	(±2.8%)	**19.2**	**(±2.6%)**
New Mexico	22.7	(±4.4%)	19.7	(±3.2%)	**21.2**	**(±2.7%)**
New York	23.6	(±3.1%)	19.6	(±2.3%)	**21.5**	**(±1.9%)**
North Carolina	30.2	(±2.8%)	21.8	(±2.1%)	**25.8**	**(±1.7%)**
North Dakota	24.9	(±3.2%)	20.5	(±2.9%)	**22.7**	**(±2.1%)**
Ohio	31.6	(±4.7%)	21.0	(±3.2%)	**26.0**	**(±2.8%)**
Oklahoma	21.6	(±3.3%)	21.7	(±3.0%)	**21.7**	**(±2.2%)**
Oregon	22.9	(±2.7%)	20.8	(±2.3%)	**21.8**	**(±1.8%)**
Pennsylvania	26.0	(±2.7%)	22.5	(±2.5%)	**24.2**	**(±1.8%)**
Rhode Island	24.0	(±3.4%)	25.4	(±3.1%)	**24.7**	**(±2.3%)**
South Carolina	24.6	(±3.2%)	23.0	(±2.8%)	**23.7**	**(±2.1%)**
South Dakota	22.8	(±3.0%)	20.9	(±2.8%)	**21.8**	**(±2.1%)**
Tennessee	27.9	(±3.4%)	25.2	(±2.6%)	**26.5**	**(±2.1%)**
Texas	27.1	(±3.9%)	20.4	(±2.8%)	**23.7**	**(±2.4%)**
Utah	16.4	(±2.9%)	10.0	(±1.8%)	**13.2**	**(±1.7%)**
Vermont	24.9	(±3.0%)	19.5	(±2.5%)	**22.1**	**(±1.9%)**
Virginia	23.7	(±3.5%)	20.5	(±2.7%)	**22.0**	**(±2.3%)**
Washington	20.0	(±2.3%)	20.3	(±2.0%)	**20.2**	**(±1.5%)**
West Virginia	24.8	(±3.0%)	26.5	(±2.5%)	**25.7**	**(±2.0%)**
Wisconsin	24.5	(±3.5%)	19.3	(±2.6%)	**21.8**	**(±2.2%)**
Wyoming	22.1	(±2.8%)	21.9	(±2.3%)	**22.0**	**(±1.8%)**
Range	*16.4–31.6*		*10.0–27.8*		***13.2–27.8***	
Median	*24.7*		*20.9*		***22.4***	

*Persons aged ≥18 years who reported having smoked ≥100 cigarettes and who reported smoking now.
[†]No data were available for the District of Columbia.
[§]Confidence interval.

Prevalence of Cigarette Smoking — Continued

TABLE 2. Percentage of current adult smokers who smoked every day* and percentage of every-day smokers who quit smoking for ≥1 day[†], by state — United States, Behavioral Risk Factor Surveillance System, 1995

State[§]	Smoked every day		Quit smoking for ≥1 day	
	%	(95% CI[¶])	%	(95% CI)
Alabama	88.5	(±3.4%)	42.5	(±5.9%)
Alaska	88.8	(±3.8%)	55.9	(±7.6%)
Arizona	88.3	(±4.0%)	48.7	(±6.9%)
Arkansas	89.8	(±2.7%)	46.0	(±5.5%)
California	81.3	(±3.9%)	52.3	(±6.4%)
Colorado	81.9	(±4.2%)	47.0	(±5.9%)
Connecticut	88.8	(±3.3%)	48.3	(±6.1%)
Delaware	90.3	(±3.1%)	50.5	(±5.1%)
Florida	87.3	(±2.8%)	46.4	(±4.1%)
Georgia	89.8	(±3.1%)	32.4	(±5.0%)
Hawaii	84.5	(±4.4%)	59.4	(±6.4%)
Idaho	91.1	(±2.5%)	42.1	(±4.8%)
Illinois	86.1	(±3.2%)	43.1	(±4.6%)
Indiana	89.0	(±2.8%)	41.2	(±4.2%)
Iowa	87.0	(±2.6%)	40.4	(±3.9%)
Kansas	83.7	(±3.8%)	38.1	(±5.3%)
Kentucky	89.0	(±2.6%)	38.8	(±4.4%)
Louisiana	83.3	(±4.1%)	50.7	(±6.0%)
Maine	88.6	(±4.2%)	34.6	(±5.7%)
Maryland	84.6	(±2.6%)	42.9	(±3.7%)
Massachusetts	86.3	(±4.0%)	56.5	(±5.9%)
Michigan	83.2	(±3.3%)	46.2	(±4.6%)
Minnesota	84.5	(±2.7%)	42.1	(±4.1%)
Mississippi	84.2	(±4.5%)	48.5	(±6.0%)
Missouri	89.3	(±3.5%)	45.2	(±6.4%)
Montana	89.2	(±4.2%)	41.5	(±6.8%)
Nebraska	88.3	(±3.4%)	41.5	(±5.8%)
Nevada	88.0	(±3.3%)	45.1	(±5.7%)
New Hampshire	87.1	(±4.3%)	44.6	(±6.9%)
New Jersey	79.7	(±6.1%)	43.2	(±8.4%)
New Mexico	82.2	(±5.4%)	47.4	(±7.6%)
New York	88.5	(±3.0%)	47.3	(±5.2%)
North Carolina	88.7	(±2.5%)	47.9	(±4.1%)
North Dakota	88.1	(±3.3%)	40.5	(±5.4%)
Ohio	90.6	(±3.5%)	45.2	(±6.8%)
Oklahoma	92.9	(±3.3%)	38.6	(±6.0%)
Oregon	84.3	(±3.2%)	37.0	(±4.7%)
Pennsylvania	83.7	(±3.0%)	42.0	(±4.8%)
Rhode Island	86.0	(±3.9%)	45.5	(±5.8%)
South Carolina	87.6	(±3.1%)	42.9	(±5.5%)
South Dakota	90.7	(±3.0%)	41.7	(±5.6%)
Tennessee	91.1	(±2.6%)	38.1	(±4.7%)
Texas	83.8	(±4.0%)	51.0	(±6.4%)
Utah	85.2	(±5.2%)	44.0	(±6.9%)
Vermont	85.1	(±3.4%)	37.5	(±5.2%)
Virginia	83.9	(±4.2%)	41.3	(±5.9%)
Washington	86.1	(±2.8%)	45.6	(±4.5%)
West Virginia	91.8	(±2.3%)	40.6	(±4.4%)
Wisconsin	83.3	(±4.2%)	49.3	(±6.1%)
Wyoming	86.5	(±3.3%)	40.1	(±4.8%)
Range	*79.7–92.9*		*32.4–59.4*	
Median	*87.2*		*43.6*	

*During the preceding 30 days.
[†]During the preceding 12 months.
[§]No data were available for the District of Columbia.
[¶]Confidence interval.

Prevalence of Cigarette Smoking — Continued

PhD, Vermont; J Stones, Virginia; K Wynkoop-Simmons, PhD, Washington; F King, West Virginia; E Cautley, MS, Wisconsin; M Futa, MA, Wyoming. Council of State and Territorial Epidemiologists. Epidemiology Br, Office on Smoking and Health, and Behavioral Surveillance Br, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The findings in this report are a milestone for public health surveillance in the United States: these findings document the first time surveillance for a behavior—rather than a disease or illness—has been nationally reportable (*2*). Although the wide state-specific variation in prevalence of cigarette smoking may reflect, in part, differences in sociodemographic characteristics (e.g., age, race, and educational level), previous reports indicated that variations persisted even after estimates were standardized to adjust for these differences (*3*). Despite some state-specific variations in prevalences, smoking patterns across most states were similar for men and women, indicating that the historically observed gap between men and women has decreased substantially.

Compared with previous years, prevalences of smoking decreased in some states while remaining relatively stable in others (*4*). For example, from 1984 to 1995, the prevalence declined from 26% to 16% in California, but remained consistently low in Utah (16% to 13%). Only Utah has achieved the national health objective for the year 2000 of reducing the prevalence of cigarette smoking among adults to no more than 15% (objective 3.4) (*5*); this objective has been nearly achieved in California. Successful state efforts may reflect a combination of factors including community-based tobacco-control programs, antitobacco use media campaigns, and enactment and enforcement of policies to restrict and prevent tobacco use (*6*).

Prevalences of reported every-day smoking and quitting smoking for ≥1 day may be related to factors that influence current smoking prevalence, including physician advice to quit smoking, smoke-free indoor-air policies, the price of cigarettes, and counter-advertising campaigns. For example, prevalences of tobacco use and the amount of tobacco consumed may vary substantially in relation to the price of tobacco products (*5*)—price increases may prompt current smokers to quit and deter young persons from starting, accounting for the prevention of premature deaths and resulting in savings of billions of dollars in health-care costs (*1,5*).

The findings in this report are subject to at least two limitations. First, prevalence estimates may be underestimated because data were collected through telephone interviews; previous studies indicate substantial differences in the characteristics of persons who reside in households without a telephone compared with those who reside in households with a telephone (*7*). Second, these estimates were only for adults and did not include persons aged <18 years. However, to adequately assess the impact of cigarette smoking, data about the prevalence of smoking among young persons also should be considered. Data about youth tobacco use during 1995 are available in 31 states; of these, 22 can produce generalizable state estimates (*8*).

The national health objectives for the year 2000 have established measurable goals for reducing the prevalence of cigarette smoking, preventing young persons from initiating smoking, encouraging smokers to quit, and developing public policies that are less supportive of tobacco use (*5*). Public health measures necessary to achieve the objective of reducing smoking in all states include individual-based interventions (e.g., services to help smokers quit), and population-based interventions (e.g., public health policies that prevent nicotine addiction and promote quitting smoking) (*5,9*).

Prevalence of Cigarette Smoking — Continued

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Cigarette Smoking Before and After
an Excise Tax Increase and an Antismoking Campaign —
Massachusetts, 1990–1996

In November 1992, residents of Massachusetts approved a ballot petition (Question 1) that increased the tax on each pack of cigarettes from 26¢ to 51¢ beginning January 1, 1993, and requested that the legislature spend the proceeds on tobacco control and health education. The Massachusetts Tobacco Control Program (MTCP), administered by the Massachusetts Department of Public Health (MDPH), was established in response to the approval of the petition. In October 1993, MTCP initiated a statewide mass-media antismoking campaign. In early 1994, the program began funding local boards of health and school health and other youth programs to promote policies to reduce public exposure to environmental tobacco smoke and to restrict youth access to cigarettes. Efforts also included support to health education programs, primary-care providers, and other services to help smokers quit. Through June 1996, MTCP expenditures totaled $116 million, including $43 million for the mass-media campaign (*1*). To assess the effects of the excise tax increase and the antismoking campaign on cigarette smoking in Massachusetts, CDC and MDPH analyzed data about the number of packs of cigarettes taxed per capita and the prevalence of cigarette smoking during the period preceding (1990–1992) and following (1993–1996) implementation of the ballot petition. This report summarizes the findings of the assessment and compares trends in cigarette consumption (i.e., purchases) in Massachusetts, in California (where a voter-mandated cigarette tax increase in January 1989 funded a statewide antismoking campaign that began in April 1990 [*2*]), and in the 48 remaining states and the District of Columbia combined. The findings suggest that the number of packs

Cigarette Smoking — Continued

of cigarettes taxed per capita declined substantially in Massachusetts after implementation of the ballot petition.

For each full calendar year from 1990 through 1995, taxable cigarette consumption for Massachusetts, California, and the other states and the District of Columbia combined was derived from monthly reports from the Tobacco Institute on tax receipts for wholesale cigarette deliveries (*3*). Taxable consumption for 1996 was estimated as twice the cumulative values for January–June. Per capita rates (in packs/year) were based on the resident population aged ≥18 years in each state (*4*).

Data on the average retail price of a pack of cigarettes in Massachusetts at 4-week intervals during 1990–1995 were based on bar-code scanning data provided by Information Resources, Inc. (*5*). Data were obtained for a seven-county region (including the Boston and Worcester metropolitan areas) that represented 83% of Massachusetts residents based on 1990 census estimates. The observed retail prices of cigarettes were adjusted for inflation by using the consumer price index for urban workers in the Boston metropolitan area (*6*).

Data from the Behavioral Risk Factor Surveillance System (BRFSS) for 1990 through 1995 (the most recent year for which data were available) were used to estimate the annual prevalence of cigarette smoking among adults in Massachusetts, California, and the remaining participating states combined. The BRFSS is a population-based, random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years. The District of Columbia and seven states (Alaska, Arizona, Kansas, Nevada, New Jersey, Rhode Island, and Wyoming) were excluded because they did not participate in BRFSS 1 or more years during 1990–1995 (*7*; CDC, unpublished data, 1995). Because sampling errors for annual BRFSS estimates precluded precise year-to-year comparisons, 3-year average prevalences were estimated for 1990–1992 and 1993–1995. A current smoker was defined as any respondent who answered "yes" to the following two questions: "Have you smoked at least 100 cigarettes in your entire life?" and "Do you smoke cigarettes now?" Estimates were weighted based on the number of telephones per household and the age, sex, and racial/ethnic composition of the residents of the individual states. The prevalence of smoking for the remaining participating states combined was computed as a population-weighted average of the prevalences estimated for the 41 states that participated in BRFSS every year during 1990–1995. SESUDAAN was used to calculate 95% confidence intervals (CIs).

During 1990–1992, taxable per capita consumption of cigarettes by adults declined 6.4% in Massachusetts, 11.0% in California, and 5.8% in the 48 remaining states and the District of Columbia combined (Table 1). In Massachusetts, from 1992 (the year before implementation of the petition) to 1996, taxable per capita consumption declined by 19.7% (from 117 packs to 94 packs) (Table 1); in California and the remaining states, per capita consumption declined by 15.8% and 6.1%, respectively.

Immediately after the Massachusetts petition became effective on January 1, 1993, the real price of cigarettes increased sharply but subsequently declined (Figure 1). In response to increasing sales of discount brands, in April 1993 one U.S. cigarette manufacturer announced a nationwide, 40¢-per-pack price discount on its major premium brand, and in May, another manufacturer matched the discount on its major premium brands. In August, all manufacturers announced a permanent wholesale price reduction of 39¢ per pack on all premium-brand cigarettes (*8*). As a result of

Cigarette Smoking — Continued

TABLE 1. Number of packs of cigarettes purchased per adult,* by year — selected U.S. sites, 1990–1996[†]

Year	Massachusetts	California	48 Remaining states and the District of Columbia
1990	125	100	139
1991	120	92	134
1992	117	89	131
1993	102	88	125
1994	101	73	127
1995	98	76	125
1996[§]	94	75	123

*Aged ≥18 years.
[†]Based on reports of tax receipts for wholesale cigarette deliveries.
[§]Estimated as twice the cumulative values for January–June.

Source: The Tobacco Institute.

FIGURE 1. Real price of cigarettes,* by month and year — Massachusetts, 1990–1995[†]
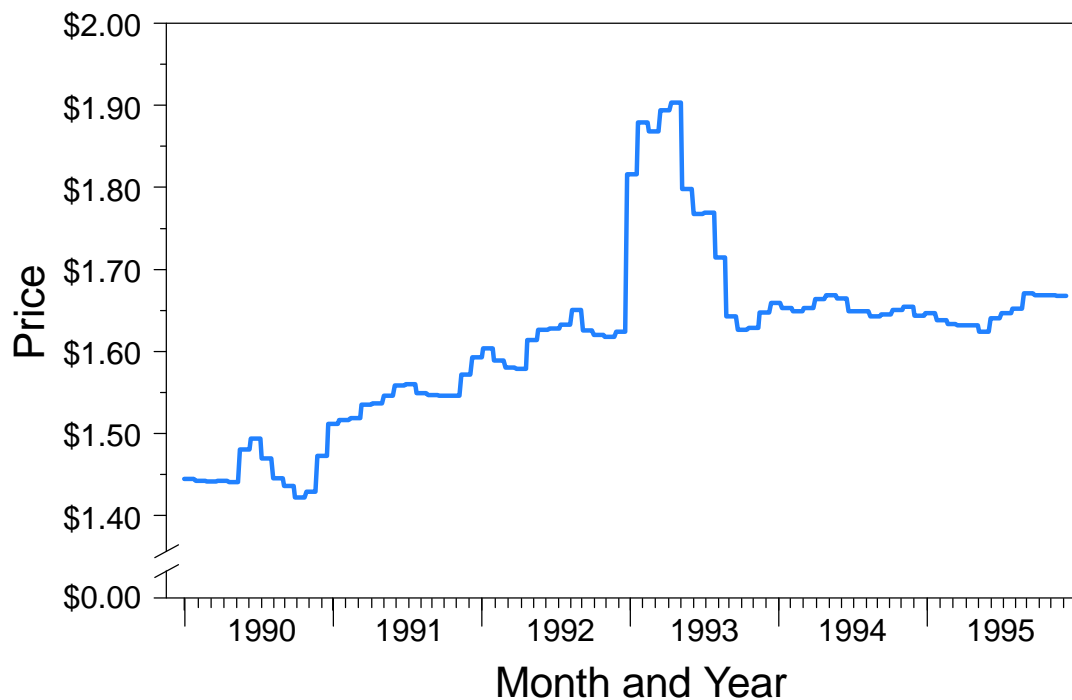
*Per pack. Adjusted to 1990 dollars.
[†]Based on bar-code scanning data for a seven-county region (including the Boston and Worcester metropolitan areas) that represented 83% of Massachusetts residents based on 1990 census estimates.

Source: Information Resources, Inc.

Cigarette Smoking — Continued

these nationwide price reductions, by the end of October the real price of cigarettes in Massachusetts had declined to the 1992 level (Figure 1).

The prevalence of current smoking among adults in Massachusetts was 23.5% (95% CI=±1.4%) during the 3 years before implementation of the petition (1990–1992) and 21.3% (95% CI=±1.2%) during the 3 years after implementation (1993–1995). In comparison, the prevalence of adult smoking declined 2.7% in California (from 20.1% [95% CI=±0.9%] during 1990–1992 to 17.4% [95% CI=±0.9%] during 1993–1995) and 0.8% in the 41 other BRFSS participating states combined (from 24.1% [95% CI=±0.3%] during 1990–1992 to 23.4% [95% CI=±0.2%] during 1993–1995).

Reported by: JE Harris, MD, Massachusetts General Hospital, and Massachusetts Institute of Technology, Boston; GN Connolly, DMD, D Brooks, MPH, Massachusetts Dept of Public Health. B Davis, PhD, California State Dept of Health Svcs. Epidemiology Br, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The findings in this report indicate that, in Massachusetts, the number of packs of cigarettes taxed per capita decreased significantly during 1992–1996, following implementation of a ballot petition to increase the excise tax on cigarettes and initiate an antismoking campaign. This change was similar to decreases in California (*9*), the only other state to have initiated an extensive statewide antismoking campaign in conjunction with an increase in cigarette taxes. However, complexities related to the accurate measurement of changes in smoking prevalence among adults in Massachusetts require further study to determine the combined impact of the excise tax increase and antismoking campaign on adult smoking prevalence in the state.

Although some smokers in states that implement increased cigarette excise taxes may attempt to avoid higher prices by purchasing cigarettes in neighboring states with lower prices, the 19.7% decline in per capita consumption of cigarettes in Massachusetts during 1992–1996 probably reflects the effects of the tax increase and antismoking campaign rather than increased cross-border purchases by Massachusetts smokers. During 1993–1994, cigarette excise taxes in Connecticut and Rhode Island were increased to levels comparable with those in Massachusetts; however, in New Hampshire, the real price of cigarettes declined during 1992–1993, and taxable cigarette consumption increased by 17 million packs (*3*). Increased taxable consumption in New Hampshire may reflect either a real upward trend in smoking by state residents or increased cross-border purchases by Massachusetts smokers. However, even if the 17 million-pack increase were attributed entirely to cross-border purchases by Massachusetts smokers, the decline in per capita consumption in Massachusetts during 1992–1996 would have been reduced to 17.0%.

The findings in this report are subject to at least two limitations. First, the estimates of per capita consumption were based on tax receipts at the wholesale level and not the actual number of cigarettes consumed. Distributors may delay or advance cigarette shipments in anticipation of announced wholesale price changes or excise tax increases. Such shifting of wholesale deliveries may produce year-to-year changes in tax receipts that do not reflect actual changes in per capita consumption. However, temporal trends in taxable consumption over a period of several years probably reflect actual consumption more accurately. Second, a decline in the number of cigarettes taxed in a single state may result in an overestimation of the actual decline in consumption if resident smokers increase their out-of-state purchases. However, the data on taxable per capita cigarette consumption in Massachusetts and three adjacent

states suggest the increased purchase of cigarettes by Massachusetts smokers in neighboring New Hampshire was not a major source of the reported decline in per capita consumption in Massachusetts.

Increases in the price of cigarettes can reduce per capita consumption and the prevalence of smoking (*10*). In Massachusetts, however, the tax-induced increase in cigarette price was soon offset by coincidental national, industrywide price reductions that began during the spring of 1993. While real cigarette prices returned to pre-1993 levels, per capita consumption in Massachusetts continued to decline. This finding suggests that a tax increase combined with an antismoking campaign can be more effective in reducing per capita consumption than a tax increase alone. MTCP plans additional evaluations of this preliminary finding, including changes in smoking prevalence among adults and further comparisons with findings from California and other states.

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Projected Smoking-Related Deaths Among Youth — United States

On August 23, 1996, the Food and Drug Administration (FDA) issued a regulation restricting the sale and distribution of cigarettes and smokeless tobacco to children and teenagers to reduce the number of youth who use these products and to reduce the life-threatening consequences associated with tobacco use (*1*). Despite widespread efforts to educate U.S. youths about the health consequences associated with smoking (*2*), the prevalence of smoking among this group has been increasing since 1992 (*3*). To assess the need for continued public health efforts to prevent nicotine addiction, CDC used a model including data from the Behavioral Risk Factor Surveillance System (BRFSS) to project the future impact of smoking on the health of children and teenagers. This report presents the findings of the analysis, which indicate that, if current tobacco-use patterns persist, an estimated 5 million persons who were aged 0–17 years in 1995 will die prematurely from a smoking-related illness.

State-specific data on the prevalence of current smoking among adults aged 18–30 years in all 50 states and the District of Columbia were obtained from the BRFSS for 1994 and 1995 (*4*). Current smokers were respondents who reported having smoked 100 cigarettes during their lifetimes and who reported currently smoking. Because the prevalence of smoking in a birth cohort peaks during early adulthood (*2*), the average prevalence of smoking among adults aged 18–30 years for each state during 1994–1995 was used to estimate the future prevalence of smoking during early adulthood for the birth cohorts currently aged 0–17 years. The number of persons aged 0–17 years in 1995 in each state was obtained from U.S. census reports (*5*) and was multiplied by the estimated prevalence of future smoking to calculate the estimated number of youths who may become regular smokers in each state. Overall, the estimated number of future smokers among the cohort of persons who were aged 0–17 years in 1995 was 16,620,878 for the United States (range: 15,398 [District of Columbia] to 1,446,550 [California]) (Table 1).

The projected number of smoking-related deaths among youth smokers was based on the combined estimates of young adult smokers who continue to smoke throughout their lifetimes and estimates of premature death attributable to smoking among continuing smokers (*6*) and among those who quit after age 35 years (*7*). Based on data from the 1986 National Mortality Followback Survey (NMFS), 55% (95% confidence interval [CI]=±1%) of persons who had ever smoked ≥100 cigarettes during their lifetimes continued to smoke until 1 year before their deaths, and 45% (95% CI=±1%) quit smoking earlier in their adult lives (CDC, unpublished data, 1995). Based on data from long-term cohort studies, an estimated 50% of deaths among continuing smokers will be attributable to smoking (*6*). Although estimates of the number of smoking-attributable deaths among former smokers range from 10% to 37%, a conservative estimate of 10% was used in this analysis (*7*; CDC, unpublished data, 1996). The future probability of smoking-attributable mortality (PSAM) among youth was computed to be PSAM=[(0.55 × 0.5)+(0.45 × 0.1)]=0.32. Estimates for the variance of the two smoking-attributable fractions (50% and 10%) within the PSAM were computed from the Cancer Prevention Study II (*8*). These two variances were combined with the variances for the probabilities of continued smoking or quitting using a Taylor Series approximation method, which yielded an estimate of 0.00422 of the relative error of the

Projected Smoking-Related Deaths — Continued

TABLE 1. Prevalence of current smoking among adults aged 18–30 years* and projected number of persons aged 0–17 years who will become smokers[†] and die prematurely as adults because of a smoking-related illness, by state — United States, 1995

State	Prevalence of current smoking among persons aged 18–30 years		Persons aged 0–17 years			
				Projected smokers		Projected no. deaths
	%	(95% CI[§])	No.[¶]	No.	(95% CI)	
Alabama	24.1	(±3.4%)	1,080,145	260,639	(± 36,465)	83,404
Alaska	29.7	(±4.8%)	189,253	56,246	(± 9,006)	17,999
Arizona	25.8	(±4.6%)	1,193,270	307,864	(± 54,337)	98,516
Arkansas	24.0	(±3.5%)	649,521	155,690	(± 22,994)	49,821
California	16.5	(±2.0%)	8,793,616	1,446,550	(±176,420)	462,896
Colorado	27.7	(±3.6%)	981,200	271,694	(± 35,093)	86,942
Connecticut	22.0	(±3.5%)	797,733	175,501	(± 27,690)	56,160
Delaware	29.0	(±3.3%)	178,826	51,806	(± 5,968)	16,578
District of Columbia	13.4	(±4.3%)	114,652	15,398	(± 4,887)	4,927
Florida	27.5	(±2.8%)	3,371,328	928,464	(± 93,582)	297,108
Georgia	21.3	(±3.0%)	1,923,594	409,726	(± 57,900)	131,112
Hawaii	20.9	(±3.0%)	309,262	64,574	(± 9,353)	20,664
Idaho	21.9	(±3.0%)	347,924	76,230	(± 10,517)	24,394
Illinois	26.0	(±3.2%)	3,125,894	813,670	(± 99,723)	260,374
Indiana	30.0	(±3.1%)	1,487,359	439,515	(± 46,329)	140,645
Iowa	23.1	(±2.7%)	724,511	167,507	(± 19,326)	53,602
Kansas	22.2	(±3.5%)	692,761	153,862	(± 23,936)	49,236
Kentucky	28.2	(±3.3%)	972,708	274,693	(± 32,116)	87,902
Louisiana	26.7	(±3.5%)	1,239,214	331,366	(± 43,742)	106,037
Maine	32.0	(±4.9%)	304,895	97,536	(± 14,792)	31,211
Maryland	21.1	(±2.0%)	1,271,966	267,876	(± 25,759)	85,720
Massachusetts	23.1	(±3.4%)	1,431,854	330,186	(± 48,366)	105,659
Michigan	28.6	(±3.1%)	2,519,455	721,572	(± 78,357)	230,903
Minnesota	24.3	(±2.2%)	1,245,492	303,153	(± 27,294)	97,009
Mississippi	20.0	(±3.5%)	761,909	152,610	(± 26,343)	48,835
Missouri	26.9	(±4.3%)	1,381,552	372,052	(± 59,197)	119,057
Montana	19.9	(±4.3%)	236,134	47,014	(± 10,151)	15,045
Nebraska	25.0	(±3.6%)	443,297	110,913	(± 15,842)	35,492
Nevada	24.8	(±3.4%)	398,586	98,770	(± 13,716)	31,606
New Hampshire	25.2	(±4.0%)	294,969	74,303	(± 11,886)	23,777
New Jersey	21.6	(±3.8%)	1,963,523	423,728	(± 74,663)	135,593
New Mexico	20.9	(±4.1%)	500,099	104,271	(± 20,422)	33,367
New York	26.0	(±3.1%)	4,536,862	1,179,584	(±141,545)	377,467
North Carolina	28.8	(±3.0%)	1,799,119	517,786	(± 53,965)	165,692
North Dakota	22.5	(±3.2%)	170,445	38,350	(± 5,367)	12,272
Ohio	31.2	(±4.6%)	2,859,848	891,129	(±131,262)	285,161
Oklahoma	22.7	(±5.2%)	878,039	199,490	(± 45,586)	63,837
Oregon	24.1	(±2.9%)	797,040	191,688	(± 23,220)	61,340
Pennsylvania	29.5	(±2.9%)	2,909,302	857,371	(± 84,342)	274,359
Rhode Island	30.9	(±5.9%)	237,611	73,446	(± 13,931)	23,503
South Carolina	22.0	(±3.0%)	944,384	208,142	(± 28,621)	66,606
South Dakota	22.1	(±3.3%)	206,436	45,705	(± 6,715)	14,626
Tennessee	25.1	(±2.9%)	1,310,297	329,147	(± 38,256)	105,327
Texas	21.5	(±3.6%)	5,400,417	1,158,389	(±192,545)	370,685
Utah	16.1	(±2.5%)	674,618	108,883	(± 16,797)	34,843
Vermont	26.3	(±3.4%)	146,760	38,613	(± 4,914)	12,356
Virginia	26.3	(±3.5%)	1,612,527	423,288	(± 56,079)	135,452
Washington	23.8	(±2.5%)	1,418,404	336,871	(± 34,770)	107,799
West Virginia	28.6	(±3.3%)	421,868	120,443	(± 13,970)	38,542
Wisconsin	27.0	(±3.8%)	1,353,205	365,907	(± 51,333)	117,090
Wyoming	23.2	(±4.3%)	136,268	31,669	(± 5,812)	10,134
Total	**NA**	**NA**	**68,739,952**	**16,620,878**	**(±219,091)**	**5,318,681**

*Obtained from Behavioral Risk Factor Surveillance System data for 1994 and 1995, except for Rhode Island for 1995 and the District of Columbia for 1994.

[†]Based on 1995 population data and the prevalence of current smoking among adults aged 18–30 years.

[§]Confidence interval.

[¶]Obtained from 1995 census data.

Projected Smoking-Related Deaths — Continued

PSAM. To reflect the uncertainty of the multiple assumptions about future smoking and mortality patterns, this error estimate for the PSAM was increased by a factor of 2.5, yielding an estimated standard error of 0.0106.

Based on application of this PSAM to the state-specific estimates of potential smokers, the overall number of potential future smoking-attributable deaths among persons aged 0–17 years during 1995 was 5,318,681 for the United States (range: 4927 [District of Columbia] to 462,896 [California]) (Table 1). Based on the estimated PSAM variance and the state-specific sampling errors from the BRFSS estimates of smoking prevalence, the estimated number of smoking-related deaths for the United States overall was predicted to vary by ≤160,000 deaths.

Reported by the following BRFSS coordinators: J Durham, MPA, Alabama; P Owen, Alaska; B Bender, 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; E Pledger, MPA, Georgia; J Cooper, MA, Hawaii; C Johnson, MPH, Idaho; B Steiner, MS, Illinois; N Costello, MPA, Indiana; P Busick, Iowa; M Perry, Kansas; K Asher, Kentucky; R Meriwether, MD, Louisiana; D Maines, Maine; A Weinstein, MA, Maryland; D Brooks, MPH, Massachusetts; H McGee, MPH, Michigan; N Salem, PhD, Minnesota; S Loyd, Mississippi; J Jackson-Thompson, PhD, Missouri; P Smith, Montana; S Huffman, Nebraska; E DeJan, MPH, Nevada; K Zaso, MPH, New Hampshire; G Boeselager, MS, New Jersey; W Honey, New Mexico; T Melnik, DrPH, New York; G Lengerich, VMD, 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; J Ferguson, DrPh, South Carolina; M Gildemaster, South Dakota; D Ridings, Tennessee; R Diamond, MPH, Texas; R Giles, Utah; R McIntyre, PhD, Vermont; J Stones, Virginia; K Wynkoop-Simmons, PhD, Washington; F King, West Virginia; E Cautley, MS, Wisconsin; M Futa, MA, Wyoming. P Mowery, MA, J Shulman, PhD, Battelle Memorial Institute, Baltimore, Maryland. Epidemiology Br, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The findings in this report indicate that, if current patterns of smoking behavior persist, an estimated 5 million U.S. persons who were aged 0–17 years in 1995 could die prematurely from smoking-related illnesses. These projected patterns of smoking and smoking-related deaths could result in an estimated $200 billion (in 1993 dollars) in future health-care costs (i.e., $12,000 per smoker) (*9*) and approximately 64 million years of potential life lost (i.e., 12–21 years per smoking-related death) (*6,9,10*), underscoring the need for intensifing efforts to prevent smoking initiation among youth.

The projection method used in this analysis is subject to at least three limitations. First, although this method has been recommended for estimating future tobacco-related deaths in developed countries (*6*), alternative methods may be more precise (e.g., life-table procedures used to project future disease-specific outcomes, particularly lung cancer). Second, this method assumes that future smoking patterns and smoking-related disease rates will be similar to those observed in recent generations. However, future patterns may differ: for example, the estimates of future smoking prevalence in this analysis may be underestimated because smoking prevalences among teenagers have been increasing in recent years (*3*). Third, the estimated risks for smoking-attributable death and the smoking-attributable fractions among quitters (i.e., 10%) and continuing smokers (i.e., 50%) are based on studies of adults who began smoking during the mid 1900s (*6,7*). More recent data indicate that relative risks of smoking for more recent birth cohorts of both men and women have been increasing rather than decreasing (*8*). Factors related to changes in the intensity and duration of smoking may account in part for the substantial increase in the relative risks of

Projected Smoking-Related Deaths — Continued

smoking from the 1960s to the 1980s (e.g., relative risks of lung cancer increased from 11.4 to 22.4 for men and from 2.7 to 11.9 for women) (*8*). These increases in risk occurred despite changes in the composition of tobacco products commonly smoked, including the widespread adoption of filter-tipped, potentially lower "tar" cigarettes (*8*). While future changes in tobacco products could reduce health risks associated with smoking, smoking intensity and duration are likely to remain the major predictors of future risk (*8*). Therefore, unless U.S. persons who were aged 0–17 years during 1995 and who are current or potential smokers alter their future smoking behavior relative to patterns of previous generations (e.g., smoke fewer cigarettes per day or quit earlier in life), the relative risks of smoking probably will remain high.

FDA has issued regulations to restrict youth access to tobacco and to reduce the appeal of cigarette advertising among youths and has issued a proposal to require a program to educate youths about the health consequences associated with tobacco use (*1*). Because smoking-related deaths are preventable (*1,9*), public health efforts should emphasize both prevention of smoking initiation in the youngest birth cohorts (*2*) and cessation as early as possible among youth who already have started smoking (*6,7*).

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Outbreak of *Escherichia coli* O157:H7 Infections Associated with Drinking Unpasteurized Commercial Apple Juice — British Columbia, California, Colorado, and Washington, October 1996

On October 30, 1996, the Seattle-King County Department of Public Health and the Washington State Department of Health reported an outbreak of *Escherichia coli* O157:H7 infections epidemiologically associated with drinking Odwalla brand unpasteurized apple juice or Odwalla juice mixtures containing apple juice from a coffee shop chain, grocery stores, or other locations. A case was defined as hemolytic uremic syndrome (HUS) or a stool culture yielding *E. coli* O157:H7 in a person who became ill after September 30, 1996, and drank Odwalla juice within 10 days before illness onset. As of November 6, British Columbia, California, Colorado, and Washington had reported a total of 45 cases.

The median age of the 28 case-patients for whom information was reported was 5.0 years (range: 1–41 years); 15 (54%) were male. HUS was diagnosed in 12 persons; none have died. One case of *E. coli* O157:H7 infection occurred in a child who had onset of illness in Illinois after drinking implicated juice in Washington. Another patient with *E. coli* O157:H7 infection, not included in the total, acquired illness by secondary transmission from a patient with juice-associated infection. *E. coli* O157:H7 isolates cultured from a previously unopened container of Odwalla apple juice had a DNA "fingerprint" pattern (restriction fragment length polymorphism) indistinguishable from case-related isolates.

Odwalla, Inc., has completed a voluntary nationwide recall of all its products containing apple juice. Odwalla juice was distributed to British Columbia, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, and Washington.

Reported by: Dept of Environmental Health, Univ of Washington, Seattle; Seattle-King County Dept of Public Health, Seattle; Washington State Dept of Health. California State Dept of Health Svcs. Colorado Dept of Public Health and Environment. British Columbia Centre for Disease Control, Vancouver; Laboratory Centre for Disease Control, Health Canada, Ottawa, Ontario. Center for Food Safety and Applied Nutrition and Office of Regulatory Affairs, Food and Drug Administration. Foodborne and Diarrheal Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: Investigations are ongoing to determine the extent of the outbreak and the specific mechanisms of contamination. Health-care providers should consider infection with *E. coli* O157:H7 in patients with diarrheal illness who were residents of or travelers to British Columbia, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, or Washington during October and may have consumed Odwalla brand apple juice or Odwalla juice mixtures containing apple juice. Possible cases should be reported to local and state health departments.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending November 2, 1996, with historical data — United States
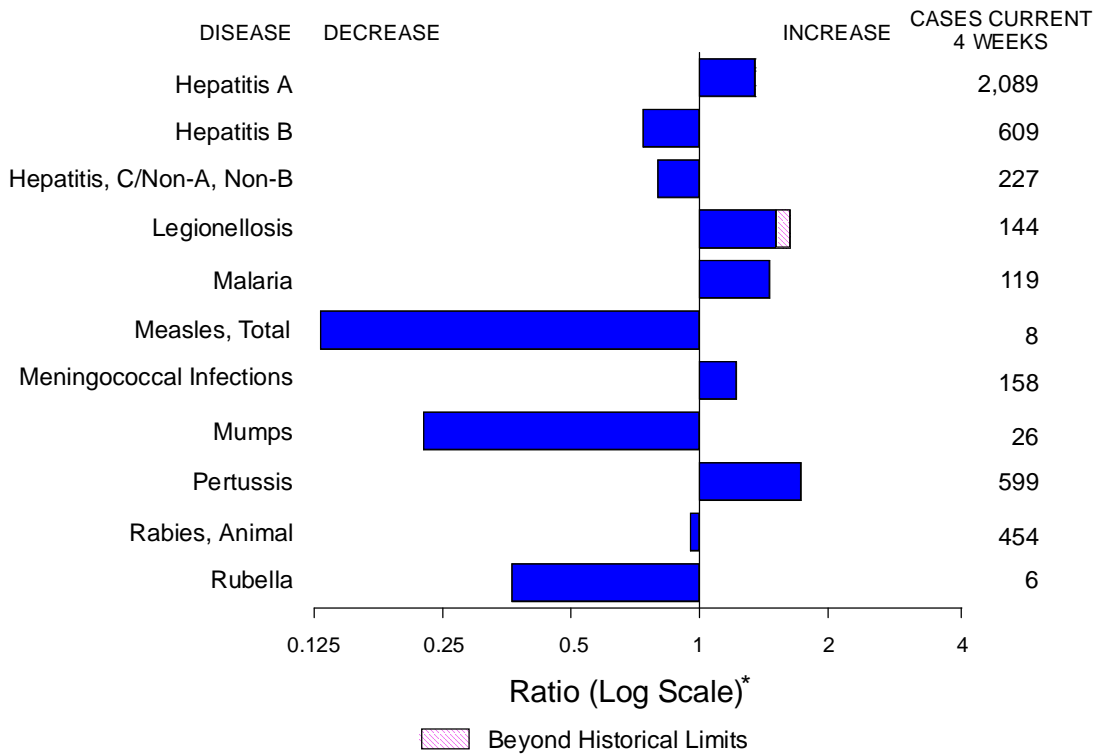
*Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending November 2, 1996 (44th Week)

	Cum. 1996		Cum. 1996
Anthrax	-	HIV infection, pediatric*§	216
Brucellosis	71	Plague	5
Cholera	3	Poliomyelitis, paralytic¶	-
Congenital rubella syndrome	1	Psittacosis	38
Cryptosporidiosis*	1,888	Rabies, human	1
Diphtheria	1	Rocky Mountain spotted fever (RMSF)	634
Encephalitis: California*	98	Streptococcal toxic-shock syndrome*	12
eastern equine*	2	Syphilis, congenital**	225
St. Louis*	-	Tetanus	23
western equine*	-	Toxic-shock syndrome	116
Hansen Disease	93	Trichinosis	17
Hantavirus pulmonary syndrome*†	19	Typhoid fever	297

-: 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, National Center for HIV, STD, and TB Prevention (NCHSTP), last update September 24, 1996.
¶ Three suspected cases of polio with onset in 1996 has been reported to date.
**Updated quarterly from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 2, 1996, and November 4, 1995 (44th Week)

Reporting Area	AIDS* Cum. 1996	AIDS* Cum. 1995	Chlamydia Cum. 1996	*Escherichia coli* O157:H7 NETSS† Cum. 1996	*Escherichia coli* O157:H7 PHLIS§ Cum. 1996	Gonorrhea Cum. 1996	Gonorrhea Cum. 1995	Hepatitis C/NA,NB Cum. 1996	Hepatitis C/NA,NB Cum. 1995	Legionellosis Cum. 1996	Legionellosis Cum. 1995
UNITED STATES	51,611	59,568	320,933	2,336	1,232	253,683	332,606	2,803	3,395	820	994
NEW ENGLAND	2,065	2,843	14,107	316	78	5,893	6,543	100	105	62	30
Maine	32	82	762	21	-	53	78	-	-	2	5
N.H.	66	77	397	38	38	80	95	8	12	3	2
Vt.	18	28	U	33	30	42	54	33	11	4	-
Mass.	997	1,236	5,951	142	10	1,882	2,300	53	75	26	19
R.I.	129	205	1,626	15	-	431	452	6	7	27	4
Conn.	823	1,215	5,371	67	-	3,405	3,564	-	-	N	N
MID. ATLANTIC	14,243	16,207	35,716	199	43	29,157	36,927	264	403	197	172
Upstate N.Y.	1,855	1,972	N	137	16	5,601	8,183	207	206	66	47
N.Y. City	7,855	8,416	15,878	13	-	8,618	14,714	1	1	10	5
N.J.	2,905	3,868	4,873	49	5	4,197	3,468	-	158	12	27
Pa.	1,628	1,951	14,965	N	22	10,741	10,562	56	38	109	93
E.N. CENTRAL	4,076	4,438	69,813	535	356	48,821	66,807	378	292	237	297
Ohio	871	878	15,152	157	94	10,964	20,758	32	13	91	133
Ind.	498	467	8,863	80	48	5,751	7,843	8	12	41	71
Ill.	1,808	1,871	20,567	204	84	15,193	17,554	60	75	9	31
Mich.	685	917	17,623	94	70	13,223	15,046	278	192	75	29
Wis.	214	305	7,608	N	60	3,690	5,606	-	-	21	33
W.N. CENTRAL	1,221	1,393	23,325	533	338	10,613	16,843	111	75	46	70
Minn.	226	302	2,702	240	219	U	2,430	3	4	8	6
Iowa	72	91	3,700	115	88	976	1,335	49	13	10	20
Mo.	626	642	10,164	61	-	7,000	9,664	33	18	9	14
N. Dak.	10	5	2	16	15	-	26	-	5	-	3
S. Dak.	10	17	878	22	-	122	187	-	1	2	3
Nebr.	83	93	2,084	49	4	786	955	7	20	12	16
Kans.	194	243	3,795	30	12	1,729	2,246	19	14	5	8
S. ATLANTIC	13,079	15,350	46,319	122	63	81,328	92,536	219	210	127	155
Del.	232	265	1,148	1	2	1,231	1,928	1	-	11	2
Md.	1,961	2,287	5,879	N	8	12,415	11,447	3	7	27	25
D.C.	1,001	896	N	-	-	3,626	4,005	-	-	8	4
Va.	896	1,203	9,711	N	31	7,703	9,186	15	18	19	21
W. Va.	88	94	1	N	3	455	583	9	44	1	4
N.C.	677	898	-	38	12	16,111	20,669	44	49	10	31
S.C.	667	815	-	9	7	9,007	10,271	27	19	5	30
Ga.	1,867	1,998	9,798	30	-	15,396	17,076	U	15	3	14
Fla.	5,690	6,894	19,782	32	-	15,384	17,371	120	58	43	24
E.S. CENTRAL	1,749	1,917	26,753	65	52	29,581	34,510	485	850	40	51
Ky.	309	243	5,741	13	8	3,592	3,996	27	29	5	10
Tenn.	647	763	11,452	29	41	10,137	11,761	349	819	19	24
Ala.	470	520	7,105	12	3	11,312	14,159	5	2	3	6
Miss.	323	391	U	11	-	4,540	4,594	104	U	13	11
W.S. CENTRAL	5,138	5,152	32,800	69	12	25,197	46,626	402	295	19	21
Ark.	207	223	-	13	3	2,722	4,874	14	6	2	6
La.	1,177	901	6,331	6	4	6,980	9,320	186	162	2	3
Okla.	189	235	6,355	12	1	4,120	4,988	69	47	5	4
Tex.	3,565	3,793	20,114	38	4	11,375	27,444	133	80	10	8
MOUNTAIN	1,533	1,822	13,808	196	91	5,784	8,081	486	411	43	104
Mont.	33	20	-	25	-	32	61	16	14	1	4
Idaho	32	41	1,289	34	13	91	123	93	45	-	2
Wyo.	5	13	491	11	9	33	46	152	173	6	12
Colo.	406	571	-	70	36	1,077	2,413	53	61	8	38
N. Mex.	139	148	3,350	11	-	795	916	64	44	2	4
Ariz.	461	550	5,529	N	22	2,864	3,191	68	43	18	9
Utah	144	113	1,332	30	-	252	230	22	11	3	15
Nev.	313	366	1,817	15	11	640	1,101	18	20	5	20
PACIFIC	8,506	10,446	58,292	301	199	17,309	23,733	358	754	49	94
Wash.	538	779	7,757	97	72	1,720	2,335	49	189	6	20
Oreg.	359	387	4,562	84	39	527	684	7	35	1	-
Calif.	7,440	9,013	43,797	116	78	14,383	19,641	120	456	37	69
Alaska	28	62	1,040	4	2	366	588	3	2	1	-
Hawaii	141	205	1,136	N	8	313	485	179	72	4	5
Guam	4	-	168	N	-	31	89	1	6	2	1
P.R.	1,792	1,951	N	17	U	327	521	84	195	-	-
V.I.	17	30	N	N	U	-	-	-	-	-	-
Amer. Samoa	-	-	-	N	U	-	29	-	-	-	-
C.N.M.I.	1	-	N	N	U	11	51	-	5	-	-

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, National Center for HIV, STD, and TB Prevention, last update September 24, 1996.
†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 November 2, 1996, and November 4, 1995 (44th Week)

Reporting Area	Lyme Disease Cum. 1996	Cum. 1995	Malaria Cum. 1996	Cum. 1995	Meningococcal Disease Cum. 1996	Cum. 1995	Syphilis (Primary & Secondary) Cum. 1996	Cum. 1995	Tuberculosis Cum. 1996	Cum. 1995	Rabies, Animal Cum. 1996	Cum. 1995
UNITED STATES	11,946	9,521	1,277	1,148	2,713	2,559	9,167	14,003	15,703	17,927	5,753	6,711
NEW ENGLAND	3,657	1,845	60	43	121	128	156	315	378	426	618	1,334
Maine	50	24	7	6	11	10	-	2	37	11	90	46
N.H.	43	22	2	1	7	22	1	1	14	17	51	131
Vt.	15	8	5	1	4	10	-	-	1	2	123	162
Mass.	315	130	21	15	51	42	68	58	182	240	96	387
R.I.	461	297	7	4	13	6	3	4	27	41	35	291
Conn.	2,773	1,364	18	16	35	38	84	250	117	115	223	317
MID. ATLANTIC	7,184	6,232	354	319	244	312	367	708	2,735	3,638	1,249	1,715
Upstate N.Y.	3,854	3,199	75	58	75	85	63	76	356	439	929	1,021
N.Y. City	266	394	191	175	33	48	106	319	1,315	2,034	-	-
N.J.	1,443	1,585	59	63	55	71	88	139	612	654	109	299
Pa.	1,621	1,054	29	23	81	108	110	174	452	511	211	395
E.N. CENTRAL	70	404	111	144	373	357	1,311	2,420	1,714	1,658	88	93
Ohio	44	25	13	11	137	102	487	787	249	231	12	12
Ind.	23	16	13	17	54	51	174	286	155	155	8	14
Ill.	3	17	35	71	102	91	364	916	900	863	23	15
Mich.	-	5	36	24	40	66	142	253	318	330	31	37
Wis.	U	341	14	21	40	47	144	178	92	79	14	15
W.N. CENTRAL	147	163	47	24	213	159	313	651	391	491	453	329
Minn.	65	80	20	4	25	26	51	37	90	121	25	25
Iowa	19	13	3	3	44	29	17	40	55	54	211	115
Mo.	23	44	10	8	89	60	202	536	162	189	17	29
N. Dak.	1	-	1	1	3	1	-	-	6	3	58	27
S. Dak.	-	-	-	2	10	6	-	-	17	21	105	87
Nebr.	5	6	4	3	19	15	11	12	13	20	5	5
Kans.	34	20	9	3	23	22	32	26	48	83	32	41
S. ATLANTIC	606	600	262	232	545	437	3,201	3,505	2,960	3,203	2,392	1,893
Del.	78	45	3	1	2	6	36	15	20	49	64	81
Md.	366	381	74	62	66	36	563	416	255	337	548	383
D.C.	3	3	7	16	10	7	115	96	112	89	9	11
Va.	46	50	42	52	54	58	336	522	234	255	528	377
W. Va.	11	22	5	4	12	8	3	10	50	60	88	104
N.C.	63	65	27	15	67	71	935	968	435	376	602	420
S.C.	6	16	12	1	52	54	322	505	290	278	79	114
Ga.	1	13	26	36	125	94	565	656	547	607	254	247
Fla.	32	5	66	45	157	103	326	317	1,017	1,152	220	156
E.S. CENTRAL	69	65	34	24	204	178	2,090	2,854	1,069	1,229	191	256
Ky.	23	13	7	3	27	40	131	157	196	272	38	26
Tenn.	20	28	14	10	55	70	713	756	320	380	75	87
Ala.	7	8	6	8	74	36	474	552	356	344	75	134
Miss.	19	16	7	3	48	32	772	1,389	197	233	3	9
W.S. CENTRAL	108	99	38	48	298	306	1,202	2,818	1,985	2,634	331	556
Ark.	24	8	-	2	33	31	127	450	163	202	28	45
La.	5	7	6	5	54	47	442	876	175	284	15	42
Okla.	21	42	-	1	33	37	156	159	143	326	27	28
Tex.	58	42	32	40	178	191	477	1,333	1,504	1,822	261	441
MOUNTAIN	7	12	54	56	156	182	116	187	518	560	135	167
Mont.	-	-	7	3	6	2	-	4	14	10	20	42
Idaho	1	-	-	1	22	10	4	-	7	14	-	3
Wyo.	2	3	7	-	3	8	2	1	6	4	27	25
Colo.	-	-	22	25	36	45	23	98	73	68	41	9
N. Mex.	1	1	2	6	24	33	1	6	72	70	6	6
Ariz.	-	1	7	10	38	53	71	43	206	264	30	55
Utah	1	1	5	6	15	15	2	4	39	37	4	15
Nev.	2	6	4	5	12	16	13	31	101	93	7	12
PACIFIC	98	101	317	258	559	500	411	545	3,953	4,088	296	368
Wash.	14	10	20	21	90	80	6	13	219	230	6	14
Oreg.	20	17	19	18	103	92	11	20	133	111	4	3
Calif.	63	74	267	206	353	313	393	510	3,382	3,523	278	344
Alaska	-	-	3	3	8	11	-	2	59	65	8	7
Hawaii	1	-	8	10	5	4	1	-	160	159	-	-
Guam	-	-	-	1	1	2	3	8	35	96	-	-
P.R.	-	-	-	1	4	23	112	254	63	162	40	37
V.I.	-	-	-	2	-	-	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	4	-	-
C.N.M.I.	-	-	-	1	-	-	1	9	-	31	-	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending November 2, 1996, and November 4, 1995 (44th Week)

Reporting Area	H. influenzae, invasive Cum. 1996*	H. influenzae, invasive Cum. 1995	Hepatitis (viral), by type A Cum. 1996	Hepatitis A Cum. 1995	Hepatitis B Cum. 1996	Hepatitis B Cum. 1995	Measles Indigenous 1996	Measles Indigenous Cum. 1996	Measles Imported† 1996	Measles Imported† Cum. 1996
UNITED STATES	859	963	23,797	25,357	8,187	8,390	1	414	-	46
NEW ENGLAND	25	38	345	269	165	190	-	11	-	4
Maine	-	3	18	27	2	7	U	-	U	-
N.H.	9	10	21	11	17	19	-	-	-	-
Vt.	1	2	10	5	11	5	-	1	-	1
Mass.	13	12	169	114	57	74	-	9	-	3
R.I.	2	5	20	32	9	8	-	-	-	-
Conn.	-	6	107	80	69	77	-	1	-	-
MID. ATLANTIC	153	145	1,590	1,614	1,240	1,180	-	23	-	5
Upstate N.Y.	45	37	382	406	293	321	-	-	-	-
N.Y. City	32	34	502	776	502	355	-	9	-	3
N.J.	48	24	285	239	209	318	-	3	-	-
Pa.	28	50	421	193	236	186	-	11	-	2
E.N. CENTRAL	143	163	1,980	2,783	841	948	-	6	-	7
Ohio	81	84	662	1,554	112	93	-	2	-	3
Ind.	15	20	303	162	132	195	-	-	-	-
Ill.	32	40	483	568	220	247	-	2	-	1
Mich.	8	17	381	326	316	345	-	-	-	3
Wis.	7	2	151	173	61	68	-	2	-	-
W.N. CENTRAL	41	74	2,131	1,664	376	547	-	20	-	2
Minn.	25	42	111	166	54	54	-	16	-	2
Iowa	6	3	314	71	67	42	-	-	-	-
Mo.	7	22	1,016	1,162	179	373	-	3	-	-
N. Dak.	-	-	116	22	2	4	-	-	-	-
S. Dak.	1	1	42	61	5	2	-	-	-	-
Nebr.	1	3	194	46	40	31	-	-	-	-
Kans.	1	3	338	136	29	41	-	1	-	-
S. ATLANTIC	165	188	1,210	988	1,265	1,104	-	5	-	9
Del.	2	-	15	9	7	8	-	1	-	-
Md.	53	60	214	192	257	220	-	-	-	2
D.C.	6	-	35	24	30	21	U	1	U	-
Va.	9	28	151	182	120	97	-	-	-	3
W. Va.	9	7	13	22	24	48	U	-	U	-
N.C.	23	26	142	92	277	254	-	3	-	1
S.C.	4	2	46	42	81	47	U	-	U	-
Ga.	37	60	150	53	32	62	-	-	-	2
Fla.	22	5	444	372	437	347	-	-	-	1
E.S. CENTRAL	26	10	1,100	1,711	719	725	-	2	-	-
Ky.	4	4	41	41	54	61	-	-	-	-
Tenn.	12	-	710	1,421	418	569	-	2	-	-
Ala.	9	5	166	76	62	95	-	-	-	-
Miss.	1	1	183	173	185	U	-	-	-	-
W.S. CENTRAL	35	57	5,002	3,807	1,108	1,189	-	26	-	2
Ark.	-	6	436	507	67	58	-	-	-	-
La.	4	1	164	127	126	199	-	-	-	-
Okla.	28	21	2,088	1,020	59	147	-	-	-	-
Tex.	3	29	2,314	2,153	856	785	-	26	-	2
MOUNTAIN	88	101	3,802	3,534	980	725	-	153	-	5
Mont.	-	-	104	137	14	19	-	-	-	-
Idaho	1	3	211	287	79	84	-	1	-	-
Wyo.	35	7	31	99	38	26	-	1	-	-
Colo.	14	16	410	450	119	112	-	4	-	3
N. Mex.	10	12	323	716	360	268	-	17	-	-
Ariz.	12	25	1,511	966	219	104	-	8	-	-
Utah	8	10	876	630	82	62	-	117	-	2
Nev.	8	28	336	249	69	50	U	5	U	-
PACIFIC	183	187	6,637	8,987	1,493	1,782	1	168	-	12
Wash.	4	9	566	745	86	166	-	51	-	-
Oreg.	25	25	750	2,392	98	106	-	10	-	-
Calif.	150	148	5,220	5,655	1,283	1,486	1	37	-	5
Alaska	2	1	36	43	14	11	-	63	-	-
Hawaii	2	4	65	152	12	13	-	7	-	7
Guam	-	-	2	7	-	4	U	-	U	-
P.R.	1	3	115	92	359	550	-	7	-	-
V.I.	-	-	-	8	-	15	U	-	U	-
Amer. Samoa	-	-	-	6	-	-	U	-	U	-
C.N.M.I.	10	11	1	24	5	22	U	-	U	-

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

*Of 202 cases among children aged <5 years, serotype was reported for 46 and of those, 15 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 November 2, 1996, and November 4, 1995 (44th Week)

Reporting Area	Measles (Rubeola), cont'd. Total Cum. 1996	Cum. 1995	Mumps 1996	Cum. 1996	Cum. 1995	Pertussis 1996	Cum. 1996	Cum. 1995	Rubella 1996	Cum. 1996	Cum. 1995
UNITED STATES	460	287	5	536	715	162	4,632	3,807	-	201	111
NEW ENGLAND	15	10	-	2	11	48	984	571	-	27	47
Maine	-	-	U	-	4	U	20	42	U	-	-
N.H.	-	-	-	-	1	14	117	45	-	-	1
Vt.	2	-	-	-	-	11	119	67	-	2	-
Mass.	12	3	-	2	2	23	669	387	-	21	8
R.I.	-	5	-	-	1	-	30	4	-	-	-
Conn.	1	2	-	-	3	-	29	26	-	4	38
MID. ATLANTIC	28	12	-	76	105	1	400	341	-	11	14
Upstate N.Y.	-	1	-	24	24	1	237	176	-	4	4
N.Y. City	12	5	-	16	16	-	29	48	-	4	8
N.J.	3	6	-	2	17	-	16	17	-	2	2
Pa.	13	-	-	34	48	-	118	100	-	1	-
E.N. CENTRAL	13	15	1	91	140	22	514	482	-	3	3
Ohio	5	2	1	40	47	5	238	140	-	-	-
Ind.	-	-	-	9	9	10	83	49	-	-	-
Ill.	3	2	-	20	38	5	148	103	-	1	-
Mich.	3	5	-	21	46	2	40	63	-	2	3
Wis.	2	6	-	1	-	-	5	127	-	-	-
W.N. CENTRAL	22	2	1	18	40	29	348	244	-	-	-
Minn.	18	-	1	6	4	28	279	125	-	-	-
Iowa	-	-	-	2	9	1	18	10	-	-	-
Mo.	3	1	-	7	22	-	34	59	-	-	-
N. Dak.	-	-	-	2	1	-	1	8	-	-	-
S. Dak.	-	-	-	-	-	-	4	11	-	-	-
Nebr.	-	-	-	-	4	-	8	10	-	-	-
Kans.	1	1	-	1	-	-	15	21	-	-	-
S. ATLANTIC	14	16	-	90	103	23	530	310	-	93	9
Del.	1	-	-	-	-	-	13	10	-	-	-
Md.	2	1	-	25	30	19	198	39	-	-	1
D.C.	1	-	U	1	-	U	2	6	U	2	-
Va.	3	-	-	12	21	-	71	19	-	2	-
W. Va.	-	-	U	-	-	U	2	-	U	-	-
N.C.	4	-	-	20	16	-	100	110	-	78	1
S.C.	-	-	U	6	11	U	38	25	U	1	-
Ga.	2	3	-	3	8	-	17	24	-	-	-
Fla.	1	12	-	23	17	4	89	77	-	10	7
E.S. CENTRAL	2	-	-	21	11	-	136	267	-	2	1
Ky.	-	-	-	-	-	-	84	24	-	-	-
Tenn.	2	-	-	3	4	-	20	206	-	-	1
Ala.	-	-	-	3	4	-	23	35	-	2	-
Miss.	-	-	-	15	3	-	9	2	N	N	N
W.S. CENTRAL	28	32	-	31	47	6	115	276	-	3	7
Ark.	-	2	-	2	7	-	12	36	-	-	-
La.	-	18	-	13	12	-	9	19	-	1	-
Okla.	-	-	-	-	-	6	17	31	-	-	-
Tex.	28	12	-	16	28	-	77	190	-	2	7
MOUNTAIN	158	70	-	21	30	5	372	545	-	7	4
Mont.	-	-	-	-	1	-	33	3	-	-	-
Idaho	1	2	-	-	3	-	102	99	-	3	-
Wyo.	1	-	-	-	-	-	6	1	-	-	-
Colo.	7	26	-	3	2	5	98	88	-	2	-
N. Mex.	17	31	N	N	N	-	60	113	-	-	-
Ariz.	8	10	-	1	2	-	27	153	-	1	3
Utah	119	-	-	2	11	-	19	27	-	-	1
Nev.	5	1	U	15	11	U	27	61	U	1	-
PACIFIC	180	130	3	186	228	28	1,233	771	-	55	26
Wash.	51	19	-	19	12	2	543	279	-	2	1
Oreg.	10	1	-	-	-	-	34	54	-	1	-
Calif.	42	108	3	137	195	25	624	389	-	49	20
Alaska	63	-	-	3	12	-	4	1	-	-	-
Hawaii	14	2	-	27	9	1	28	48	-	3	5
Guam	-	-	U	5	4	U	1	2	U	-	1
P.R.	7	3	-	1	2	-	1	1	-	-	-
V.I.	-	-	U	-	3	U	-	-	U	-	-
Amer. Samoa	-	-	U	-	-	U	-	-	U	-	-
C.N.M.I.	-	-	U	-	1	U	-	-	U	-	-

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

TABLE IV. Deaths in 121 U.S. cities,* week ending
November 2, 1996 (44th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total	Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1			All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	526	368	99	36	13	10	27	S. ATLANTIC	1,160	751	211	125	41	32	78
Boston, Mass.	143	93	30	12	5	3	6	Atlanta, Ga.	144	93	21	15	5	10	9
Bridgeport, Conn.	33	20	6	4	2	1	-	Baltimore, Md.	182	115	36	24	4	3	16
Cambridge, Mass.	21	13	5	2	-	1	2	Charlotte, N.C.	85	57	16	8	3	1	3
Fall River, Mass.	30	24	3	2	1	-	-	Jacksonville, Fla.	154	104	30	9	6	5	12
Hartford, Conn.	52	35	12	2	1	2	-	Miami, Fla.	105	60	19	17	5	4	-
Lowell, Mass.	30	22	6	2	-	-	-	Norfolk, Va.	56	36	9	7	3	1	4
Lynn, Mass.	U	U	U	U	U	U	U	Richmond, Va.	72	42	18	6	4	2	5
New Bedford, Mass.	18	17	1	-	-	-	-	Savannah, Ga.	50	33	10	6	-	1	7
New Haven, Conn.	30	22	5	2	-	1	2	St. Petersburg, Fla.	51	37	6	3	1	4	3
Providence, R.I.	57	42	13	1	-	1	3	Tampa, Fla.	152	112	28	9	3	-	14
Somerville, Mass.	5	4	1	-	-	-	1	Washington, D.C.	109	62	18	21	7	1	5
Springfield, Mass.	22	19	1	1	-	1	4	Wilmington, Del.	U	U	U	U	U	U	U
Waterbury, Conn.	23	18	3	2	-	-	3								
Worcester, Mass.	62	39	13	6	4	-	6	E.S. CENTRAL	723	477	160	54	16	14	61
								Birmingham, Ala.	119	70	36	8	3	-	5
MID. ATLANTIC	2,377	1,678	418	200	41	40	114	Chattanooga, Tenn.	88	61	14	8	1	4	5
Albany, N.Y.	33	22	6	2	2	1	1	Knoxville, Tenn.	75	49	20	5	1	-	11
Allentown, Pa.	27	21	5	1	-	-	-	Lexington, Ky.	63	41	17	4	1	-	8
Buffalo, N.Y.	106	81	13	10	1	1	8	Memphis, Tenn.	153	107	30	11	3	2	12
Camden, N.J.	28	18	5	-	5	-	-	Mobile, Ala.	54	35	12	1	3	3	1
Elizabeth, N.J.	8	6	-	2	-	-	1	Montgomery, Ala.	50	34	8	4	2	2	7
Erie, Pa.§	42	31	6	3	1	1	1	Nashville, Tenn.	121	80	23	13	2	3	12
Jersey City, N.J.	50	36	6	7	1	-	3								
New York City, N.Y.	1,236	862	234	108	14	18	47	W.S. CENTRAL	1,397	883	285	135	61	33	59
Newark, N.J.	41	22	6	8	3	2	4	Austin, Tex.	75	48	15	8	-	4	3
Paterson, N.J.	19	15	2	1	-	1	-	Baton Rouge, La.	25	17	7	-	1	-	2
Philadelphia, Pa.	400	270	70	41	10	9	19	Corpus Christi, Tex.	67	41	20	3	2	1	3
Pittsburgh, Pa.§	67	51	8	5	2	1	3	Dallas, Tex.	195	127	33	21	9	5	5
Reading, Pa.	16	13	2	1	-	-	5	El Paso, Tex.	86	63	7	8	6	2	-
Rochester, N.Y.	131	99	23	5	1	3	11	Ft. Worth, Tex.	91	62	16	7	5	1	1
Schenectady, N.Y.	21	17	4	-	-	-	-	Houston, Tex.	319	174	80	37	19	9	28
Scranton, Pa.§	27	23	4	-	-	-	2	Little Rock, Ark.	53	37	12	1	2	1	2
Syracuse, N.Y.	79	62	11	3	-	3	7	New Orleans, La.	94	58	18	11	6	1	-
Trenton, N.J.	24	17	5	2	-	-	2	San Antonio, Tex.	204	129	40	21	8	6	8
Utica, N.Y.	22	12	8	1	1	-	-	Shreveport, La.	61	34	17	7	2	1	2
Yonkers, N.Y.	U	U	U	U	U	U	U	Tulsa, Okla.	127	93	20	11	1	2	5
E.N. CENTRAL	2,107	1,438	379	177	56	55	131	MOUNTAIN	870	583	162	77	23	23	47
Akron, Ohio	40	28	7	4	-	1	2	Albuquerque, N.M.	101	68	22	9	1	1	1
Canton, Ohio	31	28	1	1	1	-	10	Colo. Springs, Colo.	51	30	10	6	2	3	2
Chicago, Ill.	387	222	97	35	13	18	21	Denver, Colo.	123	85	24	8	2	4	8
Cincinnati, Ohio	179	130	26	11	4	8	13	Las Vegas, Nev.	124	80	28	7	6	2	11
Cleveland, Ohio	141	89	31	17	2	2	1	Ogden, Utah	20	14	4	1	-	1	1
Columbus, Ohio	184	143	25	11	4	1	9	Phoenix, Ariz.	181	117	24	25	7	7	7
Dayton, Ohio	120	92	20	3	3	2	15	Pueblo, Colo.	20	15	3	2	-	-	1
Detroit, Mich.	185	108	36	33	5	3	5	Salt Lake City, Utah	109	71	21	11	3	3	13
Evansville, Ind.	48	36	7	3	-	2	4	Tucson, Ariz.	141	103	26	8	2	2	3
Fort Wayne, Ind.	58	40	11	4	3	-	5								
Gary, Ind.	26	13	5	4	4	-	1	PACIFIC	1,560	1,054	291	129	49	37	113
Grand Rapids, Mich.	71	55	11	4	1	-	12	Berkeley, Calif.	21	13	5	3	-	-	1
Indianapolis, Ind.	222	143	40	22	10	7	10	Fresno, Calif.	47	33	8	3	2	1	2
Madison, Wis.	U	U	U	U	U	U	U	Glendale, Calif.	27	21	2	2	2	-	5
Milwaukee, Wis.	127	101	17	6	1	2	10	Honolulu, Hawaii	72	52	12	5	1	2	7
Peoria, Ill.	46	34	5	4	-	3	1	Long Beach, Calif.	53	30	9	8	3	3	9
Rockford, Ill.	40	27	8	2	1	2	3	Los Angeles, Calif.	507	339	104	41	18	5	14
South Bend, Ind.	50	34	7	5	3	1	-	Pasadena, Calif.	28	21	2	3	-	2	3
Toledo, Ohio	100	75	19	4	1	1	6	Portland, Oreg.	109	74	20	12	2	1	8
Youngstown, Ohio	52	40	6	4	-	2	3	Sacramento, Calif.	U	U	U	U	U	U	U
								San Diego, Calif.	131	78	26	12	7	8	19
W.N. CENTRAL	848	599	149	52	21	15	42	San Francisco, Calif.	106	66	26	11	2	1	13
Des Moines, Iowa	129	97	24	5	3	-	5	San Jose, Calif.	176	121	37	10	4	4	15
Duluth, Minn.	31	24	6	-	-	1	3	Santa Cruz, Calif.	26	19	4	1	1	1	2
Kansas City, Kans.	33	23	6	4	-	-	-	Seattle, Wash.	137	96	18	12	7	4	7
Kansas City, Mo.	108	67	18	6	3	3	2	Spokane, Wash.	47	38	7	-	-	2	4
Lincoln, Nebr.	42	29	9	3	-	1	2	Tacoma, Wash.	73	53	11	6	-	3	4
Minneapolis, Minn.	163	117	28	8	7	2	17								
Omaha, Nebr.	88	67	13	5	1	2	8	TOTAL	11,568¶	7,831	2,154	985	321	259	672
St. Louis, Mo.	99	67	17	11	2	2	-								
St. Paul, Minn.	65	49	9	3	2	2	4								
Wichita, Kans.	90	59	19	7	3	2	1								

U: Unavailable   -: no reported cases

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or
 more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not
 included.
†Pneumonia and influenza.
§Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete
 counts will be available in 4 to 6 weeks.
¶Total includes unknown ages.

Contributors to the Production of the *MMWR* (Weekly)

Weekly Notifiable Disease Morbidity Data and 121 Cities Mortality Data
Denise Koo, M.D., M.P.H.
Deborah A. Adams
Timothy M. Copeland
Patsy A. Hall
Carol M. Knowles
Sarah H. Landis
Myra A. Montalbano

Desktop Publishing and Graphics Support
Jolene W. Altman
Morie M. Higgins
Peter M. Jenkins