CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

June 4, 1999 / Vol. 48 / No. 21

MMWR™
MORBIDITY AND MORTALITY
WEEKLY REPORT

Foodborne Botulism Associated With Home-Canned Bamboo Shoots — Thailand, 1998

On April 13, 1998, the Field Epidemiology Training Program in the Thailand Ministry of Public Health (TMPH) was informed of six persons with sudden onset of cranial nerve palsies suggestive of botulism who were admitted to a provincial hospital in northern Thailand. To determine the cause of the cluster, TMPH initiated an investigation on April 14. This report summarizes the results of the investigation, which indicate that the outbreak was caused by foodborne botulism from home-canned bamboo shoots.

Of the six patients, five resided in one village (village A), and the other patient resided in another village (village B). A case was defined as at least three symptoms (ptosis, dysphagia, dysarthria, dysphonia, dry mouth, symmetrical paralysis, diarrhea, or vomiting) that developed in a resident of village A or B during April 8–17. TMPH reviewed medical records and interviewed patients in the provincial hospital; seven additional cases were identified. Twelve (92%) case-patients resided in village A; nine (69%) were hospitalized. The median age was 44 years (range: 38–68 years), and nine were women. In the 13 case-patients, symptoms included dysphagia (85%), dry mouth (62%), vomiting (54%), dysphonia (54%), diarrhea (38%), symmetrical paralysis (31%), dysarthria (31%), and ptosis (23%). Four required mechanical ventilation. Two (15%) patients died; both were women, ages 46 and 68 years. Electromyography of two ill persons showed an incremental response to rapid repetitive stimulation consistent with botulism (*1*).

TMPH interviewed 11 case-patients and the family members of the two who died. All 13 ill persons had eaten home-canned bamboo shoots. No other common food was identified. Sixty-six healthy controls were selected among residents of village A and B who were preparing foods on April 16 for the burial services of the two decedents. All controls were women; 38 (58%) resided in village B. Four (6%) of the controls had eaten home-canned bamboo shoots (odds ratio [OR] undetermined; $p<0.001$). Cooking the food containing the bamboo shoots was protective; one (7.7%) of the 13 case-patients cooked bamboo shoots compared with three of four controls who had eaten bamboo shoots (OR=0.03; 95% confidence interval=0.0–0.95). The time between eating bamboo shoots and onset of illness was 6 hours to 6 days (median: 2 days).

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All 13 case-patients ate bamboo shoots from one 20-L (5.3-gallon) can. The bamboo shoots had been canned and sold by a village B resident, who also was a case-patient. The vendor picked the shoots, then cleaned and processed them by boiling them in a 20-L galvanized iron container for approximately 1 hour. While the bamboo shoots were boiling, the vendor sealed the container with lead. The canned bamboo shoots were stored at ambient temperatures for 3–6 months until they were sold.

Cultures of stool samples from two case-patients were negative for *Clostridium botulinum* at Siriraj Hospital. Cultures from six specimens of the implicated home-canned bamboo shoots sent to the U.S. Army Medical Research Institute for Infectious Diseases in Fort Detrick, Maryland, were negative for *C. botulinum.* One of six bamboo shoot specimens was positive for botulinum toxin type A by enzyme-linked immunosorbent assay and mouse antitoxin bioassay (*1*). The pH of two bamboo shoot specimens was measured at the Regional Medical Sciences Center and was 5.3 and 5.7.

As a result of this investigation, TMPH recommended increasing control of home-canned food production in all provinces and strengthening surveillance for foodborne botulism. The provincial government prohibited sale of the remaining 650 cans (13,000 L [3421 gallons]) of home-canned bamboo shoots in affected villages. Provincial authorities conducted an education campaign advising the population to buy only government-approved food and to heat home-canned bamboo shoots before eating. The national food safety committee in Thailand also instructed all 75 provincial authorities to enforce high temperature processing of home-canned foods.

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Editorial Note: Botulism is caused by a neurotoxin produced from the anaerobic, spore-forming bacterium *C. botulinum* and, in humans, is usually caused by toxin types A, B, or E. Botulism is characterized by symmetric, descending, flaccid paralysis of motor and autonomic nerves, usually beginning with the cranial nerves. Blurred vision, dysphagia, and dysarthria are common initial complaints. Foodborne botulism is caused by eating preformed toxin produced in food. The most frequent source is home-canned foods in which spores that survive an inadequate cooking and canning process germinate, reproduce, and produce toxin in the anaerobic environment of the canned food (*1*).

The findings in this report indicate that this outbreak was caused by botulism type A and implicated home-canned bamboo shoots as the common source. This is the first laboratory confirmed outbreak of botulism in Thailand.

Inadequate cooking of the bamboo shoots, the anaerobic condition in the can, and lack of an acidifier allowed *C. botulinum* spores to germinate and produce toxin in this food. Because *C. botulinum* spores are ubiquitous and commonly present in soil, these bamboo shoots probably contained spores (*2*). Boiling the shoots for an hour

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was not enough to kill the spores because they are highly resistant to heat. To safely prepare foods intended for canning or long-term storage, the U.S. Department of Agriculture recommends that all low-acid foods (i.e., foods with pH >4.6, including red meat, seafood, poultry, milk, and fresh vegetables) be sterilized at temperatures of 240 F (116 C) to 250 F (121 C) in pressure canners operated at 0.68 to 0.97 atm (10–15 lb/in^2). At these temperatures, the time needed to destroy bacteria in low-acid canned food ranges from 20 to 100 minutes (*3*). Spores that survive the cooking process generally will not grow in an acidic environment (pH <4.6) (*2*); however, the pH of the bamboo shoots was not low enough to prevent growth and toxin production. The toxin is heat-labile and can be destroyed by heating to 176 F (80 C) for 30 minutes, or 212 F (100 C) for 10 minutes (*2*).

Sale of home-canned food is a means of supplementing income in Thailand. The Department of Agriculture in Thailand requires that all canned low-acid foods be sterilized at temperatures of 250 F (121 C), and the Food and Drug Administration in Thailand requires that the canning process be approved and the cans be labeled. The label should include a date indicating when the food should be discarded and the place of manufacture. Lack of compliance with these recommendations and rules may have contributed to the outbreak.

A diagnosis of botulism can be confirmed by detecting toxin in serum or stool samples from patients or in implicated foods or by culturing the organism from patients' stools. Toxin detection using the mouse bioassay is performed only in selected laboratories and was not available in Thailand. The capacity to perform toxin detection in Thailand is being developed in collaboration with the Thai government and CDC.

The standard treatment for severe botulism is supportive therapy with mechanical ventilation. Trivalent botulinum antitoxin can reduce mortality if administered early; however, for the outbreak in Thailand, supplies were not available locally (*1*). The high case-fatality rate in this outbreak suggests that antitoxin should be made available in Thailand. In the United States, CDC releases antitoxin through an emergency distribution system. CDC has an agreement with the Pan American Health Organization to supply botulism antitoxin to other countries in the Western Hemisphere (*3,4*). A regional coordinated botulism antitoxin release system could facilitate availability of antitoxin in Thailand and other neighboring countries.

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Trends in HIV-Related Sexual Risk Behaviors Among High School Students — Selected U.S. Cities, 1991–1997

Despite recent decreases in sexual risk behaviors among high school students nationwide (*1*), human immunodeficiency virus (HIV) infection was the seventh leading cause of death among persons aged 15–24 years in the United States during 1997 (*2*). To determine whether the prevalence of HIV-related sexual risk behaviors among high school students also has decreased in certain urban areas heavily affected by the epidemic, CDC analyzed data from Youth Risk Behavior Surveys (YRBS) conducted in 1991, 1993, 1995, and 1997 in eight large-city school districts: Boston, Massachusetts; Chicago, Illinois; Dallas, Texas; Fort Lauderdale, Florida; Jersey City, New Jersey; Miami, Florida; Philadelphia, Pennsylvania; and San Diego, California. This report summarizes the results of this analysis, which indicate that, from 1991 to 1997, the percentage of high school students engaging in HIV-related sexual risk behaviors decreased in some U.S. cities.

The local YRBS, a component of CDC's Youth Risk Behavior Surveillance System, measures the prevalence of health-risk behaviors among adolescents through representative school-based surveys conducted biennially in selected city school districts. The 1991, 1993, 1995, and 1997 surveys used a two-stage cluster sample design to produce representative cross-sectional samples of students in grades 9–12. The school districts in this report obtained weighted data (i.e., had a scientifically selected sample, an overall response rate of at least 60%, and appropriate survey documentation) for at least 3 of the 4 years. Across all districts and years, sample sizes ranged from 369 to 3343; school response rates ranged from 81% to 100%; student response rates ranged from 62% to 85%; and overall response rates ranged from 60% to 85%.

For each survey, students completed an anonymous self-administered questionnaire that included questions about sexual intercourse, number of sex partners, and condom use. Sexual experience was defined as ever having had sexual intercourse, multiple sex partners as having had four or more sex partners during one's lifetime, current sexual activity as having had sexual intercourse during the 3 months preceding the survey, and condom use as having used a condom at last sexual intercourse among currently sexually active students. Data for racial/ethnic groups other than non-Hispanic black, non-Hispanic white, and Hispanic were combined because, when presented separately, sample sizes were too small for meaningful analysis.

Data were weighted to provide estimates generalizable to all public school students in grades 9–12 in the respective jurisdictions. SUDAAN was used to calculate 95% confidence intervals (CIs) and to conduct trend analyses. The percentage change in behavior from 1991 to 1997 was calculated as the 1997 prevalence minus the 1991 prevalence divided by the 1991 prevalence and multiplied by 100. Secular trends were analyzed using logistic regression analyses that controlled for sex, school grade, and race/ethnicity. This report provides results from tests of linear trends. For Boston, 1991 data were not available; therefore, Boston's trend analyses were calculated from 1993 to 1997. For Philadelphia, 1993 data were not available; trend analyses for that city excluded data for that year.

Demographic characteristics of the respondents in 1997 closely matched the characteristics of the respondents in 1991, 1993, and 1995 (Table 1). Respondents were

HIV-Related Sexual Risk Behaviors Among High School Students — Continued

TABLE 1. Percentage of high school students who completed the Youth Risk Behavior Survey, by demographic characteristics — selected U.S. cities, 1997

Characteristic	Boston	Chicago	Dallas	Fort Lauderdale	Jersey City	Miami	Philadelphia	San Diego
Sex								
Female	50.5	54.3	51.0	49.5	52.5	48.9	50.5	49.6
Male	49.5	45.7	49.0	50.5	47.5	51.1	49.5	50.4
Grade								
9	30.6	34.1	38.7	32.1	36.1	32.6	38.7	29.1
10	25.3	28.5	24.3	26.6	24.3	27.0	25.9	27.5
11	24.3	21.0	19.3	22.3	20.3	20.5	20.0	24.3
12	19.3	16.0	17.7	19.0	18.8	17.6	15.3	18.9
Race/Ethnicity								
White, non-Hispanic	16.4	8.1	11.4	39.8	4.0	10.5	23.9	31.7
Black, non-Hispanic	36.7	47.8	51.4	31.3	42.0	25.7	53.8	16.4
Hispanic	20.5	34.7	33.1	18.6	32.0	55.6	8.1	25.8
Other*	26.4	9.4	4.1	10.3	22.0	8.3	14.1	26.0

*Data for racial/ethnic groups other than non-Hispanic white, non-Hispanic black, and Hispanic were combined because, when presented separately, sample sizes were too small for meaningful analysis.

distributed evenly across sex and school grade, with slightly smaller percentages of 12th-grade students. The racial/ethnic distributions varied among cities, but generally had larger proportions of black and Hispanic students than of white students.

From 1991 to 1997, the proportion of sexually experienced students decreased significantly in Chicago, Dallas, and Fort Lauderdale; in Boston, the proportion of sexually experienced students decreased significantly from 1993 to 1997 (Table 2). The percentage decrease in these cities ranged from 7% in Dallas to 16% in Chicago. The prevalence of multiple sex partners among students in the same four cities decreased significantly (Table 2). The percentage decrease in these four cities ranged from 12% in Fort Lauderdale to 33% in Chicago.

From 1991 to 1997, the proportion of students in Chicago, Dallas, Fort Lauderdale, and Philadelphia who reported current sexual activity decreased significantly (Table 2). The percentage decrease in these cities ranged from 8% in Dallas to 16% in Chicago.

Condom use among currently sexually active students increased significantly in Chicago, Dallas, Fort Lauderdale, Jersey City, Miami, and Philadelphia from 1991 to 1997 (Table 2). The percentage increase in these cities ranged from 25% in Dallas to 52% in Jersey City.

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Editorial Note: Students in all but one of the eight U.S. cities examined in this study demonstrated a significant improvement in at least one HIV-related sexual risk behavior. The decrease in the percentage of urban students reporting sexual experience and multiple sex partners parallels recent national trends in these health-risk behaviors and represents a reversal of the increasing trend that occurred nationally during the 1970s and 1980s (*1,3,4*). The increase in four cities in the percentage of currently sexually active students reporting condom use also parallels national trends (*1,4*). Although the percentage of currently sexually active students remained stable nationally from 1991 to 1997 (*1*), this percentage decreased significantly in four of the

HIV-Related Sexual Risk Behaviors Among High School Students — Continued

TABLE 2. Percentage of high school students who reported HIV-related sexual risk behaviors, by city — selected U.S. cities, Youth Risk Behavior Survey, 1991–1997

City	Ever had sexual intercourse					Four or more sex partners during lifetime				
	1991		1997			1991		1997		
	%	(95% CI*)	%	(95% CI)	p value†	%	(95% CI)	%	(95% CI)	p value
Boston§	60.6	(±3.5)	54.7	(±4.0)	0.02	25.9	(± 3.6)	20.9	(±2.9)	0.02
Chicago	64.3	(±4.7)	53.9	(±6.9)	<0.01	29.8	(± 4.2)	19.9	(±4.1)	<0.001
Dallas	66.6	(±4.4)	62.1	(±3.0)	<0.01	32.1	(± 3.6)	25.8	(±2.7)	<0.001
Fort Lauderdale	55.5	(±4.6)	50.4	(±4.7)	<0.01	20.6	(± 3.2)	18.2	(±2.9)	<0.01
Jersey City	65.0	(±9.2)	58.1	(±2.7)	0.26	28.2	(± 6.9)	23.2	(±4.0)	0.34
Miami	54.8	(±5.1)	51.8	(±5.2)	0.32	20.4	(± 4.2)	19.6	(±3.4)	0.99
Philadelphia¶	68.0	(±7.8)	63.9	(±4.6)	0.10	31.6	(±10.9)	28.4	(±4.1)	0.23
San Diego	48.0	(±6.5)	44.7	(±3.1)	0.15	15.8	(± 4.7)	15.1	(±2.0)	0.40

City	Currently sexually active					Condom use during last sexual intercourse				
	1991		1997			1991		1997		
	%	(95% CI)	%	(95% CI)	p value	%	(95% CI)	%	(95% CI)	p value
Boston§	42.0	(±3.3)	39.3	(±3.7)	0.34	63.9	(± 5.1)	64.0	(±5.7)	0.84
Chicago	44.9	(±4.6)	37.7	(±4.5)	0.04	50.3	(± 5.6)	67.0	(±7.0)	<0.001
Dallas	47.5	(±4.2)	43.7	(±3.2)	<0.01	48.5	(± 1.9)	60.8	(±4.3)	<0.001
Fort Lauderdale	39.1	(±3.8)	34.1	(±3.7)	<0.01	42.9	(± 5.2)	64.3	(±4.0)	<0.001
Jersey City	47.1	(±7.3)	40.9	(±3.6)	0.17	39.0	(±10.9)	59.1	(±4.6)	<0.01
Miami	35.0	(±3.9)	34.2	(±4.7)	0.93	45.1	(± 5.1)	61.8	(±4.7)	<0.001
Philadelphia¶	50.7	(±6.7)	46.0	(±4.1)	0.05	47.6	(± 4.2)	70.5	(±5.1)	<0.001
San Diego	30.3	(±5.1)	31.2	(±2.6)	0.80	43.1	(± 9.4)	50.1	(±3.7)	0.13

*Confidence interval.
†For linear trend including data from 1991, 1993, 1995, and 1997.
§Percentage and CIs listed in 1991 column are for 1993; trend analysis is for 1993–1997.
¶Data for 1993 were not available.

eight cities included in this report. Declines in sexual risk behaviors among students in these cities are important because these cities have large black and Hispanic populations who have disproportionately higher rates of HIV infection (*5*).

The findings in this report are subject to at least three limitations. First, although data for each school district represent students in that jurisdiction, these school districts do not represent all cities heavily affected by the HIV epidemic. Second, these data apply only to adolescents who attended public high school. In the three cities for which data are available, 1996 high school dropout rates ranged from 3% in San Diego to 12% in Philadelphia (*6*). Adolescents not enrolled in school are more likely to be sexually experienced and to have had multiple sex partners than adolescents enrolled in school (*7*). Finally, the extent of underreporting or overreporting cannot be determined, although the survey questions demonstrate good test-retest reliability (*8*).

In 1987, CDC began providing fiscal and technical support to local education agencies in these and other cities where the prevalence of acquired immunodeficiency

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syndrome (AIDS) is high. This support assists schools in implementing HIV-prevention policies and programs for adolescents. For example, in Boston and Miami, the local education agency requires high schools to use a curriculum with demonstrated effectiveness in reducing sexual risk behaviors. In Chicago, high school students participate in peer education to develop social skills to avoid peer pressure. In Dallas, school nursing and counseling services support the HIV-prevention program. In Fort Lauderdale, school-based health centers provide health-care services to students at school, including referrals for HIV counseling and testing. CDC also provides fiscal and technical support to local community planning groups to plan and implement HIV-prevention programs and services for adolescents. The decreases in sexual risk behaviors among high school students in the eight cities analyzed in this report may reflect the impact of these and other efforts, including those of families, local government agencies, and community-based organizations.

Despite the reductions in risk for HIV infection among urban adolescents, many remain at risk. Although school-based HIV-prevention education is widely conducted in U.S. schools, efforts are needed to identify and disseminate effective curricula that can help students avoid risk for HIV infection and to increase the percentage of teachers who receive in-service training in HIV prevention (*9*). Community interventions should reinforce school-based HIV prevention and provide additional HIV-related services to all adolescents, particularly those at greatest risk for HIV infection.

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Illnesses Associated with Occupational Use of Flea-Control Products — California, Texas, and Washington, 1989–1997

Dips, shampoos, and other insecticide-containing flea-control products can produce systemic illnesses or localized symptoms in the persons applying them. Although these products may pose a risk to consumers, they are particularly hazardous to pet groomers and handlers who use them regularly. Illnesses associated with flea-control products were reported to the California Department of Pesticide Regulation,

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the Texas Department of Health, and the Washington State Department of Health, each of which maintains a surveillance system for identifying, investigating, and preventing pesticide-related illnesses and injuries.* This report describes cases of occupational illnesses associated with flea-control products, summarizes surveillance data, and provides recommendations for handling these products safely.

Case Reports

Case 1. In April 1997, a 35-year-old female pet groomer treated a dog for fleas by placing the animal in a tub containing water to which was added a concentrated phosmet solution. During application, the dog shook and sprayed the product on the exposed hands and arms of the groomer; a nearby open soft drink can, from which the groomer reported drinking, may have been contaminated. Within an hour after exposure, she developed skin flushing and irritation, shortness of breath, chest pain, accelerated heart rate and respiration, abdominal cramping, and nausea. She sought care at a hospital emergency department, where she was released without treatment after her clothes were discarded, and she showered with soap and ethanol. Plasma and red blood cell (RBC) cholinesterase levels were 4584 U/L (normal: 2900–7100 U/L) and 32 U/g hemoglobin (normal: 24–40 U/g hemoglobin), respectively; however, no baseline or subsequent postexposure cholinesterase levels were available for comparison. The case-patient had been a pet groomer for 1 year and did not use personal protective equipment (PPE) (e.g., gloves, gowns, or goggles). She reported that she regularly applied insecticides with her bare hands and that her clothing was often wet with water and flea-control dips or shampoos. Previous exposures had not made her ill. No analysis of the concentration of the phosmet product was performed.

Case 2. A female pet store employee (age unknown) became ill and sought attention at a medical clinic in September 1993 after she inadvertently sprayed her face and eyes with a pyrethrin/piperonyl butoxide solution while spraying a flea-infested cat house. Despite immediately flushing her eyes with water, she developed eye irritation with reddened conjunctiva and a burning sensation. Mild, diffuse wheezing was noted on examination, although its relation to her exposure is unknown; information about preexisting asthma or respiratory infection was unavailable. An allergic reaction and chemical conjunctivitis were diagnosed, and she received epinephrine, oral antihistamines, and oral steroids. At the time of exposure, she had not been wearing goggles or other PPE. She had not received training for safe handling of pesticides.

Case 3. A 21-year-old female veterinary assistant became ill in April 1992 after applying a phosmet-containing dip to a dog. She reported using a chemical-resistant apron, but no other PPE. A pruritic rash developed on her hands and arms approximately 2 hours after exposure. Later that evening, she developed systemic symptoms, including malaise, chest pains, nausea, vomiting, dizziness, diarrhea, stomach cramps, tremors, blurred vision, and excess salivation. Approximately 48 hours after exposure, she sought care at an urgent-care facility. Cholinesterase levels were not reported; she was treated with antihistamines. The case-patient had been a veterinary assistant for 8 months and had treated animals daily using several flea-control products. Whether she previously had used phosmet-containing products is unknown.

*These and other agencies, including the U.S. Environmental Protection Agency, collaborate with CDC's National Institute for Occupational Safety and Health in the Sentinel Event Notification System for Occupational Risk (SENSOR), a program that supports the surveillance of acute occupational pesticide-related illnesses and injuries.

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Surveillance Data

During 1989–1997, 16 cases of pesticide-related illness attributable to occupational use of flea-control products were reported in California (13), Washington (two), and Texas (one). The median age of the case-patients was 26 years (range: 16–73 years). Of the 16, eight (all in women) involved systemic illnesses caused by exposure to phosmet (five cases); pyrethrin/piperonyl butoxide (two cases); or a product containing carbaryl, malathion, and pyrethrin/piperonyl butoxide (one case). The other eight (four in women) involved localized symptoms (i.e., chemical conjunctivitis) caused by flea-control products splashing into the case-patients' eyes. In seven of these cases the products contained pyrethrin/piperonyl butoxide, and in one case a phosmet-containing product was used.

After receiving these data in 1998, U.S. Environmental Protection Agency (EPA) staff searched for similar cases in the Toxic Exposure Surveillance System (TESS). In 1993, TESS, maintained by the American Association of Poison Control Centers, began collection of poisoning reports that included symptom information submitted by approximately 85% of the poison control centers in the United States (1996 is the latest year data are available) (*1*). Poisonings involving intentional suicides, intentional malicious use, nonworkplace exposures, and unknown intention were excluded from the search.

Symptomatic occupational exposures involving flea-control dips were identified in 20 women and six men. Responsible active ingredients were phosmet (12 cases); pyrethrin/piperonyl butoxide (five cases); rotenone/pyrethrin (five cases); rotenone, malathion, chlorpyrifos, and unknown (one case each). Eight workers developed moderate health effects that required some form of treatment, and 18 developed minor health effects (minimally bothersome symptoms that resolved rapidly). Among the workers with moderate symptoms, the responsible ingredients were phosmet (five cases), rotenone/pyrethrin (two cases), and pyrethrin/piperonyl butoxide (one case).

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Editorial Note: Pyrethrins are plant-derived insecticides and are common ingredients in flea-control dips and shampoos (*2*). Although pyrethrins have low toxicity in humans (EPA classified as acute toxicity category III compounds[†]), exposures have caused dermatitis and upper respiratory tract irritation (*3*). Allergic contact dermatitis and asthma, sometimes resulting in death, also have been reported (*1,3*). Piperonyl butoxide, an EPA acute toxicity category IV compound, frequently is added to pyrethrins to slow chemical metabolism. No published reports of eye injury involving pyrethrins or piperonyl butoxide were identified.

Phosmet is an organophosphate insecticide and an EPA acute toxicity category II compound. The primary target in humans is the nervous system. Organophosphate exposure is associated with many of the symptoms reported by the first and third case-patients. In animals, phosmet is mildly irritating to the eyes but not irritating to

[†]EPA classifies all pesticides into one of four acute toxicity categories based on established criteria (40 CFR Part 156). Pesticides with the greatest toxicity are in category I and those with the least are in category IV.

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the skin (*4*); no published reports of skin or eye irritation in humans after exposure have been identified.

The findings in this report are subject to at least three limitations. First, although 76% of the cases described were in women, evidence suggests that this distribution may reflect workforce demographics (more women than men are employed as pet groomers and handlers [*5,6*]) rather than greater sensitivity to these toxins. Second, these surveillance data may not represent all workers with these illnesses. Third, this report describes only workplace-related illnesses following product exposure. Consumers using these products may experience similar illnesses; however, they were not included in this report.

Despite reports of the toxicity of flea-control products (*7–9*), including a high prevalence of symptoms among pet groomers and handlers (*5,9*), illnesses continue to occur among workers using these products. A survey of establishments using flea-control products found that groomers and handlers often were not provided with adequate safety training and PPE (*9*). When using pesticide products, label directions should be followed precisely. For phosmet-containing flea-control products, the label cautions users to wear safety glasses, long-sleeved shirts, long pants, elbow-length waterproof gloves, waterproof aprons, and unlined waterproof boots. For eye safety, CDC's National Institute for Occupational Safety and Health recommends goggles designed to provide splash protection.

Although the EPA does not require PPE for toxicity category III and IV compounds, the findings in this report suggest that PPE may be needed during pyrethrin/piperonyl butoxide use. Workers should be trained in the safe handling of flea-control products and in personal hygiene practices (e.g., washing before eating and prohibition of eating, drinking, food storage, and smoking where flea-control products are used), and should be instructed about insecticide dangers and taught to recognize the symptoms of overexposure. In California, agricultural workers who apply organophosphates on 7 days in any 30-day period are required to have plasma and RBC cholinesterase tests before commencing exposure and periodically thereafter (*8*). Similar testing of workers handling organophosphate-containing flea-control products may be prudent; substitution of safer, less toxic pesticides also should be considered.

This report provides an example of how state-based pesticide poisoning surveillance systems and TESS complement one another; however, both systems are affected by lack of adequate clinical recognition of pesticide-related illness and injury. A new EPA publication may assist health-care professionals to gain expertise in recognizing and managing these conditions (*10*). Free copies are available from EPA; telephone (800) 490-9198.

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Flea-Control Products — Continued

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Notice to Readers

Changes in National Notifiable Diseases Data Presentation

This issue of *MMWR* incorporates modifications to Tables I and II, Cases of Notifiable Diseases, United States. This year, the modifications will add diseases recently designated nationally notifiable by the Council of State and Territorial Epidemiologists, in conjunction with CDC, and highlight diseases commonly transmitted through food and water. As of January 1, 1999, 56 infectious diseases were designated as notifiable at the national level (Table 1). Except where otherwise indicated, the data presented in the notifiable disease tables are transmitted to CDC through the National Electronic Telecommunications System for Surveillance (NETSS).

Table I

For the infectious diseases added to the list of nationally notifiable diseases that were reportable in <40 states in 1998, data will now be included in Table I; these diseases are cyclosporiasis, human granulocytic ehrlichiosis, and human monocytic ehrlichiosis. Because not all nationally notifiable diseases are reportable in every state or territory, the reported numbers of cases of some diseases in Table I represent only the totals from states or territories in which the diseases are reportable.

Table II

Additions to Table II highlight the continuing or increasing role of foodborne pathogens in human illness. Cumulative totals of the number of salmonellosis, shigellosis, and cryptosporidiosis cases are presented by state and territory. To assist in characterizing the continuing burden of salmonellosis and shigellosis, data about such infections are presented from the Public Health Laboratory Information System (PHLIS) as well as NETSS. Laboratory-confirmed *Salmonella* and *Shigella* cases reported to PHLIS are based on state of report (rather than state of residence) and the date the specimen was collected (rather than *MMWR* week); however, reporting of such cases will be delayed until confirmatory laboratory testing is completed. In addition to current year cumulative totals provided for *Salmonella*, *Shigella*, and *Escherichia coli*

Notices to Readers — Continued

TABLE 1. Infectious diseases designated as notifiable at the national level — United States, 1999

Acquired immunodeficiency syndrome (AIDS)	Legionellosis
Anthrax	Lyme disease
Botulism	Malaria
Brucellosis	Measles
Chancroid	Meningococcal disease
Chlamydia trachomatis, genital infections	Mumps
Cholera	Pertussis
Coccidioidomycosis (regional)	Plague
Cryptosporidiosis	Poliomyelitis, paralytic
Cyclosporiasis	Psittacosis
Diphtheria	Rabies, animal
Ehrlichiosis, human granulocytic	Rabies, human
Ehrlichiosis, human monocytic	Rocky Mountain spotted fever
Encephalitis, California serogroup	Rubella
Encephalitis, eastern equine	Rubella, congenital syndrome
Encephalitis, St. Louis	Salmonellosis
Encephalitis, western equine	Shigellosis
Escherichia coli O157:H7	Streptococcal disease, invasive, group A
Gonorrhea	*Streptococcus pneumoniae*, drug-resistant invasive disease
Haemophilus influenzae, invasive disease	Streptococcal toxic-shock syndrome
Hansen disease (leprosy)	Syphilis
Hantavirus pulmonary syndrome	Syphilis, congenital
Hemolytic uremic syndrome, post-diarrheal	Tetanus
Hepatitis A	Toxic-shock syndrome
Hepatitis B	Trichinosis
Hepatitis C/non A, non B	Tuberculosis
HIV infection, pediatric	Typhoid fever
	Varicella deaths
	Yellow fever

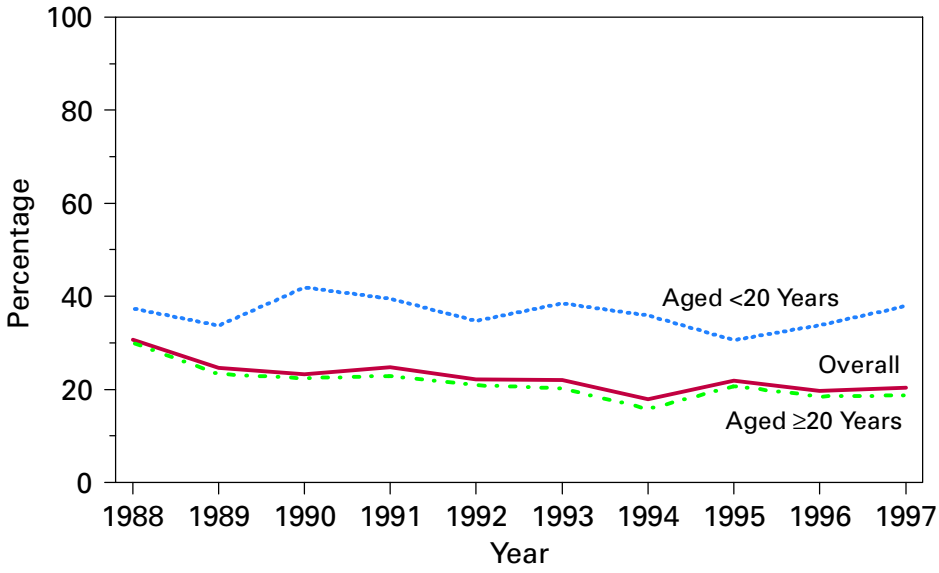
O157:H7 cases from both NETSS and PHLIS, cumulative prior year totals by state and territory also are provided from both systems. The final addition to Table II is prior year cumulative totals by state and territory for cases of animal rabies.

Reported by: Council of State and Territorial Epidemiologists. Div of Public Health Surveillance and Informatics, Epidemiology Program Office, CDC.

Erratum: Vol. 48, No. 20

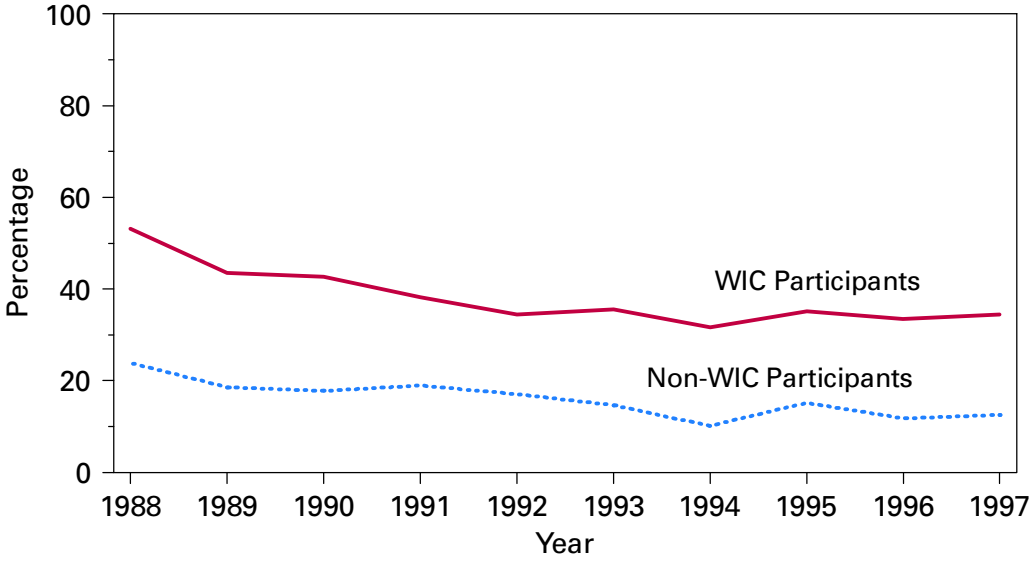
In the article, "Cigarette Smoking During the Last 3 Months of Pregnancy Among Women Who Gave Birth to Live Infants—Maine, 1988–1997," the legends were omitted from the figures on page 423. The corrected figures appear below.

FIGURE 1. Percentage of women who smoked during the last 3 months of pregnancy and gave birth to live infants, by age group and infant birth year — Maine, Pregnancy Risk Assessment Monitoring System, 1988–1997*



*Data for 1988 are for June–December.

FIGURE 2. Percentage of women who smoked during the last 3 months of pregnancy and gave birth to live infants, by WIC* participation and infant birth year — Maine, Pregnancy Risk Assessment Monitoring System, 1988–1997†



*Special Supplemental Nutrition Program for Women, Infants, and Children.
†Data for 1988 are for June–December.

Notice to Readers

Resources to Address Interpersonal Violence Among Youth

Recent acts of interpersonal violence in and around schools have motivated many communities to review student safety in their schools and to seek ways to prevent youth violence. Although school-associated violent deaths are rare compared with the violence young persons experience in homes and communities, they are important health events (*1*). Resources to assist communities in addressing youth violence include the following:

Blueprints for Violence Prevention. Researchers at the Center for the Study and Prevention of Violence, supported in part by the U.S. Department of Justice and CDC, have generated descriptions of programs that met evaluation criteria for preventing youth violence. In addition, the center provides technical assistance with these programs. The blueprints are available at the center's World-Wide Web site, http://www.colorado.edu/cspv/;* or from the Center for the Study and Prevention of Violence, University of Colorado, Boulder, Campus Box 442, Boulder, CO 80309-0442; telephone (303) 492-1032.

Violence in American Schools: A New Perspective (*2*). This book reviews the latest research on the causes of youth interpersonal violence and on school-based interventions that address this issue.

Youth Violence Prevention Team (YVPT) of CDC's National Center for Injury Prevention and Control (NCIPC). The YVPT develops and disseminates science-based knowledge, intervention, and prevention strategies to promote efforts to prevent injuries resulting from assaultive and suicidal behavior. Information is available at http://www.cdc.gov/ncipc/dvp/yvpt/yvpt.htm; or from the Division of Violence Prevention, NCIPC, CDC, Mailstop K-60, 4770 Buford Highway, N.E., Atlanta, GA 30341; telephone (770) 488-4646.

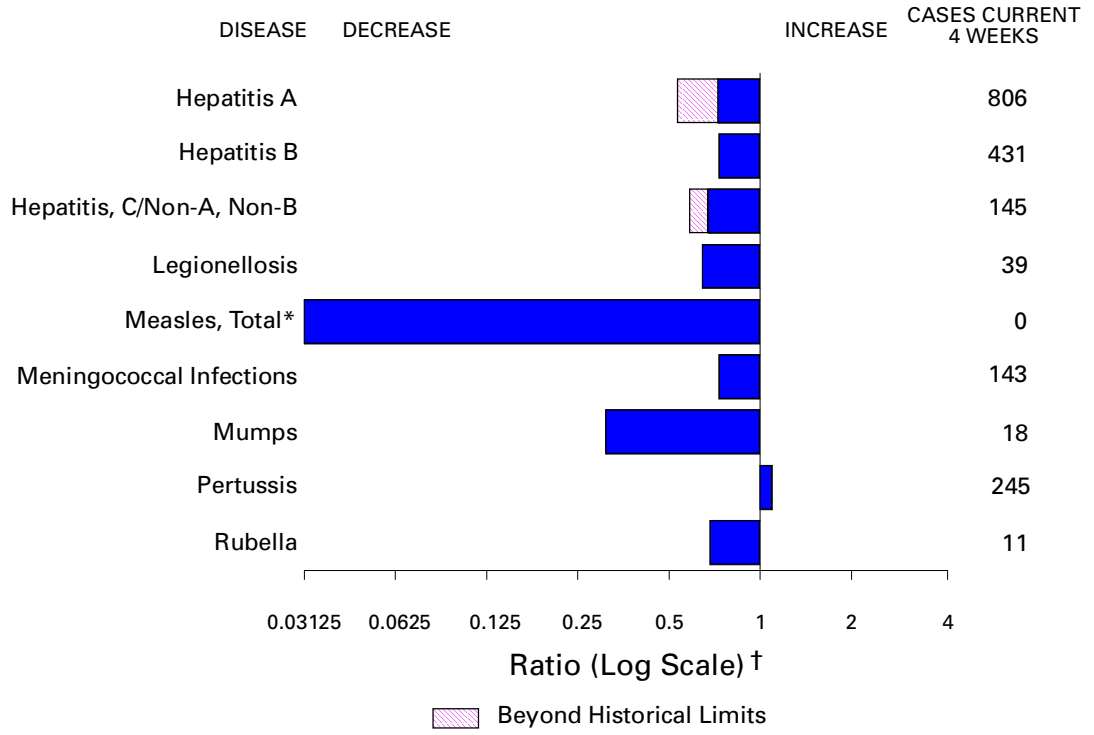
Early Warning, Timely Response: A Guide to Safe Schools (*3*). This manual, developed by the U.S. Department of Education in collaboration with other federal agencies and private education organizations, details characteristics of a safe school, early warning signs for troubled students, getting help for troubled students, developing a prevention and response plan, and responding to a crisis. Information is available at http://www.ed.gov/offices/OSERS/OSEP/earlywrn.html; or from the U.S. Department of Education, Special Education and Rehabilitative Services, Room 3131, Mary E. Switzer Building, Washington, DC 20202-2524.

Chicago Violence Prevention Strategic Plan. This document, coordinated through the Chicago Department of Public Health, is a framework for comprehensive citywide interpersonal violence prevention programs. Copies are available from Violence Prevention Programs, Chicago Department of Public Health, 333 S. State St., 2nd Floor, Chicago, IL 60604; telephone (312) 747-8787.

*References to sites of nonfederal organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

(Continued on page 459)

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending May 29, 1999, with historical data — United States



*No measles cases were reported for the current 4-week period, yielding a ratio for week 21 of zero (0).

†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 May 29, 1999 (21st Week)

	Cum. 1999		Cum. 1999
Anthrax	-	HIV infection, pediatric*§	73
Brucellosis*	14	Plague	-
Cholera	-	Poliomyelitis, paralytic	-
Congenital rubella syndrome	2	Psittacosis*	14
Cyclosporiasis*	8	Rabies, human	-
Diphtheria	-	Rocky Mountain spotted fever (RMSF)	73
Encephalitis: California*	2	Streptococcal disease, invasive Group A	978
eastern equine*	2	Streptococcal toxic-shock syndrome*	20
St. Louis*	-	Syphilis, congenital¶	51
western equine*	1	Tetanus	8
Ehrlichiosis human granulocytic (HGE)*	16	Toxic-shock syndrome	48
human monocytic (HME)*	4	Trichinosis	6
Hansen Disease*	35	Typhoid fever	111
Hantavirus pulmonary syndrome*†	7	Yellow fever	-
Hemolytic uremic syndrome, post-diarrheal*	9		

-: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 from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update May 23, 1999.
¶Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 1999, and May 30, 1998 (21st Week)

Reporting Area	AIDS		Chlamydia		Cryptosporidiosis		*Escherichia coli* O157:H7*			
							NETSS		PHLIS	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	18,649	19,858	223,144	244,426	472	775	506	447	261	317
NEW ENGLAND	953	620	7,765	8,239	23	63	76	55	61	47
Maine	22	13	193	382	4	14	4	2	-	-
N.H.	24	13	389	387	5	3	10	8	7	10
Vt.	6	10	201	151	6	7	8	-	1	-
Mass.	627	264	3,330	3,371	8	35	32	31	29	26
R.I.	60	60	953	1,011	-	4	4	3	6	1
Conn.	214	260	2,699	2,937	-	-	18	11	18	10
MID. ATLANTIC	4,463	5,687	28,840	38,841	76	252	32	41	7	13
Upstate N.Y.	531	714	N	N	44	162	28	30	-	-
N.Y. City	2,110	3,149	15,182	25,408	16	60	-	4	2	5
N.J.	967	986	4,180	4,637	7	8	4	7	5	7
Pa.	855	838	9,478	8,796	9	22	N	N	-	1
E.N. CENTRAL	1,289	1,510	34,271	39,064	47	88	85	85	41	60
Ohio	209	287	9,140	10,696	16	34	33	21	8	6
Ind.	169	292	4,444	4,308	8	19	14	12	10	20
Ill.	594	598	11,452	10,197	6	23	19	35	7	7
Mich.	252	251	9,235	8,486	17	12	19	17	10	11
Wis.	65	82	U	5,377	-	-	N	N	6	16
W.N. CENTRAL	389	345	7,809	13,992	34	64	94	48	36	36
Minn.	69	55	2,456	2,833	14	19	30	18	21	18
Iowa	44	20	1,199	1,695	7	14	9	7	2	1
Mo.	154	175	U	4,815	5	5	12	7	9	14
N. Dak.	4	4	325	407	3	5	3	1	-	1
S. Dak.	11	9	674	668	2	9	3	1	4	1
Nebr.	34	34	1,165	1,193	2	11	30	6	-	-
Kans.	73	48	1,990	2,381	1	1	7	8	-	1
S. ATLANTIC	5,239	4,979	51,684	43,515	123	64	60	26	31	23
Del.	72	57	1,157	1,036	-	-	2	-	-	1
Md.	560	572	4,299	3,345	6	5	4	10	-	6
D.C.	208	412	N	N	4	3	-	-	-	-
Va.	266	368	5,862	3,665	5	1	18	-	8	9
W. Va.	26	44	861	977	-	1	1	1	1	-
N.C.	356	333	9,320	9,141	1	N	11	7	10	3
S.C.	485	313	7,547	7,534	-	-	7	1	3	-
Ga.	826	610	12,211	9,858	72	17	4	2	-	-
Fla.	2,440	2,270	10,427	7,959	35	37	13	5	9	4
E.S. CENTRAL	844	784	16,142	15,799	7	15	35	32	14	18
Ky.	128	101	2,634	2,517	1	5	11	8	-	-
Tenn.	339	268	5,789	5,148	4	6	12	17	7	13
Ala.	214	232	3,811	3,917	1	N	9	5	6	5
Miss.	163	183	3,908	4,217	1	4	3	2	1	-
W.S. CENTRAL	2,091	2,463	30,137	34,206	26	12	19	22	11	6
Ark.	70	81	2,304	1,417	-	2	5	1	3	1
La.	410	412	6,866	4,968	18	5	3	-	3	1
Okla.	54	134	3,265	4,140	1	3	6	3	5	4
Tex.	1,557	1,836	17,702	23,681	7	2	5	18	-	-
MOUNTAIN	723	706	13,165	12,547	30	54	43	44	19	35
Mont.	4	13	512	475	4	-	3	2	-	-
Idaho	11	14	501	769	2	14	1	3	2	1
Wyo.	3	1	315	275	-	-	3	-	3	-
Colo.	144	126	3,117	3,206	4	2	15	8	5	8
N. Mex.	37	111	1,561	1,531	11	23	2	8	1	6
Ariz.	355	283	5,343	4,312	7	9	9	8	4	7
Utah	70	57	768	890	-	-	8	10	2	7
Nev.	99	101	1,048	1,089	2	6	2	5	2	6
PACIFIC	2,658	2,764	33,331	38,223	106	163	62	94	41	79
Wash.	153	196	4,812	4,526	-	-	17	20	16	27
Oreg.	63	87	2,171	2,003	10	16	16	22	12	22
Calif.	2,394	2,428	24,681	29,993	96	146	29	52	12	27
Alaska	6	12	786	783	-	-	-	-	-	-
Hawaii	42	41	881	918	-	1	-	-	1	3
Guam	1	-	-	148	-	-	N	N	-	-
P.R.	625	830	U	U	-	-	6	4	U	U
V.I.	13	17	N	N	-	-	N	N	U	U
Amer. Samoa	-	-	U	U	-	-	N	N	U	U
C.N.M.I.	-	-	N	N	-	-	N	N	U	U

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

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update May 23, 1999.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 1999, and May 30, 1998 (21st Week)

Reporting Area	Gonorrhea		Hepatitis C/NA,NB		Legionellosis		Lyme Disease	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	120,268	137,720	1,042	1,784	389	458	1,742	1,818
NEW ENGLAND	2,393	2,271	68	35	24	22	289	471
Maine	15	15	1	-	3	1	-	10
N.H.	30	37	-	-	3	2	-	8
Vt.	24	12	2	2	3	1	-	2
Mass.	967	815	62	32	7	8	135	113
R.I.	240	149	3	1	2	4	16	26
Conn.	1,117	1,243	-	-	6	6	138	312
MID. ATLANTIC	15,608	20,304	68	158	85	99	1,063	1,090
Upstate N.Y.	2,410	2,690	41	127	25	26	426	513
N.Y. City	6,329	10,975	-	-	7	22	5	30
N.J.	2,303	2,803	-	-	5	4	118	154
Pa.	4,566	3,836	27	31	48	47	514	393
E.N. CENTRAL	22,459	25,633	294	218	103	170	40	28
Ohio	5,449	6,544	-	6	29	58	25	17
Ind.	2,606	2,549	-	4	34	37	13	4
Ill.	8,052	8,025	8	23	10	21	1	2
Mich.	6,352	6,335	286	185	28	24	1	5
Wis.	U	2,180	-	-	2	30	U	U
W.N. CENTRAL	2,611	6,602	56	11	21	25	22	17
Minn.	925	974	2	-	1	3	13	4
Iowa	256	528	-	5	12	4	2	8
Mo.	U	3,522	50	4	7	8	-	3
N. Dak.	31	34	-	-	-	-	1	-
S. Dak.	67	107	-	-	1	-	-	-
Nebr.	520	450	-	2	-	8	-	-
Kans.	812	987	4	-	-	2	6	2
S. ATLANTIC	37,300	35,373	105	51	43	49	210	152
Del.	685	543	-	-	3	7	5	4
Md.	3,962	3,699	24	3	4	10	146	120
D.C.	1,042	1,416	-	-	-	3	1	4
Va.	3,914	2,475	8	3	10	4	15	10
W. Va.	230	343	11	3	N	N	4	4
N.C.	7,987	7,697	21	11	7	6	28	3
S.C.	4,087	4,874	12	-	6	4	2	1
Ga.	7,967	8,035	1	9	-	-	-	2
Fla.	7,426	6,291	28	22	13	14	9	4
E.S. CENTRAL	12,897	14,890	104	57	52	21	40	19
Ky.	1,185	1,385	6	9	44	11	16	5
Tenn.	4,421	4,319	38	45	6	4	12	7
Ala.	3,648	5,131	1	3	2	2	6	7
Miss.	3,643	4,055	59	-	-	4	6	-
W.S. CENTRAL	17,017	20,199	109	360	1	11	2	7
Ark.	1,091	1,588	2	8	-	1	-	4
La.	5,460	4,250	92	2	1	-	-	-
Okla.	1,649	2,212	2	1	-	4	2	-
Tex.	8,817	12,149	13	349	-	6	-	3
MOUNTAIN	3,598	3,348	68	212	23	26	5	1
Mont.	17	22	4	4	-	1	-	-
Idaho	26	69	4	77	-	-	1	-
Wyo.	11	11	24	50	-	1	1	-
Colo.	842	919	12	11	4	4	-	-
N. Mex.	273	303	4	39	1	2	1	-
Ariz.	1,979	1,559	16	2	3	5	-	-
Utah	75	86	2	14	9	11	1	-
Nev.	375	379	2	15	6	2	1	1
PACIFIC	6,385	9,100	170	682	37	35	71	33
Wash.	862	761	7	10	7	4	1	1
Oreg.	302	274	6	10	1	-	1	5
Calif.	4,971	7,735	157	608	28	31	69	27
Alaska	137	140	-	1	1	-	-	-
Hawaii	113	190	-	53	-	-	-	-
Guam	-	16	-	-	-	1	-	-
P.R.	127	156	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	-	14	-	-	-	-	-	-

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

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 1999, and May 30, 1998 (21st Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	417	454	2,135	2,920	9,683	10,856	4,481	6,504
NEW ENGLAND	15	18	344	549	567	735	113	178
Maine	1	-	63	95	41	52	2	4
N.H.	-	3	26	33	32	48	7	6
Vt.	1	-	55	30	23	25	4	3
Mass.	5	13	65	170	302	390	62	111
R.I.	-	2	42	33	32	36	12	13
Conn.	8	-	93	188	137	184	26	41
MID. ATLANTIC	103	128	426	622	1,315	1,789	335	1,026
Upstate N.Y.	30	28	286	432	318	416	83	195
N.Y. City	35	69	U	U	311	537	90	316
N.J.	25	17	82	81	307	400	103	351
Pa.	13	14	58	109	379	436	59	164
E.N. CENTRAL	42	45	27	35	1,283	1,946	693	1,039
Ohio	8	2	8	26	309	455	234	262
Ind.	7	1	-	-	140	206	31	72
Ill.	16	21	-	2	446	561	259	528
Mich.	9	18	17	6	352	402	129	104
Wis.	2	3	2	1	36	322	40	73
W.N. CENTRAL	18	23	239	294	596	612	281	326
Minn.	5	8	39	50	177	177	40	69
Iowa	5	3	46	61	73	101	5	19
Mo.	7	9	8	15	192	153	201	41
N. Dak.	-	1	60	52	11	15	2	3
S. Dak.	-	-	44	66	31	26	8	19
Nebr.	-	-	1	2	36	50	13	164
Kans.	1	2	41	48	76	90	12	11
S. ATLANTIC	119	102	807	1,010	1,999	1,845	869	1,121
Del.	1	1	3	17	40	21	5	6
Md.	34	37	171	220	262	257	50	84
D.C.	9	7	-	-	35	40	25	9
Va.	21	16	208	261	240	301	29	54
W. Va.	1	-	46	39	30	48	4	6
N.C.	9	8	171	273	342	278	77	109
S.C.	1	3	61	65	107	116	40	59
Ga.	10	13	71	50	338	244	83	238
Fla.	33	17	76	85	605	540	556	556
E.S. CENTRAL	8	12	106	120	531	484	436	366
Ky.	2	1	19	15	99	110	40	70
Tenn.	4	6	38	70	140	140	313	58
Ala.	2	3	49	33	172	135	46	211
Miss.	-	2	-	2	120	99	37	27
W.S. CENTRAL	8	13	41	72	697	745	668	1,136
Ark.	-	1	-	1	116	61	41	55
La.	6	4	-	-	126	41	62	71
Okla.	1	2	41	71	102	93	187	76
Tex.	1	6	-	-	353	550	378	934
MOUNTAIN	19	24	74	70	953	714	277	436
Mont.	2	-	27	21	21	31	6	1
Idaho	1	2	-	-	33	41	5	10
Wyo.	-	-	26	36	10	23	2	-
Colo.	7	7	1	1	302	179	47	60
N. Mex.	2	6	1	-	105	65	35	87
Ariz.	5	4	19	12	284	211	148	252
Utah	1	1	-	-	132	108	19	11
Nev.	1	4	-	-	66	56	15	15
PACIFIC	85	89	71	148	1,742	1,986	809	876
Wash.	5	6	-	-	156	130	38	47
Oreg.	9	9	1	-	125	111	25	50
Calif.	66	73	64	132	1,335	1,656	725	761
Alaska	-	-	6	16	16	14	-	3
Hawaii	5	1	-	-	110	75	21	15
Guam	-	1	-	-	-	9	-	19
P.R.	-	-	29	24	139	231	17	24
V.I.	U	U	U	U	-	-	-	-
Amer. Samoa	U	U	U	U	-	-	-	-
C.N.M.I.	-	-	-	-	-	9	-	10

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

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 1999, and May 30, 1998 (21st Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999†	Cum. 1998†
UNITED STATES	6,799	9,764	1,575	2,835	2,501	2,807	2,087	3,298
NEW ENGLAND	526	646	99	164	26	30	124	165
Maine	22	23	-	-	-	1	6	3
N.H.	21	65	5	6	-	1	1	2
Vt.	23	15	3	-	1	2	-	1
Mass.	283	374	57	111	16	20	59	92
R.I.	43	32	9	12	1	-	16	18
Conn.	134	137	25	35	8	6	42	49
MID. ATLANTIC	790	1,801	154	913	103	117	768	855
Upstate N.Y.	305	398	25	61	15	16	119	113
N.Y. City	273	544	73	367	44	22	482	528
N.J.	212	352	56	342	12	43	167	214
Pa.	-	507	-	143	32	36	U	U
E.N. CENTRAL	922	1,183	254	198	502	401	135	176
Ohio	117	350	14	61	37	67	U	U
Ind.	92	201	8	20	136	76	U	U
Ill.	271	189	172	98	259	154	U	U
Mich.	298	273	45	4	70	72	101	132
Wis.	144	170	15	15	U	32	34	44
W.N. CENTRAL	527	697	201	150	16	68	180	149
Minn.	177	213	34	71	5	5	76	49
Iowa	37	95	3	19	4	-	14	2
Mo.	227	234	150	26	U	50	70	64
N. Dak.	-	33	-	2	-	-	1	3
S. Dak.	26	30	4	15	-	1	3	9
Nebr.	-	9	-	9	4	4	6	5
Kans.	60	83	10	8	3	8	10	17
S. ATLANTIC	1,395	1,463	172	406	829	1,129	376	595
Del.	37	32	2	1	4	12	-	8
Md.	243	280	9	23	171	307	U	U
D.C.	-	-	-	-	14	31	19	45
Va.	142	269	5	22	65	72	83	118
W. Va.	32	46	2	4	2	2	19	21
N.C.	282	309	39	64	220	317	152	293
S.C.	110	101	15	25	104	138	103	110
Ga.	419	293	27	88	128	123	U	U
Fla.	130	133	73	179	121	127	U	U
E.S. CENTRAL	243	444	191	210	478	466	181	247
Ky.	-	53	-	38	43	47	U	U
Tenn.	119	247	171	67	260	227	U	U
Ala.	107	118	19	103	115	101	125	152
Miss.	17	26	1	2	60	91	56	95
W.S. CENTRAL	622	769	299	438	359	355	113	834
Ark.	75	53	21	14	27	52	61	41
La.	66	191	29	120	102	111	U	U
Okla.	65	58	60	30	89	20	52	46
Tex.	416	467	189	274	141	172	U	747
MOUNTAIN	658	668	120	245	83	93	61	93
Mont.	1	14	-	1	-	-	5	12
Idaho	32	35	3	6	-	-	-	4
Wyo.	8	19	1	-	-	-	1	2
Colo.	295	173	33	45	1	4	U	U
N. Mex.	79	60	13	36	-	10	22	25
Ariz.	190	202	64	141	78	71	U	U
Utah	-	107	-	9	2	3	18	21
Nev.	53	58	6	7	2	5	15	29
PACIFIC	1,116	2,093	85	111	105	148	149	184
Wash.	193	225	40	47	28	7	58	98
Oreg.	171	150	26	44	1	1	U	U
Calif.	651	1,619	-	-	73	140	U	U
Alaska	5	10	-	2	1	-	28	18
Hawaii	96	89	19	18	2	-	63	68
Guam	-	-	-	-	-	-	-	37
P.R.	-	-	-	-	78	98	41	46
V.I.	-	-	-	-	U	U	U	U
Amer. Samoa	-	-	-	-	U	U	U	U
C.N.M.I.	-	-	-	-	-	98	-	54

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

*Individual cases may be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

†Cumulative reports of provisional tuberculosis cases for 1998 and 1999 are unavailable ("U") for some areas using the Tuberculosis Information System (TIMS)

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending May 29, 1999, and May 30, 1998 (21st Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 1999†	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	1999	Cum. 1999	1999	Cum. 1999	Cum. 1999	Cum. 1998
UNITED STATES	505	492	6,448	9,111	2,454	3,506	-	22	-	11	33	29
NEW ENGLAND	35	33	76	129	37	60	-	1	-	2	3	1
Maine	4	2	2	13	-	-	-	-	-	-	-	-
N.H.	6	1	7	6	6	7	-	-	-	1	1	-
Vt.	4	2	3	10	1	2	-	-	-	-	-	-
Mass.	14	26	19	41	18	29	U	-	U	-	-	1
R.I.	-	2	9	8	12	11	-	-	-	-	-	-
Conn.	7	-	36	51	-	11	-	1	-	1	2	-
MID. ATLANTIC	63	71	417	658	321	514	-	-	-	2	2	10
Upstate N.Y.	35	26	97	140	81	123	-	-	-	2	2	1
N.Y. City	7	17	69	227	72	157	-	-	-	-	-	-
N.J.	21	25	57	127	41	88	-	-	-	-	-	8
Pa.	-	3	194	164	127	146	-	-	-	-	-	1
E.N. CENTRAL	69	79	1,363	1,289	231	673	-	1	-	-	1	8
Ohio	27	32	326	140	42	28	-	-	-	-	-	-
Ind.	12	14	87	121	23	317	-	1	-	-	1	3
Ill.	23	29	207	323	-	103	-	-	-	-	-	-
Mich.	7	-	717	602	165	184	-	-	-	-	-	5
Wis.	-	4	26	103	1	41	-	-	-	-	-	-
W.N. CENTRAL	40	31	289	720	139	159	-	-	-	-	-	-
Minn.	12	17	25	28	16	11	-	-	-	-	-	-
Iowa	10	1	65	331	23	21	-	-	-	-	-	-
Mo.	12	8	159	295	80	106	-	-	-	-	-	-
N. Dak.	-	-	1	2	-	2	U	-	U	-	-	-
S. Dak.	1	-	8	8	1	1	-	-	-	-	-	-
Nebr.	3	-	16	9	7	7	-	-	-	-	-	-
Kans.	2	5	15	47	12	11	-	-	-	-	-	-
S. ATLANTIC	122	92	743	620	475	350	-	1	-	3	4	6
Del.	-	-	1	3	-	-	-	-	-	-	-	1
Md.	31	30	135	147	70	70	-	-	-	-	-	1
D.C.	3	-	32	25	11	6	-	-	-	-	-	-
Va.	10	12	54	115	40	45	-	1	-	2	3	2
W. Va.	3	3	9	1	11	3	-	-	-	-	-	-
N.C.	21	12	52	41	100	81	-	-	-	-	-	-
S.C.	2	3	14	13	37	1	-	-	-	-	-	-
Ga.	24	19	190	121	56	59	-	-	-	-	-	1
Fla.	28	13	256	154	150	85	-	-	-	1	1	1
E.S. CENTRAL	41	31	197	182	197	170	-	-	-	-	-	-
Ky.	6	5	31	10	22	20	-	-	-	-	-	-
Tenn.	21	19	99	108	88	121	-	-	-	-	-	-
Ala.	12	6	32	38	43	29	-	-	-	-	-	-
Miss.	2	1	35	26	44	-	-	-	-	-	-	-
W.S. CENTRAL	30	26	1,140	1,645	201	497	-	1	-	2	3	-
Ark.	1	-	21	25	21	32	-	-	-	-	-	-
La.	7	12	48	14	61	14	-	-	-	-	-	-
Okla.	20	12	206	236	49	28	-	-	-	-	-	-
Tex.	2	2	865	1,370	70	423	-	1	-	2	3	-
MOUNTAIN	54	71	647	1,417	255	331	-	-	-	-	-	-
Mont.	1	-	12	38	15	3	-	-	-	-	-	-
Idaho	1	-	24	98	13	15	-	-	-	-	-	-
Wyo.	1	-	3	21	4	2	-	-	-	-	-	-
Colo.	6	12	114	106	40	42	-	-	-	-	-	-
N. Mex.	11	3	20	73	91	124	-	-	-	-	-	-
Ariz.	29	36	399	891	53	83	-	-	-	-	-	-
Utah	4	3	24	89	14	28	-	-	-	-	-	-
Nev.	1	17	51	101	25	34	-	-	-	-	-	-
PACIFIC	51	58	1,576	2,451	598	752	-	18	-	2	20	4
Wash.	1	3	107	388	24	49	-	-	-	-	-	1
Oreg.	18	28	112	197	40	76	-	8	-	-	8	-
Calif.	26	24	1,349	1,828	522	614	-	10	-	2	12	3
Alaska	4	1	3	12	7	7	-	-	-	-	-	-
Hawaii	2	2	5	26	5	6	-	-	-	-	-	-
Guam	-	-	-	-	-	1	U	-	U	-	-	-
P.R.	1	2	66	22	62	233	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	-	1	-	28	U	-	U	-	-	-

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

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

†Of 105 cases among children aged <5 years, serotype was reported for 45 and of those, 9 were type b.

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending May 29, 1999, and May 30, 1998 (21st Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998	1999	Cum. 1999	Cum. 1998
UNITED STATES	1,109	1,302	5	144	360	45	2,045	1,817	1	35	238
NEW ENGLAND	46	63	-	1	-	7	169	337	-	3	35
Maine	4	4	-	-	-	-	-	5	-	-	-
N.H.	-	4	-	1	-	7	51	21	-	-	-
Vt.	4	1	-	-	-	-	10	30	-	-	-
Mass.	30	28	U	-	-	U	97	272	U	3	8
R.I.	2	3	-	-	-	-	3	3	-	-	-
Conn.	6	23	-	-	-	-	8	6	-	-	27
MID. ATLANTIC	98	128	-	18	162	9	506	246	-	8	108
Upstate N.Y.	24	31	-	3	3	9	457	112	-	5	94
N.Y. City	25	14	-	3	153	-	10	13	-	-	9
N.J.	22	34	-	-	2	-	-	8	-	-	4
Pa.	27	49	-	12	4	-	39	113	-	3	1
E.N. CENTRAL	172	217	3	20	40	5	160	184	-	-	-
Ohio	77	70	-	6	16	3	98	62	-	-	-
Ind.	27	42	-	2	4	1	10	48	-	-	-
Ill.	46	60	3	6	6	-	33	13	-	-	-
Mich.	21	23	-	6	14	1	19	23	-	-	-
Wis.	1	22	-	-	-	-	-	38	-	-	-
W.N. CENTRAL	132	106	-	5	20	-	44	136	-	2	14
Minn.	28	16	-	1	10	-	18	78	-	-	-
Iowa	29	15	-	3	6	-	13	31	-	2	-
Mo.	52	46	-	1	3	-	10	11	-	-	2
N. Dak.	3	-	U	-	1	U	-	-	U	-	-
S. Dak.	5	6	-	-	-	-	2	4	-	-	-
Nebr.	4	4	-	-	-	-	1	5	-	-	-
Kans.	11	19	-	-	-	-	-	7	-	-	12
S. ATLANTIC	196	190	1	30	25	11	116	109	-	2	4
Del.	3	1	-	-	-	-	-	1	-	-	-
Md.	29	21	-	3	-	-	33	22	-	1	-
D.C.	1	-	-	2	-	-	-	1	-	-	-
Va.	24	20	-	8	4	-	13	6	-	-	-
W. Va.	3	5	-	-	-	-	1	1	-	-	-
N.C.	23	29	-	5	7	1	27	42	-	1	3
S.C.	24	30	-	3	4	-	8	13	-	-	-
Ga.	30	38	-	-	1	-	12	2	-	-	-
Fla.	59	46	1	9	9	10	22	21	-	-	1
E.S. CENTRAL	92	98	-	1	4	2	41	47	-	1	-
Ky.	24	15	-	-	-	-	3	18	-	-	-
Tenn.	32	35	-	-	-	-	24	14	-	-	-
Ala.	19	31	-	1	1	2	10	13	-	1	-
Miss.	17	17	-	-	3	-	4	2	-	-	-
W.S. CENTRAL	70	150	-	17	30	-	52	104	-	5	59
Ark.	18	21	-	-	-	-	4	13	-	-	-
La.	31	25	-	2	2	-	3	-	-	-	-
Okla.	15	24	-	1	-	-	7	13	-	-	-
Tex.	6	80	-	14	28	-	38	78	-	5	59
MOUNTAIN	85	79	-	9	20	8	216	348	1	12	5
Mont.	2	2	-	-	-	-	1	1	-	-	-
Idaho	8	3	-	-	1	3	90	118	-	-	-
Wyo.	3	3	-	-	1	-	2	7	-	-	-
Colo.	22	19	-	3	2	4	51	77	-	-	-
N. Mex.	10	12	N	N	N	-	18	57	-	-	1
Ariz.	28	28	-	-	4	-	24	61	1	11	1
Utah	7	8	-	5	3	1	28	14	-	-	2
Nev.	5	4	-	1	9	-	2	13	-	1	1
PACIFIC	218	271	1	43	59	3	741	306	-	2	13
Wash.	31	31	-	1	5	2	439	121	-	-	9
Oreg.	38	46	N	N	N	-	12	21	-	-	-
Calif.	141	189	1	36	39	-	281	160	-	2	2
Alaska	4	1	-	1	2	-	3	-	-	-	-
Hawaii	4	4	-	5	13	1	6	4	-	-	2
Guam	-	1	U	-	2	U	-	-	U	-	-
P.R.	2	4	-	-	1	-	7	2	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	-	2	U	-	1	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending May 29, 1999 (21st Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	478	349	72	35	14	8	37
Boston, Mass.	136	86	22	15	7	6	12
Bridgeport, Conn.	34	24	4	4	1	1	2
Cambridge, Mass.	22	13	9	-	-	-	1
Fall River, Mass.	20	19	-	-	1	-	1
Hartford, Conn.	45	32	9	4	-	-	3
Lowell, Mass.	34	28	4	1	1	-	5
Lynn, Mass.	11	9	1	1	-	-	-
New Bedford, Mass.	29	25	2	1	1	-	1
New Haven, Conn.	35	24	6	4	1	-	4
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	2	1	-	1	-	-	-
Springfield, Mass.	47	39	6	1	-	1	1
Waterbury, Conn.	19	16	2	-	1	-	2
Worcester, Mass.	44	33	7	3	1	-	5
MID. ATLANTIC	2,048	1,419	407	146	40	36	81
Albany, N.Y.	38	31	4	1	1	1	4
Allentown, Pa.	U	U	U	U	U	U	U
Buffalo, N.Y.	72	50	15	4	2	1	3
Camden, N.J.	15	12	1	-	-	2	1
Elizabeth, N.J.	14	9	5	-	-	-	-
Erie, Pa.	39	29	7	2	-	1	1
Jersey City, N.J.	41	26	8	6	1	-	-
New York City, N.Y.	1,100	741	239	87	15	18	30
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	13	2	6	5	-	-	-
Philadelphia, Pa.	346	249	62	21	6	8	19
Pittsburgh, Pa.§	51	35	13	3	-	-	2
Reading, Pa.	23	18	3	1	1	-	2
Rochester, N.Y.	121	95	15	3	5	3	12
Schenectady, N.Y.	20	13	4	1	2	-	1
Scranton, Pa.	28	20	6	-	2	-	-
Syracuse, N.Y.	68	49	10	6	1	2	2
Trenton, N.J.	38	27	5	3	3	-	3
Utica, N.Y.	21	13	4	3	1	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,915	1,313	368	135	54	43	121
Akron, Ohio	51	33	10	4	-	4	-
Canton, Ohio	34	26	6	1	1	-	3
Chicago, Ill.	470	292	99	47	18	12	29
Cincinnati, Ohio	U	U	U	U	U	U	U
Cleveland, Ohio	U	U	U	U	U	U	U
Columbus, Ohio	189	138	34	7	6	4	21
Dayton, Ohio	110	88	19	1	1	1	8
Detroit, Mich.	209	124	47	22	11	5	6
Evansville, Ind.	38	30	6	2	-	-	2
Fort Wayne, Ind.	52	42	7	2	-	1	1
Gary, Ind.	14	9	5	-	-	-	-
Grand Rapids, Mich.	55	36	9	7	1	2	6
Indianapolis, Ind.	163	111	30	10	8	4	10
Lansing, Mich.	54	38	10	5	-	1	3
Milwaukee, Wis.	133	92	24	11	2	4	14
Peoria, Ill.	54	37	11	3	1	2	3
Rockford, Ill.	54	39	8	5	1	1	3
South Bend, Ind.	50	41	5	4	-	-	3
Toledo, Ohio	121	86	26	4	3	2	5
Youngstown, Ohio	64	51	12	-	1	-	4
W.N. CENTRAL	665	472	124	42	15	11	43
Des Moines, Iowa	100	75	20	5	-	-	11
Duluth, Minn.	22	18	4	-	-	-	2
Kansas City, Kans.	U	U	U	U	U	U	U
Kansas City, Mo.	93	67	16	7	2	1	3
Lincoln, Nebr.	31	23	4	2	1	1	-
Minneapolis, Minn.	179	138	20	10	4	6	16
Omaha, Nebr.	91	61	20	5	5	-	4
St. Louis, Mo.	94	50	31	8	2	3	5
St. Paul, Minn.	55	40	9	5	1	-	2
Wichita, Kans.	U	U	U	U	U	U	U

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,009	663	199	104	28	14	57
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	213	122	47	36	5	2	20
Charlotte, N.C.	97	63	21	8	3	2	8
Jacksonville, Fla.	156	105	31	11	6	3	4
Miami, Fla.	94	66	18	8	2	-	-
Norfolk, Va.	43	28	5	5	3	2	1
Richmond, Va.	U	U	U	U	U	U	U
Savannah, Ga.	54	33	12	6	1	2	3
St. Petersburg, Fla.	70	62	5	2	1	-	7
Tampa, Fla.	168	119	26	16	5	2	11
Washington, D.C.	96	63	21	9	2	1	3
Wilmington, Del.	18	2	13	3	-	-	-
E.S. CENTRAL	657	437	143	45	19	12	34
Birmingham, Ala.	153	109	26	7	4	6	16
Chattanooga, Tenn.	83	60	16	3	3	1	5
Knoxville, Tenn.	73	47	16	7	3	-	-
Lexington, Ky.	69	45	15	6	2	1	5
Memphis, Tenn.	U	U	U	U	U	U	U
Mobile, Ala.	91	61	16	9	4	1	1
Montgomery, Ala.	32	18	9	3	2	-	-
Nashville, Tenn.	156	97	45	10	1	3	7
W.S. CENTRAL	1,103	699	228	95	33	47	75
Austin, Tex.	66	47	19	-	-	-	5
Baton Rouge, La.	U	U	U	U	U	U	U
Corpus Christi, Tex.	53	39	10	2	-	2	2
Dallas, Tex.	197	114	40	27	10	6	6
El Paso, Tex.	85	52	21	10	1	1	4
Ft. Worth, Tex.	128	73	22	15	5	13	16
Houston, Tex.	U	U	U	U	U	U	U
Little Rock, Ark.	73	44	20	2	4	3	5
New Orleans, La.	107	57	25	15	4	6	-
San Antonio, Tex.	194	135	33	13	7	6	19
Shreveport, La.	80	55	13	5	1	6	8
Tulsa, Okla.	120	83	25	6	1	4	10
MOUNTAIN	824	574	142	74	20	14	45
Albuquerque, N.M.	111	75	21	11	3	1	1
Boise, Idaho	46	35	6	2	2	1	2
Colo. Springs, Colo.	50	35	9	4	1	1	4
Denver, Colo.	120	71	29	11	4	5	8
Las Vegas, Nev.	171	114	34	19	2	2	9
Ogden, Utah	30	25	3	1	1	-	-
Phoenix, Ariz.	49	37	6	5	1	-	2
Pueblo, Colo.	25	17	6	2	-	-	5
Salt Lake City, Utah	99	73	12	8	5	1	7
Tucson, Ariz.	123	92	16	11	1	3	7
PACIFIC	1,580	1,133	274	124	26	21	131
Berkeley, Calif.	12	8	4	-	-	-	1
Fresno, Calif.	56	36	13	5	1	1	3
Glendale, Calif.	21	17	3	1	-	-	4
Honolulu, Hawaii	67	49	11	4	2	1	4
Long Beach, Calif.	71	55	10	4	1	1	18
Los Angeles, Calif.	413	291	78	30	10	4	19
Pasadena, Calif.	20	17	2	1	-	-	2
Portland, Oreg.	114	80	17	14	2	1	8
Sacramento, Calif.	179	120	38	17	2	2	25
San Diego, Calif.	144	98	22	15	4	3	17
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	203	150	31	16	1	5	17
Santa Cruz, Calif.	23	20	2	1	-	-	1
Seattle, Wash.	110	85	15	7	2	1	1
Spokane, Wash.	56	42	9	2	1	2	7
Tacoma, Wash.	91	65	19	7	-	-	4
TOTAL	10,279¶	7,059	1,957	800	249	206	624

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.

Notices to Readers — Continued

References

1. Kachur SP, Stennies GM, Powell KP, et al. School-associated violent deaths in the United States, 1992 to 1994. JAMA 1996;275:1729–33.
2. Hamburg B, Elliott DS, Williams KR, eds. Violence in American schools: a new perspective. New York: Cambridge University Press, 1998.
3. US Department of Education. Early warning, timely response: a guide to safe schools. Washington, DC: US Department of Education, 1998.

Notice to Readers

Availability of Updated HIV Treatment Guidelines

Two HIV-related treatment guidelines have been updated. "Guidelines for the Use of Antiretroviral Agents in HIV-Infected Adults and Adolescents," prepared by the U.S. Department of Health and Human Services and the Henry J. Kaiser Foundation Panel on Clinical Practices for Treatment of HIV Infection, has been updated several times since publication in *MMWR* (*1*). The most recent update contains information about the newly licensed nucleoside reverse transcriptase inhibitor, abacavir (Ziagen™ *).

In addition, the Working Group on Antiretroviral Therapy and Medical Management of HIV-Infected Children, comprising specialists caring for HIV-infected infants, children, and adolescents, has updated "Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection" (*2*). These guidelines include information about the use of abacavir (Ziagen™) and the use of efavirenz (Sustiva™), a non-nucleoside reverse transcriptase inhibitor, for treating HIV infection in children. Also included is updated information about the newly available liquid preparation of nevirapine (Viramune™) for pediatric use.

The updates are available from the World-Wide Web site of the HIV/AIDS Treatment Information Service (ATIS) at http://www.hivatis.org,† or from ATIS, telephone (800) 448-0440.

References

1. CDC. Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents. MMWR 1998;47(no. RR-5).
2. CDC. Guidelines for the use of antiretroviral agents in pediatric HIV infection. MMWR 1998; 47(no. RR-4).

* Use of trade names and commercial sources does not imply endorsement by the U.S. Department of Health and Human Services or CDC.

† References to sites of nonfederal organizations on the World-Wide Web are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of pages found at these sites.

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