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Bioterrorism Alleging Use of Anthrax and Interim Guidelines for Management — United States, 1998

From October 30 through December 23, 1998, CDC received reports of a series of bioterroristic threats of anthrax* exposure. Letters alleged to contain anthrax were sent to health clinics on October 30, 1998, in Indiana, Kentucky, and Tennessee. During December 17–23 in California, a letter alleged to contain anthrax was sent to a private business, and three telephone threats of anthrax contamination of ventilation systems were made to private and public buildings. All threats were hoaxes and are under investigation by the Federal Bureau of Investigation (FBI) and local law enforcement officials. The public health implications of these threats were investigated to assist in developing national public health guidelines for responding to bioterrorism. This report summarizes the findings of these investigations and provides interim guidance for public health authorities on bioterrorism related to anthrax.

Indiana

The threatening letter was opened by an administrative assistant, who called 911; police, fire, emergency medical services (EMS), and hazardous materials units (HAZMAT) (i.e., first responders) were sent to the clinic, and the local FBI office was contacted. The letter was sealed in a plastic bag and collected by FBI. All 31 adults who were in the building when the letter was opened were considered possibly exposed to *Bacillus anthracis* spores and were detained for approximately 3 hours.

First responders in consultation with public health officials in the Marion County Health Department (MCHD) decontaminated the potentially exposed persons in a temporary shelter constructed on the scene. HAZMAT personnel used full protective gear with self-contained respirators (level A protection). The 31 occupants placed their clothing and personal effects in plastic bags and showered using soap and water plus a dilute bleach solution. The desktop where the letter was opened was washed with a 5% hypochlorite solution (i.e., standard household bleach). All 31 persons were transported to local emergency departments (EDs) to receive oral chemoprophylaxis with ciprofloxacin (500 mg twice daily); some underwent additional decontamination (i.e., showered again with soap and water) as required by hospital policy.

*Infection caused by the bacterium *Bacillus anthracis*.

Bioterrorism — Continued

Public health officials from the MCHD collected contact information from all persons and informed them they would be notified when results from laboratory testing were available; arrangements also were made for counseling. The letter was taken by FBI to the Indiana State Department of Health Laboratory, where cultures for *B. anthracis* were negative. The next day, FBI transported the letter to the United States Army Medical Research Institute for Infectious Diseases (USAMRIID), U.S. Department of Defense, in Ft. Detrick, Maryland, where direct fluorescent antibody testing and culture were negative.

Kentucky

The letter was opened by an administrative assistant; the assistant called the postal inspector and was advised to put the letter in a plastic bag. The postal inspector contacted the local FBI office and went to the clinic. FBI contacted the assistant fire chief who sent police, fire, EMS, and a HAZMAT unit to the clinic.

Jefferson County Health Department personnel recommended that the staff member and the postal inspector shower with soap and water at the clinic and obtain oral chemoprophylaxis (ciprofloxacin 500 mg twice daily) at a local ED. The Kentucky State Department for Public Health, FBI's Weapons of Mass Destruction Office, and USAMRIID advised that decontamination and oral chemoprophylaxis were not necessary for five other adults in the center who may have been exposed to the letter. The desktop where the envelope had been opened was decontaminated with a hypochlorite solution.

The letter was taken by FBI to a biosafety level 3 facility at the University of Louisville Hospital Clinical Microbiology Laboratory, where phase microscopy revealed no spores consistent with *B. anthracis*, and cultures were negative. The next day, FBI transported the letter to USAMRIID, where direct fluorescent antibody testing and culture were negative.

Tennessee

The letter was opened by an administrative assistant, who called the local police department; officers took custody of the letter and placed it in a plastic bag. A clinic administrator contacted CDC seeking advice about preventive health measures. CDC notified the local FBI field office and the Tennessee Department of Health regarding the threat. FBI took the letter from the local police department to USAMRIID, where tests were negative for *B. anthracis*. The administrative assistant and the responding police officer, both of whom had direct contact with the letter, received chemoprophylaxis.

California

During December 17–23, 1998, four threats alleging use of anthrax were reported in greater metropolitan Los Angeles. The response to all four threats involved the police and fire departments, EMS, HAZMAT, FBI, the County of Los Angeles Department of Health Services (CLADHS), the California Department of Health Services, and CDC.

The first threat was a letter mailed to a private business; all 28 adults considered at risk for exposure to *B. anthracis* were decontaminated at the scene and given chemoprophylaxis. The letter was transported by FBI to a CLADHS biosafety level 3 laboratory and cultured for *B. anthracis*; all cultures were negative.

Bioterrorism — Continued

In the second threat, a telephone caller to a government building claimed to have contaminated the building's air-handling system. Approximately 95 adults received chemoprophylaxis. First responders, FBI, and CLADHS jointly decided not to decontaminate involved persons.

In the third threat, a telephone caller to 911 claimed to have contaminated the air-handling system of a federal building with *B. anthracis*; 1200–1500 persons (at least one of whom was pregnant) and two children potentially were exposed. Contact information for potentially exposed persons was collected for follow-up. No one was decontaminated on the scene, and chemoprophylaxis was not recommended; all potentially exposed persons were asked to go home, wipe down the interiors of their potentially contaminated vehicles with a solution of one part bleach to 10 parts water, place their clothing in a plastic bag until results from laboratory testing were known, and then shower. Environmental samples taken from the air ducts of the building were cultured for *B. anthracis* at CLADHS; all cultures were negative.

In the fourth incident, an anonymous telephone caller to 911 claimed to have contaminated the air-handling system of an office building occupied by approximately 200 persons. FBI was contacted; the threat was deemed to have low credibility. FBI in conjunction with CLADHS decided that neither decontamination nor chemoprophylaxis was warranted. Environmental samples tested at CLADHS were negative for *B. anthracis*.

Reported by: Marion County Health Dept, Indianapolis; Indiana State Dept of Health. Jefferson County Health Dept, Louisville; Kentucky Dept for Public Health. Knox County Health Dept, Knoxville; Tennessee Dept of Health. County of Los Angeles Dept of Health Svcs, Los Angeles; California Dept of Health Svcs. Council of State and Territorial Epidemiologists, Atlanta, Georgia. Federal Bur of Investigation, Washington, DC. US Army Medical Research Institute for Infectious Diseases, US Dept of Defense, Ft. Detrick, Maryland. Office of Emergency Preparedness, US Dept of Health and Human Svcs. Emergency Response Coordinating Group, National Center for Environmental Health; Meningitis and Special Pathogens Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; and an EIS Officer, CDC.

Editorial Note: Anthrax is an acute infectious disease caused by the spore-forming bacterium *B. anthracis*. It occurs most frequently as an epizootic or enzootic disease of herbivores (e.g., cattle, goats, and sheep), which acquire spores from direct contact with contaminated soil. Humans usually become infected through contact with or ingestion or inhalation of *B. anthracis* spores from infected animals or their products (e.g., goat hair). Human-to-human transmission has not been documented.

Although all the threats alleging use of anthrax described in this report were hoaxes, they demonstrate settings where bioterrorism can occur and the potential public health impact. These threats required prompt action by health, law enforcement, and laboratory personnel. Coordination and communication across agencies are necessary to protect the public and first responders from credible biologic warfare and bioterrorism agents such as anthrax.

The spore form of *B. anthracis* is durable and can be delivered as an aerosol (*1*). The incubation period for anthrax is 2–60 days. Inhalation causes the most serious form of human anthrax, and although contemporary experience in humans is limited, mortality may be high even with appropriate therapy (T.V. Inglesby, D.A. Henderson, J.G. Bartlett, et al., Working Group for Civilian Biodefense, personal communication, 1998). The likelihood of developing cutaneous disease is low after exposure of *B. anthracis* spores to intact skin. The risk for "secondary" anthrax through reaerosoliza-

Bioterrorism — Continued

tion appears to be low in settings where *B. anthracis* spores were released unintentionally or were present at low levels (*2*). In situations where the threat for transmission of *B. anthracis* spores is deemed credible, decontamination of skin and potential fomites (e.g., clothing or desks) may be considered to reduce the risk for cutaneous and gastrointestinal forms of disease.

Planning for Response to Threats

The public health response to bioterrorism requires communication and coordination with first responders and law enforcement officials. State and local health departments should work with these groups to ensure that local disaster preparedness plans address bioterrorism; define the roles of each agency, including protection of first responders; and are tested through simulations. FBI has jurisdiction for bioterrorism response but recognizes the need to conduct epidemiologic investigations, define at-risk groups, and rapidly implement potentially life-saving medical and public health responses. When bioterrorism alleging use of anthrax or other agents occur, the local emergency response system should be activated by dialing 911 in most communities; in communities without 911 systems, local law enforcement authorities should be notified. The local FBI field office and local and state public health authorities also should be notified.

FBI will coordinate the collection of evidence (e.g., letters, packages, or air-handling system samples) and deliver materials to an FBI or U.S. Department of Defense laboratory for testing. To guide decision-making, test results identifying *B. anthracis* should be available as soon as possible, at least within 24–48 hours. Efforts are under way to assess and enhance the capabilities of state and local health department laboratories to fulfill the need for rapid analysis. Planning for laboratory testing should be part of bioterrorism preparedness by state and local public health, law enforcement, and first responder authorities in consultation with federal officials.

Public health officials, working with law enforcement and first response personnel, should determine the need for decontamination and postexposure prophylaxis. In most of the recent hoaxes purporting anthrax exposure, immediate postexposure decontamination and prophylaxis have not been indicated because of the lack of credibility of the threat. Public health officials should collect contact information for potentially exposed persons for notification of laboratory results or other follow-up. Potentially exposed persons should be given information about the signs and symptoms of illnesses associated with the biologic agent and about whom to contact and where to go should they develop illness.

Recommendations for Postexposure Prophylaxis

Postexposure prophylaxis for exposure to *B. anthracis* consists of chemoprophylaxis and vaccination. Oral fluoroquinolones are the drugs of choice for adults, including pregnant women (T.V. Inglesby, D.A. Henderson, J.G. Bartlett, et al., Working Group for Civilian Biodefense, personal communication, 1998; *3*) (Table 1). If fluoroquinolones are not available or are contraindicated, doxycycline is acceptable. Children should receive prophylaxis with oral ciprofloxacin or oral doxycycline (T.V. Inglesby, D.A. Henderson, J.G. Bartlett, et al., Working Group for Civilian Biodefense, personal communication, 1998; *3*) (Table 1). Prophylaxis should continue until *B. anthracis* exposure has been excluded.

Bioterrorism — Continued

TABLE 1. Recommended postexposure prophylaxis for exposure to *Bacillus anthracis

Drug	Adults	Children†
Oral fluroquinolones		
One of the following:		
Ciprofloxacin	500 mg twice daily	20–30 mg per kg of body mass per day divided every 12 hours
Levofloxacin	500 mg once daily	Not recommended
Ofloxacin	400 mg twice daily	Not recommended
If fluoroquinolones are not available or are contraindicated		
Doxycycline	100 mg twice daily	5 mg per kg of body mass per day divided every 12 hours

*Prophylaxis should continue until exposure to *B. anthracis* has been excluded. If exposure is confirmed, prophylaxis should continue for 4 weeks and until three doses of vaccine have been administered or for 8 weeks if vaccine is not available.

†Use of tetracyclines and fluoroquinolones in children has well-known adverse effects; these risks must be weighed carefully against the risk for developing life-threatening disease. If a release of *B. anthracis* is confirmed, children should receive oral amoxicillin 40 mg per kg of body mass per day divided every 8 hours (not to exceed 500 mg three times daily) as soon as penicillin susceptibility of the organism has been confirmed.

Postexposure vaccination with an inactivated, cell-free anthrax vaccine (Bioport Corporation, formerly Michigan Biologic Products Institute†) is indicated in conjunction with chemoprophylaxis following a proven biologic incident (T.V. Inglesby, D.A. Henderson, J.G. Bartlett, et al., Working Group for Civilian Biodefense, personal communication, 1998; *4*). Postexposure vaccination consists of three injections: as soon as possible after exposure and at 2 and 4 weeks after exposure. Anthrax vaccine can be requested through CDC. Although this vaccine is now being administered routinely to U.S. military personnel, routine vaccination of civilian populations is not recommended. This vaccine has not been evaluated for safety and efficacy in children aged <18 years or adults aged >60 years.

If decontamination is appropriate, persons should remove their clothing and personal effects, place all items in plastic bags, and shower using copious quantities of soap and water (*5*). Plastic bags with personal effects should be labeled clearly with the owner's name, contact telephone number, and inventory of the bag's contents. Personal items may be kept as evidence in a criminal trial or returned to the owner if the threat is unsubstantiated. For incidents involving possibly contaminated letters, the environment in direct contact with the letter or its contents should be decontaminated with a 0.5% hypochlorite solution (i.e., one part household bleach to 10 parts water) following a crime scene investigation. Personal effects may be decontaminated similarly.

CDC and other offices in the U.S. Department of Health and Human Services are working with state and local health departments, federal agencies, and nongovernmental organizations to improve the public health capacity to address bioterrorism and develop locality-specific response plans. CDC also can assist public health officials with decision-making if a threat occurs alleging the use of a biologic agent.

†Use of trade names and commercial sources is for identification only and does not imply endorsement by CDC or the U.S. Department of Health and Human Services.

Bioterrorism — Continued

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Physician Advice and Individual Behaviors About Cardiovascular Disease Risk Reduction — Seven States and Puerto Rico, 1997

Cardiovascular disease (CVD) (e.g., heart disease and stroke) is the leading cause of death in the United States and accounted for 959,227 deaths in 1996 (*1*). Strategies to reduce the risk for heart disease and stroke include lifestyle changes (e.g., eating fewer high-fat and high-cholesterol foods) and increasing physical activity. The U.S. Preventive Services Task Force and the American Heart Association (AHA) recommend that, as part of a preventive health examination, all primary-care providers counsel their patients about a healthy diet and regular physical activity (*2,3*). AHA also recommends low-dose aspirin use as a secondary preventive measure among persons with existing CVD (*4*). To determine the prevalence of physician counseling about cardiovascular health and changes in individual behaviors, CDC analyzed data from the Behavioral Risk Factor Surveillance System (BRFSS) for seven states and Puerto Rico. This report summarizes the results of that analysis, which indicate a lower prevalence of counseling and behavior change among persons without than with a history of heart disease or stroke.

BRFSS is a random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years. In 1997, 20,847 adults in seven states (Arizona, Iowa, Louisiana, Oklahoma, Pennsylvania, Virginia, and Wyoming) and Puerto Rico responded to questions about CVD preventive behaviors and physician counseling. Respondents indicated whether a doctor had advised them to eat fewer high-fat or high-cholesterol foods or to exercise more to lower their risk for developing heart disease or stroke. Persons also reported whether they were eating fewer high-fat or high-cholesterol foods or were exercising more to lower their risk for heart disease or stroke. Persons aged ≥35 years were asked if they took aspirin every day or every other day and whether they did so to reduce their chance for a heart attack or stroke. Data were aggregated and weighted according to state population estimates, and prevalence estimates and standard errors were calculated using SUDAAN (*5*).

Overall, 41.5% of persons reported receiving physician advice to eat fewer high-fat or high-cholesterol foods, and 42.3% reported receiving physician advice to exercise more (Table 1). The prevalence of reported physician dietary advice ranged from 28.8% (Iowa) to 69.7% (Puerto Rico), and the prevalence of advice to exercise ranged

TABLE 1. Prevalence of reported physician advice and individual behavior to reduce risk for heart disease or stroke, by selected characteristics — seven states and Puerto Rico, Behavioral Risk Factor Surveillance System, 1997

Characteristic	Sample size[†]	Physician advice: Eat fewer high-fat or high-cholesterol foods %	95% CI[§]	Physician advice: Exercise more %	95% CI	Individual behavior: Eat fewer high-fat or high-cholesterol foods %	95% CI	Individual behavior: Exercise more %	95% CI	Individual behavior: Use aspirin to reduce risk of heart attack or stroke* %	95% CI
State											
Arizona	1,890	41.9	±3.1	44.8	±3.1	75.5	±2.8	72.9	±2.9	23.0	±3.3
Iowa	3,564	28.8	±1.7	32.6	±1.7	68.0	±1.8	53.9	±1.9	23.8	±1.9
Louisiana	1,637	41.5	±2.8	44.0	±2.9	66.2	±2.8	63.0	±2.6	20.9	±2.8
Oklahoma	1,874	40.4	±2.7	39.9	±2.7	67.6	±2.5	56.3	±2.7	19.2	±2.4
Pennsylvania	3,565	38.3	±1.8	39.2	±1.8	62.3	±1.9	57.8	±1.9	18.5	±1.8
Puerto Rico	2,242	69.7	±2.2	70.4	±2.1	75.2	±2.1	71.2	±2.1	15.1	±2.2
Virginia	3,501	39.0	±2.4	36.5	±2.4	65.0	±2.5	56.5	±2.5	19.6	±2.3
Wyoming	2,386	31.2	±2.0	35.0	±2.2	66.2	±2.5	59.0	±2.5	23.4	±2.4
Sex											
Men	8,647	39.6	±1.4	40.2	±1.4	63.5	±1.4	60.1	±1.5	21.8	±1.5
Women	12,012	43.2	±1.2	44.3	±1.3	70.1	±1.2	61.4	±1.3	17.8	±1.2
Age (yrs)											
18–34	5,441	28.3	±1.6	31.2	±1.7	57.1	±1.9	60.3	±1.8	—	
35–49	6,508	40.0	±1.7	42.1	±1.7	69.0	±1.7	60.7	±1.7	7.8	±0.9
50–64	4,233	56.6	±2.1	55.4	±2.1	76.5	±1.8	63.2	±2.1	23.9	±2.0
65–74	2,617	53.7	±2.6	52.0	±2.6	72.8	±2.4	61.8	±2.5	35.8	±2.7
≥75	1,763	46.2	±3.3	42.9	±3.3	66.8	±3.1	55.8	±3.3	36.7	±3.4
Race/ethnicity											
Non-Hispanic white	15,737	38.1	±1.1	38.7	±1.1	67.3	±1.1	59.9	±1.1	21.3	±1.1
Non-Hispanic black	1,406	45.3	±3.3	47.9	±3.4	60.6	±3.3	59.2	±3.3	13.2	±3.0
Hispanic	2,933	59.7	±2.3	60.7	±2.3	71.2	±2.2	67.9	±2.2	14.3	±2.0
Other[¶]	509	33.6	±6.3	36.4	±6.4	58.1	±7.6	56.0	±7.6	16.9	±6.5
Education											
<High school	2,882	45.6	±2.5	44.2	±2.5	58.9	±2.6	54.2	±2.5	24.3	±2.5
High school	7,245	39.4	±1.5	41.1	±1.5	62.5	±1.6	58.0	±1.6	19.5	±1.5
Some college	5,419	40.4	±1.8	42.1	±1.9	69.4	±1.9	62.7	±1.9	20.3	±1.9
College or more	5,061	43.5	±2.0	43.5	±2.0	75.4	±1.7	66.7	±1.9	16.9	±1.8
History of cardiovascular disease											
Not reported	18,965	38.9	±1.0	40.0	±1.0	65.9	±1.0	60.3	±1.0	15.2	±0.9
Reported	1,694	73.8	±2.8	70.3	±2.9	79.3	±2.8	66.5	±3.0	61.4	±3.5
Total	**20,659**	**41.5**	**±0.9**	**42.3**	**±0.9**	**66.9**	**±0.9**	**60.7**	**±1.0**	**19.7**	**±0.9**

* Asked of persons aged ≥35 years only; excludes persons who reported that they could not take aspirin because of stomach or health problems.
† Numbers may not add to total because of missing data.
§ Confidence interval.
¶ Numbers for races other than black and white were too small for meaningful analysis.

Cardiovascular Disease Risk Reduction — Continued

from 32.6% (Iowa) to 70.4% (Puerto Rico). Women were more likely than men to report receiving physician dietary or exercise advice, and middle-aged persons were more likely than younger or older persons to report receiving such advice. The prevalence of reported receipt of physician advice was higher for Hispanic adults than for adults of other racial/ethnic groups. The prevalence also was higher for persons with less than a high school education than for persons with higher educational attainment.

Approximately two thirds of persons reported eating fewer high-fat or high-cholesterol foods to lower their risk for heart disease and stroke, and 60.7% reported exercising more to lower their risk. Approximately 20% of persons aged ≥35 years reported taking aspirin daily or every other day to reduce their risk for heart attack or stroke. More women than men reported changes in diet. More men than women reported aspirin use. The prevalence of dietary and exercise changes were higher among persons in the middle age groups, and aspirin use was greatest among persons in older age groups. Dietary and exercise changes were greatest among Hispanic adults and were directly related to education level. Aspirin use was highest among white adults and decreased significantly ($p<0.01$) with greater educational attainment.

Overall, 7.5% (95% confidence interval [CI]=±0.5) of persons reported a history of heart attack or myocardial infarction, angina or coronary heart disease, or stroke. Of these, 73.8% reported receiving physician advice to eat fewer high-fat and high-cholesterol foods, and 70.3% reported receiving physician advice to exercise more. Among persons who did not report heart attack, heart disease, or stroke, 38.9% reported receiving physician dietary advice and 40.0%, physician exercise advice. Among persons reporting heart attack, heart disease, or stroke, 79.3% indicated eating fewer high-fat and high-cholesterol foods, 66.5% reported exercising more, and 61.4% reported taking aspirin regularly to reduce their risk for heart attack or stroke. Among persons not reporting heart attack, heart disease, or stroke, the prevalences were 65.9%, 60.3%, and 15.2%, respectively.

Among persons who reported receiving physician dietary advice, 82.8% (95% CI=±1.1) also reported that they were eating fewer high-fat and high-cholesterol foods, compared with 55.6% (95% CI=±1.3) of persons who did not report receiving such advice. Among persons who reported receiving physician exercise advice, 74.7% (95% CI=±1.3) reported that they were exercising more, and 50.5% (95% CI=±1.3) of those who did not report receiving such advice reported more exercise. Regardless of reported history of heart attack, heart disease, or stroke, a higher percentage of persons who received physician dietary or exercise advice reported engaging in the respective risk-reduction behavior.

Reported by the following state BRFSS coordinators: B Bender, MBA, Arizona; A Wineski, Iowa; R Jiles, PhD, Louisiana; N Hann, MPH, Oklahoma; L Mann, Pennsylvania; L Redman, MPH, Virginia; M Futa, MA, Wyoming; Y Cintron, MPH, Puerto Rico. G Haldeman, Louisiana Health Care Review, Inc., Baton Rouge. Cardiovascular Health Br, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The findings in this report underscore the importance of physician dietary or exercise counseling for influencing behavior changes to reduce the risk for heart disease and stroke. In the BRFSS, more persons reported being engaged in dietary and exercise changes to reduce their chances of heart disease and stroke than reported receiving physician advice to engage in these behaviors. This difference suggests that persons are receiving public health messages from sources other than health-care providers. Nonetheless, the BRFSS data suggest that persons who re-

Cardiovascular Disease Risk Reduction — Continued

ceived dietary and exercise counseling were more likely than persons who did not receive advice to report engaging in these activities. Some physicians may not counsel their patients because they lack training in counseling and believe that their counseling is not effective (*6,7*). In addition, physicians may direct counseling based on the presence of risk factors (e.g., high cholesterol and overweight) than by actual dietary or exercise behaviors (*8*), thus limiting the potential effectiveness of preventive counseling.

The findings in this report are subject to at least three limitations. First, BRFSS data do not discern the amount or quality of physician advice received or actual dietary or exercise levels or behaviors. For example, although most persons reported exercising more, approximately 60% of persons in the United States do not engage in regular physical activity, and 25% are sedentary (*9*). Second, because the data were self-reported, the findings are subject to recall bias and overreporting or underreporting of behaviors and existing disease. Third, estimates for Hispanic adults were influenced by the inclusion of data from Puerto Rico. When persons from Puerto Rico were excluded from analyses, estimates of physician counseling and individual behaviors among Hispanics remaining in the sample were lower than those presented. The greater prevalence of reported physician counseling among persons in the lowest education group also was influenced by data from Puerto Rico and by a greater prevalence of reported heart disease and stroke in the lowest education group than in other groups.

Health-care providers should counsel their patients about primary and secondary prevention. In addition, patients should discuss with their providers ways of reducing their risk for heart disease and stroke.

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Surveillance of Morbidity During Wildfires — Central Florida, 1998

Several large wildfires occurred in Florida during June–July 1998, many involving both rural and urban areas in Brevard, Flagler, Orange, Putnam, Seminole, and Volusia counties (*1,2*). By July 22, a total of 2277 fires had burned 499,477 acres throughout the state (Florida Department of Community Affairs, unpublished data, 1998). On June 22, after receiving numerous phone calls from persons complaining of respiratory problems attributable to smoke, the Volusia County Health Department issued a public health alert (*2*) advising persons with pre-existing pulmonary or cardiovascular conditions to avoid outdoor air in the vicinity of the fires. To determine whether certain medical conditions increased in frequency during the wildfires, the Volusia County Health Department and the Florida Department of Health initiated surveillance of selected conditions. This report summarizes the results of this investigation.

The surveillance system monitored the frequency of patient visits associated with selected conditions at seven hospitals in Volusia County and one hospital in Flagler County. The medical records departments of these eight hospitals furnished data about persons seen in the emergency departments (EDs) and/or admitted for the selected conditions during June 1–July 6, 1998. For comparison, the hospitals also provided the same information for June 1–July 6, 1997. Data from the eight hospitals were combined for analysis.

From 1997 to 1998, ED visits increased substantially for asthma (91%), bronchitis with acute exacerbation (132%), and chest pain (37%) (Table 1). ED visits for painful respiration decreased (27%). Changes in the number of admissions were minimal.

TABLE 1. Frequency of emergency department visits and hospital admissions for selected conditions and percentage change — Volusia and Flagler counties,* Florida, June 1–July 6, 1997 and June 1–July 6, 1998

	Emergency department visits			Hospital admissions		
Diagnosis (ICD-9-CM codes†)	1997	1998	% Change	1997	1998	% Change
Asthma (493–493.91)	77	147	91	13	19	46
Acute bronchitis (466.0–466.19)	134	107	–20	5	4	–20
Bronchitis with acute exacerbation (491.21)	28	65	132	56	56	—
Carbon monoxide poisoning (986)	2	2	—	9	0	–100
Chest pain (786.50–786.59)	218	299	37	63	78	24
Conjuntivitis (372.30–372.39)	59	79	34	0	0	—
Emphysema (492.0–492.8)	0	1	—	2	0	–100
Chronic obstructive pulmonary disease (496)	17	17	—	11	11	—
Heat exhaustion (992.3–992.5)	7	19	171	2	1	–50
Painful respiration (786.52)	74	54	–27	7	3	–57
Palpitations (785.1)	19	15	–21	0	1	—
Shortness of breath/ Wheezing (786.09)	68	90	32	1	1	—
Sinusitis (461.8–461.9)	46	55	20	0	0	—
Total	**749**	**950**	**27**	**169**	**174**	**3**

*Seven hospitals in Volusia County and one in Flagler County.
†*International Classification of Diseases, Ninth Revision, Clinical Modification.*

Wildfires — Continued

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Editorial Note: In response to the wildfires in Florida, infection-control practitioners and public relations professionals at these local hospitals were used as liaisons between the medical records staff at their respective hospitals and the health department. The data were used to quantify the extent of morbidity possibly related to the wildfires.

The findings in this report are subject to at least two limitations. First, the increase in the frequency of the conditions observed for this report did not necessarily result from the wildfires. Certain persons who suffered from these conditions may have never presented at a hospital because they chose not to seek medical care or were seen by their private physician. Second, coding practices differ slightly between hospitals and may change over time within the same hospital.

This report illustrates that rapid surveillance of nonreportable diseases and conditions is possible during a public health disaster. The surveillance strategy included 1) identifying key staff in local hospitals well in advance of a disaster, 2) developing connections with these persons to ensure rapid access to critical information, and 3) providing simple data collection instruments that minimize confusion.

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Tuberculosis Outbreaks in Prison Housing Units for HIV-Infected Inmates — California, 1995–1996

During 1995–1996, staff from the California departments of corrections and health services and local health departments investigated two outbreaks of drug-susceptible tuberculosis (TB). The outbreaks occurred in two state correctional institutions with dedicated HIV housing units. In each outbreak, all cases were linked by IS6110-based DNA fingerprinting of *Mycobacterium tuberculosis* isolates. This report describes the investigations of both outbreaks; the findings indicated that *M. tuberculosis* can spread rapidly among HIV-infected inmates and be transmitted to their visitors and prison employees, with secondary spread to the community.

In both of the investigations, a positive tuberculin skin test (TST) was defined as an induration of ≥5 mm in contacts and/or HIV-infected persons. A TST conversion in a contact was defined as an increase of ≥5 mm from a documented negative to a positive TST within the previous 2 years. Only culture-positive pulmonary cases were considered infectious, and the infectious period was considered to begin 6 weeks before the date the culture-positive specimen was obtained (if the patient was asymptomatic) or the date of onset of symptoms consistent with TB.

Prison A

On entry to the 500-person prison HIV housing unit in May 1995, the index case-patient was asymptomatic and anergic with a negative TST, and had a CD4 count of 6 cells/μL, and a 1-cm calcified nodule on chest radiograph. Three sputum specimens, routinely collected on entry of all inmates into the housing unit, were smear- and

Tuberculosis Outbreaks — Continued

culture-negative. Isoniazid (INH) was not prescribed because of baseline liver function test abnormalities. During the next 3 months he was treated with several courses of antibiotics, initially for laboratory-confirmed *Pneumocystis carinii* pneumonia (PCP) and then for episodic fever and cough. Each time his symptoms decreased, and one chest radiograph showed a new infiltrate that resolved with antibiotic treatment. In late August 1995, a chest radiograph revealed a new infiltrate, and sputum specimens were smear-positive for acid-fast bacillus (AFB). The patient was isolated and started on multidrug therapy for TB.

During September 1995–April 1996, drug-susceptible TB was diagnosed in 14 other inmates (including three parolees) and the HIV-infected wife of the index case-patient. Their *M. tuberculosis* isolates matched the isolate from the index case-patient by DNA fingerprint analysis. All inmates with TB resided on the same wing when one or more persons with TB with the outbreak strain had infectious cases. Of the 312 inmates who resided at least 1 day on the same wing as case-patients, 185 were available for screening in December; three had TST conversions but no disease. Inmates with TB disease were isolated and treated, and the proportion of the approximately 150 contacts in the wing receiving directly observed INH preventive therapy was increased from 14% in October 1995 to 60% in January 1996.

Prison B

In January 1995, the index case-patient had a positive TST and received 6 months of preventive therapy while in a state prison. In December 1995, he was sent from the prison to a community hospital with cough, fever, a chest radiograph with infiltrate on the right, AFB smear-negative sputum specimens, and a newly diagnosed immunodeficiency (i.e., low CD4 count). He was empirically treated for PCP with trimethoprim/sulfamethoxazole, but his fever persisted. After the addition of prednisone, his fever resolved. On January 6, 1996, he was transferred from the hospital into an 180-person HIV housing unit in a different prison (prison B). The community hospital staff indicated that no respiratory isolation was necessary. A chest radiograph on January 11, was normal. By January 19, cultures from sputum specimens and bone marrow aspirate obtained while he was at the community hospital (December 23, 1995) grew *M. tuberculosis*; he was placed in respiratory isolation, had a chest radiograph with a diffuse infiltrates bilaterally, and was started on multidrug therapy for TB. He died from miliary TB on January 20. None of his sputum specimens obtained on January 8, January 10, and January 11 were AFB smear-positive.

During January–August 1996, drug-susceptible TB was diagnosed in 15 other inmates (including six parolees). The DNA fingerprints of *M. tuberculosis* isolates from all 15 matched the fingerprint of the isolate of the index case-patient. Analysis of sputum specimens from all 140 inmate contacts in the facility at the time of the investigation identified seven secondary case-patients whose chest radiographs were normal at the time of screening; five were asymptomatic. Screening of inmate contacts also detected 25 (18%) asymptomatic TST convertors who did not have TB disease. These 25 received preventive therapy.

Contact Investigations

In both prisons, during the 4-month intervals between identification of the index case-patients and chest radiograph screening of all the contacts remaining in the housing unit, 190 inmates had been released. Of 56 (29%) who were reincarcerated in

Tuberculosis Outbreaks — Continued

prisons or jails before they had had health evaluations in the community, follow-up information was available for the eight who were reincarcerated in jails; none had TB disease, and six accepted preventive therapy. The remaining 134 were referred to 22 local health jurisdictions. Of these 134, 76 (57%) were assessed; nine (12%) had culture-positive TB (three from prison A and six from prison B), each with the same outbreak strain of *M. tuberculosis* as found in the originating prison.

Secondary transmission may have occurred from both prison outbreaks to the community. The HIV-infected wife of the index case-patient in Prison A visited her husband for 4 hours per day on the 3 days before his placement in AFB isolation. Two months later, she developed smear- and culture-positive pulmonary TB with the outbreak strain. Her daughter, whose TST result was 0 mm on school entry in 1994, had a 28-mm reaction; she had not visited her father during his infectious period. An adult and two children aged <5 years who lived with a parolee from prison B while he was symptomatic all had TST results >10 mm but had no prior baseline.

Among prison employees who had contact with case-patients, TST conversions occurred in nine (2.8%) of 319 in prison A and 11 (4.9%) of 223 in prison B. All 20 had had two documented negative TSTs during the previous 2 years, 19 had a baseline TST result of 0 mm, and 18 had a positive TST result of >10 mm. No employees had TB attributable to either outbreak strain.

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Editorial Note: This report demonstrates that *M. tuberculosis* can spread rapidly among HIV-infected inmates in congregate living situations and to their visitors; disease developing in a visitor and a parolee may have led to secondary transmission in their household contacts. Containment required efforts of correctional and health department staff at the state and local levels to address the unique medical, custody, public health, and fiscal challenges posed by the outbreaks.

Updated policies and procedures for managing possible TB cases and their contacts are under development and implementation in correctional facilities and the community. The changes are to ensure that HIV-infected inmates with new radiographic abnormalities consistent with TB are placed in respiratory isolation, reported to the local health department and the central public health system of the prisons as having suspected TB, and started on multidrug therapy for TB even when another pulmonary process is diagnosed. These procedures will minimize the likelihood that HIV-infected persons with undiagnosed infectious TB (such as the index case-patient in the prison B outbreak) are transferred from jails, hospitals, or the community into prisons. The clinical course of the index case-patient in the prison A outbreak illustrates the challenge of detecting TB disease that develops in HIV-infected inmates after they have been cleared of having TB disease at entry to prison but develop it later. A TB evaluation should be initiated for HIV-infected inmates with respiratory symptoms who are diagnosed initially with conditions other than TB (*1*), even if TB has been excluded recently.

Tuberculosis Outbreaks — Continued

A prompt response to infectious TB cases is critical to minimize the transmission of TB and the development of disease among infected persons. All persons suspected to have infectious TB, including any person with a respiratory specimen that is smear-positive for AFB, must be placed immediately in respiratory isolation. A contact investigation must be initiated promptly. All HIV-infected contacts, regardless of TST status, should receive preventive therapy once TB disease is excluded (*2,3*).

Prevention of community spread (and reintroduction of undiagnosed infectious TB patients into correctional facilities) requires the rapid investigation of contacts in the facility. Inmate contacts should be evaluated and begun on treatment or preventive therapy before release from any facility, including hospitals or high-risk housing units. Joint efforts are under way in California to clarify roles and ensure that the infrastructure of prisons and health departments is adequate to track TB cases and suspected cases and to elicit, notify, and evaluate community contacts promptly (*4,5*).

The use of preventive therapy may need to be expanded beyond TST-positive inmates to certain HIV-infected persons with a negative TST. HIV-infected persons with a history of untreated or inadequately treated TB that healed should receive TB preventive treatment regardless of their age or results of TSTs (*2*). Primary prophylaxis for TST-negative HIV-infected persons with an ongoing and unavoidable high risk of exposure to *M. tuberculosis* should be considered (*2,6,7*). Following the TB outbreaks described in this report, the California Department of Corrections has recommended routine use of INH preventive therapy for all HIV-infected inmates with CD4 counts <100 cells/μL, provided that such therapy is not contraindicated (*7*). The risks and benefits associated with primary prophylaxis in these settings need to be evaluated.

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Notice to Readers

National Child Passenger Safety Week — February 14–20, 1999

In 1997, 1791 U.S. children aged <15 years were killed and 282,000 were injured while riding in motor vehicles (*1*). National Child Passenger Safety Week, February 14–20, 1999, will highlight safety recommendations for children aged >4 years and weighing >40 lbs who have outgrown their child safety seats.

Children who are too large for child safety seats often are restrained improperly or not at all. A recent observational study in four states indicated that, of children weighing 40–60 lbs, 75% were improperly restrained, and 19% were unrestrained (*2*). Of passengers aged 5–9 years in fatal crashes in 1997, 46% were unrestrained (*1*).

For proper restraint, children who have outgrown child safety seats require booster seats used with vehicle lap/shoulder belts. Lap/shoulder belts usually do not fit children properly until they are 58 inches tall, have a sitting height of 29 inches, and weigh 80 lbs (*3*). Therefore, children aged <10 years probably will not be big enough to use a lap/shoulder belt without a booster seat. When smaller children restrained with only a lap belt or a poorly fitting lap/shoulder belt become involved in a crash, the belt tends to ride up onto the abdomen, allowing the pelvis to slide under the belt. This places pressure directly on the abdominal organs and may lead to the child flexing over the belt above the hips, resulting in abdominal and/or spinal injuries (*4*).

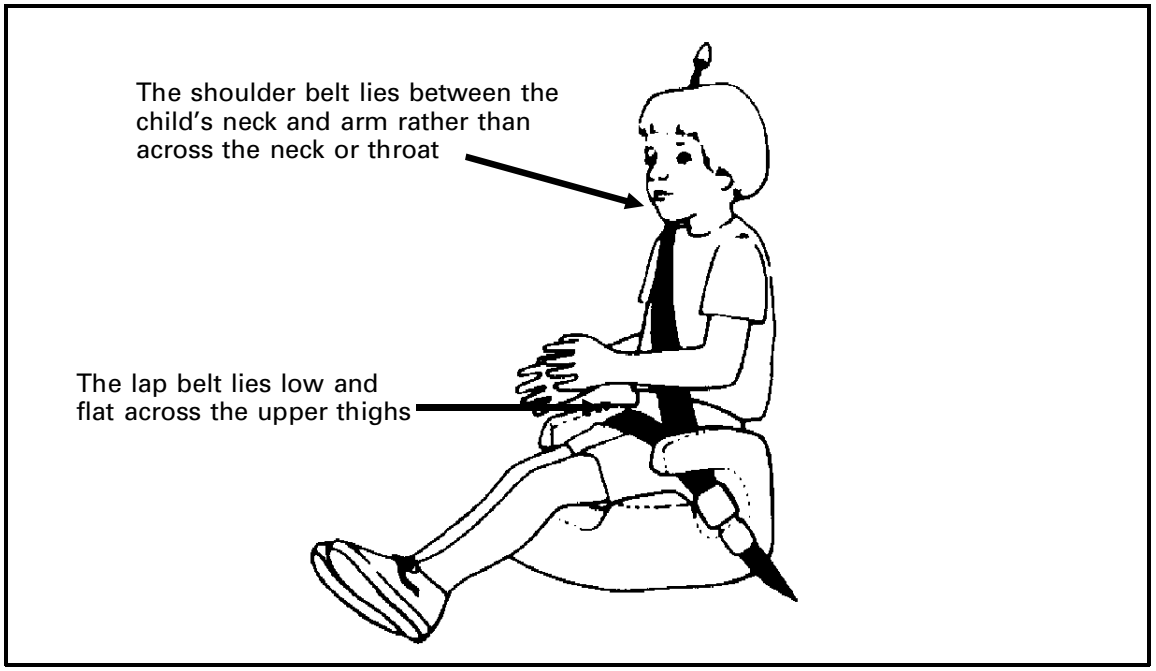
Children should remain in their convertible child safety seats as long as they fit well. Convertible seats are the appropriate restraints for children until their ears reach the top of the back of the safety seat and their shoulders are above the top strap slots, or until they reach the upper weight limit of the seat. To help prevent deaths and injuries among young passengers who have outgrown their child safety seats, CDC recommends the following:

- Belt-positioning booster seats should be used until lap/shoulder belts fit properly (*5*). Belt-positioning boosters raise children so that the safety belt fits correctly (Figure 1) and should always be used with a lap/shoulder belt. Booster seats with high backs are recommended for vehicles with seat backs that do not support a child's head. Shield boosters, which have a plastic shield in front of the child, do not provide as much upper-body protection and are no longer certified for children weighing >40 lbs. The American Academy of Pediatrics recommends that shield boosters not be used for children weighing <40 lbs, even if they are labeled for use at a lower weight (*6*). Shield boosters should only be used with their shields removed so they can function as belt-positioning booster seats with lap-shoulder belts.
- Lap/shoulder belts should fit properly (Figure 1). A child cannot ride comfortably and remain properly restrained until tall enough for the knees to bend over the edge of the seat when the child's back is resting firmly against the seat back.
- Whenever possible, child passengers should be placed in the back seat.

The National Transportation Safety Board recommends that states upgrade their child passenger protection laws to require age-appropriate child restraint systems and booster seats for children aged <8 years and has asked automobile manufacturers to redesign the back seats of cars to be more accommodating to children (*7*). Additional

Notice to Readers — Continued

FIGURE 1. Child properly restrained in a belt-positioning booster seat



Source: Adapted from the Child Passenger Protection Research Program, University of Michigan Medical School

information on child passenger protection is available on the World-Wide Web from the American Academy of Pediatrics at http://www.aap.org, the Society of Automotive Engineers at http://www.sae.org, the National Highway Traffic Safety Administration at http://www.nhtsa.dot.gov, the National Transportation Safety Board at http://www.ntsb.gov, and CDC's National Center for Injury Prevention and Control at http://www.cdc.gov/ncipc.

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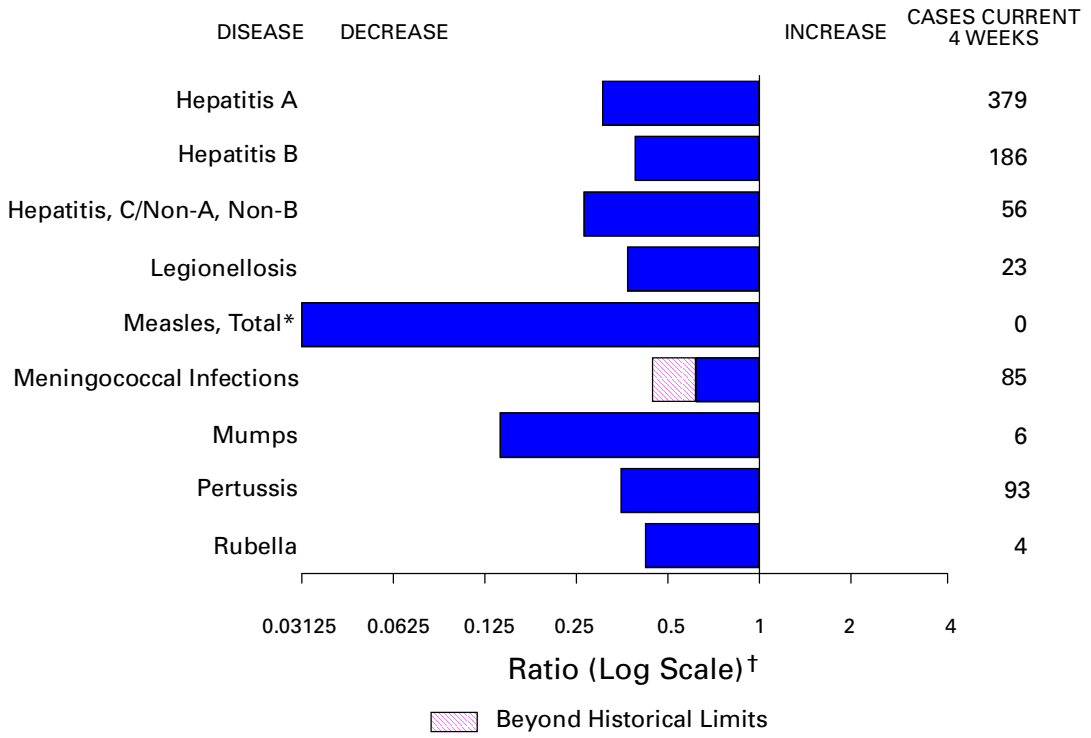
FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending January 30, 1999, with historical data — United States



*The large apparent decrease in the number of reported cases of measles (total) reflects dramatic fluctuations in the historical baseline. (Ratio [log scale] for week 4 measles [total] is 0.00000.)

† 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 January 30, 1999 (4th Week)

	Cum. 1999		Cum. 1999
Anthrax	-	Plague	-
Brucellosis	1	Poliomyelitis, paralytic	-
Cholera	-	Psittacosis	2
Congenital rubella syndrome	-	Rabies, human	-
Cryptosporidiosis*	40	Rocky Mountain spotted fever (RMSF)	13
Diphtheria	-	Streptococcal disease, invasive Group A	49
Encephalitis: California*	1	Streptococcal toxic-shock syndrome*	1
eastern equine*	-	Syphilis, congenital¶	-
St. Louis*	-	Tetanus	1
western equine*	-	Toxic-shock syndrome	2
Hansen Disease	3	Trichinosis	2
Hantavirus pulmonary syndrome*†	-	Typhoid fever	3
Hemolytic uremic syndrome, post-diarrheal*	3	Yellow fever	-
HIV infection, pediatric*§	-		

-: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 December 27, 1998.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending January 30, 1999, and January 31, 1998 (4th Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1999*	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1999	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998
UNITED STATES	-	3,132	29,548	39,969	69	17	18,338	25,726	111	200
NEW ENGLAND	-	64	929	1,552	12	3	270	505	24	7
Maine	-	2	17	17	1	-	1	5	-	-
N.H.	-	-	63	69	-	-	1	14	-	-
Vt.	-	5	12	25	-	-	4	-	-	1
Mass.	-	6	675	662	7	3	218	179	24	6
R.I.	-	13	161	207	-	-	45	28	-	-
Conn.	-	38	1	572	4	-	1	279	-	-
MID. ATLANTIC	-	893	4,422	4,592	3	-	2,309	3,177	-	10
Upstate N.Y.	-	114	N	N	3	-	51	579	-	10
N.Y. City	-	488	2,725	2,630	-	-	1,353	1,413	-	-
N.J.	-	131	132	840	-	-	85	623	-	-
Pa.	-	160	1,565	1,122	N	-	820	562	-	-
E.N. CENTRAL	-	203	5,033	6,964	18	2	3,883	5,210	11	41
Ohio	-	33	1,648	2,537	14	2	1,083	1,442	-	2
Ind.	-	38	-	-	4	-	561	459	-	1
Ill.	-	102	1,431	1,599	-	-	751	1,475	-	6
Mich.	-	15	1,844	1,807	-	-	1,418	1,421	11	32
Wis.	-	15	110	1,021	N	-	70	413	-	-
W.N. CENTRAL	-	57	802	2,578	11	4	305	973	-	33
Minn.	-	15	145	528	7	4	70	217	-	-
Iowa	-	6	42	191	4	-	16	41	-	1
Mo.	-	19	-	956	-	-	-	355	-	32
N. Dak.	-	-	-	74	-	-	-	8	-	-
S. Dak.	-	4	125	129	-	-	17	22	-	-
Nebr.	-	9	224	203	-	-	109	93	-	-
Kans.	-	4	266	497	-	-	93	237	-	-
S. ATLANTIC	-	774	8,166	6,991	8	3	6,818	6,430	18	6
Del.	-	13	217	135	-	-	128	114	-	-
Md.	-	52	595	566	1	-	690	547	14	2
D.C.	-	84	N	N	-	-	200	289	-	-
Va.	-	38	1,047	718	N	-	1,060	560	-	1
W. Va.	-	5	163	236	-	1	54	70	-	-
N.C.	-	45	1,696	1,153	2	1	1,618	1,106	-	2
S.C.	-	59	2,532	1,402	1	1	1,483	1,093	1	-
Ga.	-	113	-	1,554	-	-	-	1,575	-	-
Fla.	-	365	1,916	1,227	2	-	1,585	1,076	3	1
E.S. CENTRAL	-	156	1,765	2,846	4	-	1,707	3,093	7	7
Ky.	-	19	-	385	-	-	-	343	-	2
Tenn.	-	52	1,028	1,024	3	-	863	994	6	5
Ala.	-	56	737	707	1	-	844	1,034	1	-
Miss.	-	29	-	730	-	-	-	722	-	-
W.S. CENTRAL	-	380	2,416	5,499	-	-	1,727	3,976	1	1
Ark.	-	17	292	186	-	-	105	347	-	-
La.	-	66	1,427	1,002	-	-	1,206	1,063	1	-
Okla.	-	14	697	572	-	-	416	344	-	-
Tex.	-	283	-	3,739	-	-	-	2,222	-	1
MOUNTAIN	-	87	1,695	2,008	4	1	435	632	5	20
Mont.	-	5	60	6	-	-	1	-	-	3
Idaho	-	3	-	111	-	-	-	12	2	6
Wyo.	-	-	-	48	-	-	-	2	-	3
Colo.	-	21	652	440	2	1	97	221	1	2
N. Mex.	-	9	394	366	1	-	87	71	2	3
Ariz.	-	33	522	761	-	-	243	283	-	-
Utah	-	13	67	153	1	-	7	17	-	2
Nev.	-	3	-	123	-	-	-	26	-	1
PACIFIC	-	518	4,320	6,939	9	4	884	1,730	45	75
Wash.	-	32	-	810	-	1	-	140	1	-
Oreg.	-	13	152	530	2	3	26	82	-	-
Calif.	-	468	3,992	5,295	7	-	833	1,456	44	75
Alaska	-	-	120	131	-	-	18	21	-	-
Hawaii	-	5	56	173	-	-	7	31	-	-
Guam	-	-	-	10	N	-	-	3	-	-
P.R.	-	87	U	U	-	U	21	40	-	-
V.I.	-	1	N	N	N	U	U	U	U	U
Amer. Samoa	-	-	U	U	N	U	U	U	U	U
C.N.M.I.	-	-	N	N	N	U	-	5	-	-

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

*Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update December 27, 1998.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending January 30, 1999, and January 31, 1998 (4th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999	Cum. 1998	Cum. 1999*	Cum. 1998	Cum. 1999
UNITED STATES	29	69	107	208	49	91	305	540	440	666	204
NEW ENGLAND	1	-	7	21	1	4	6	6	16	12	48
Maine	-	-	-	1	-	-	-	-	-	-	4
N.H.	1	-	-	-	-	-	-	1	-	-	-
Vt.	-	-	-	-	-	-	1	-	-	-	9
Mass.	-	-	7	7	1	4	5	5	4	2	18
R.I.	-	-	-	-	-	-	-	-	8	2	5
Conn.	-	-	-	13	-	-	-	-	4	8	12
MID. ATLANTIC	4	6	50	134	5	31	14	22	12	36	48
Upstate N.Y.	-	-	6	37	4	5	1	2	-	4	30
N.Y. City	-	2	-	4	-	19	10	3	12	20	U
N.J.	2	-	41	25	1	3	-	9	-	12	14
Pa.	2	4	3	68	-	4	3	8	-	-	4
E.N. CENTRAL	11	34	4	8	1	12	36	74	55	54	-
Ohio	5	12	4	5	1	1	6	22	15	11	-
Ind.	3	5	-	2	-	1	12	13	4	18	-
Ill.	-	7	-	-	-	7	18	29	36	24	-
Mich.	3	4	-	1	-	2	-	-	-	-	-
Wis.	-	6	U	U	-	1	-	10	-	1	-
W.N. CENTRAL	-	6	2	3	1	3	1	9	11	11	21
Minn.	-	-	-	-	-	-	-	-	9	3	6
Iowa	-	-	-	3	1	-	-	-	-	-	5
Mo.	-	2	-	-	-	3	-	6	1	8	-
N. Dak.	-	-	1	-	-	-	-	-	-	-	6
S. Dak.	-	-	-	-	-	-	-	-	1	-	-
Nebr.	-	4	-	-	-	-	1	1	-	-	-
Kans.	-	-	1	-	-	-	-	2	-	-	4
S. ATLANTIC	5	8	34	29	18	18	138	189	43	78	79
Del.	1	1	-	-	-	1	1	-	-	-	-
Md.	-	3	26	28	6	10	17	51	7	2	21
D.C.	-	1	1	1	5	1	1	1	4	5	-
Va.	1	2	-	-	-	-	15	24	-	5	20
W. Va.	N	N	-	-	-	-	1	-	-	7	-
N.C.	2	-	7	-	1	1	56	45	12	33	24
S.C.	-	-	-	-	-	-	20	27	20	22	-
Ga.	-	-	-	-	-	3	-	21	-	4	-
Fla.	1	1	-	-	6	2	27	20	-	-	14
E.S. CENTRAL	1	4	5	4	-	1	74	102	9	65	2
Ky.	-	3	-	-	-	-	-	9	-	6	-
Tenn.	1	-	2	4	-	-	41	49	-	26	2
Ala.	-	-	3	-	-	-	33	23	9	25	-
Miss.	-	1	-	-	-	1	-	21	-	8	-
W.S. CENTRAL	-	-	-	-	1	-	35	78	3	115	-
Ark.	-	-	-	-	-	-	2	13	-	-	-
La.	-	-	-	-	1	-	17	31	-	-	-
Okla.	-	-	-	-	-	-	16	6	3	8	-
Tex.	-	-	-	-	-	-	-	28	-	107	-
MOUNTAIN	2	5	-	-	3	5	-	24	3	26	5
Mont.	-	-	-	-	1	-	-	-	-	-	1
Idaho	-	-	-	-	-	-	-	-	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	-
Colo.	1	2	-	-	-	3	-	1	-	3	1
N. Mex.	-	1	-	-	1	2	-	2	1	2	-
Ariz.	-	-	-	-	1	-	-	17	-	10	3
Utah	1	2	-	-	-	-	-	2	2	-	-
Nev.	-	-	-	-	-	-	-	2	-	11	-
PACIFIC	5	6	5	9	19	17	1	36	288	269	1
Wash.	-	-	-	-	1	-	-	1	19	12	-
Oreg.	-	-	-	-	-	2	-	1	5	9	-
Calif.	5	6	5	9	18	15	1	34	252	242	1
Alaska	-	-	-	-	-	-	-	-	1	2	-
Hawaii	-	-	-	-	-	-	-	-	11	4	-
Guam	-	-	-	-	-	-	-	-	-	4	-
P.R.	-	-	-	-	-	-	20	17	-	3	4
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.	-	-	-	-	-	-	-	1	-	4	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending January 30, 1999, and January 31, 1998 (4th 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	45	90	643	1,255	268	591	-	5	-	-	5	1
NEW ENGLAND	2	8	9	30	-	5	-	-	-	-	-	1
Maine	-	-	1	5	-	-	-	-	-	-	-	-
N.H.	1	1	1	1	-	1	-	-	-	-	-	-
Vt.	-	-	-	1	-	-	-	-	-	-	-	-
Mass.	1	7	4	7	-	1	-	-	-	-	-	1
R.I.	-	-	-	-	-	-	-	-	-	-	-	-
Conn.	-	-	3	16	-	3	-	-	-	-	-	-
MID. ATLANTIC	5	10	13	85	16	89	-	-	-	-	-	-
Upstate N.Y.	4	3	4	22	6	18	-	-	-	-	-	-
N.Y. City	-	4	-	31	-	19	-	-	-	-	-	-
N.J.	1	3	8	16	5	21	U	-	U	-	-	-
Pa.	-	-	1	16	5	31	-	-	-	-	-	-
E.N. CENTRAL	7	12	103	274	10	185	-	-	-	-	-	-
Ohio	6	5	45	42	9	8	-	-	-	-	-	-
Ind.	-	1	10	34	-	93	-	-	-	-	-	-
Ill.	1	6	1	78	-	23	-	-	-	-	-	-
Mich.	-	-	47	105	1	48	-	-	-	-	-	-
Wis.	-	-	-	15	-	13	-	-	-	-	-	-
W.N. CENTRAL	3	-	5	125	2	33	-	-	-	-	-	-
Minn.	-	-	-	-	-	-	-	-	-	-	-	-
Iowa	1	-	1	41	-	6	-	-	-	-	-	-
Mo.	-	-	-	75	-	24	U	-	U	-	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	1	-	-	-	-	1	-	-	-	-	-	-
Nebr.	-	-	3	2	2	-	-	-	-	-	-	-
Kans.	1	-	1	7	-	2	U	-	U	-	-	-
S. ATLANTIC	16	16	73	57	38	40	-	-	-	-	-	-
Del.	-	-	-	-	-	-	-	-	-	-	-	-
Md.	10	6	30	25	13	15	-	-	-	-	-	-
D.C.	1	-	4	2	-	1	-	-	-	-	-	-
Va.	-	2	3	10	2	3	-	-	-	-	-	-
W. Va.	-	1	-	-	-	-	-	-	-	-	-	-
N.C.	2	1	10	6	16	16	-	-	-	-	-	-
S.C.	-	-	-	4	2	-	-	-	-	-	-	-
Ga.	-	6	11	10	1	4	U	-	U	-	-	-
Fla.	3	-	15	-	4	1	-	-	-	-	-	-
E.S. CENTRAL	2	9	29	42	17	28	-	-	-	-	-	-
Ky.	-	2	-	2	-	1	U	-	U	-	-	-
Tenn.	2	2	12	21	10	20	-	-	-	-	-	-
Ala.	-	5	16	8	7	7	-	-	-	-	-	-
Miss.	-	-	1	11	-	-	-	-	-	-	-	-
W.S. CENTRAL	3	4	14	83	4	30	-	-	-	-	-	-
Ark.	-	-	3	1	4	8	-	-	-	-	-	-
La.	1	2	1	1	-	-	-	-	-	-	-	-
Okla.	1	1	2	28	-	-	-	-	-	-	-	-
Tex.	1	1	8	53	-	22	-	-	-	-	-	-
MOUNTAIN	4	19	60	240	38	63	-	1	-	-	1	-
Mont.	-	-	-	4	-	1	-	-	-	-	-	-
Idaho	-	-	1	10	4	3	-	-	-	-	-	-
Wyo.	-	-	-	2	-	-	U	-	U	-	-	-
Colo.	-	1	27	18	11	8	-	1	-	-	1	-
N. Mex.	3	-	4	14	19	17	-	-	-	-	-	-
Ariz.	-	10	21	152	1	19	-	-	-	-	-	-
Utah	1	-	7	14	3	6	-	-	-	-	-	-
Nev.	-	8	-	26	-	9	U	-	U	-	-	-
PACIFIC	3	12	337	319	143	118	-	4	-	-	4	-
Wash.	-	-	4	6	-	1	-	-	-	-	-	-
Oreg.	2	7	5	19	2	8	-	4	-	-	4	-
Calif.	-	5	328	289	140	108	-	-	-	-	-	-
Alaska	1	-	-	-	1	1	-	-	-	-	-	-
Hawaii	-	-	-	5	-	-	-	-	-	-	-	-
Guam	-	-	-	-	-	-	U	-	U	-	-	-
P.R.	-	1	2	2	1	27	-	-	-	-	-	-
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.	-	-	-	-	-	3	U	-	U	-	-	-

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

*Of 5 cases among children aged <5 years, serotype was reported for 0.

†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 January 30, 1999, and January 31, 1998 (4th 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	113	262	2	13	20	42	168	267	-	3	12
NEW ENGLAND	10	17	1	1	-	1	46	55	-	-	-
Maine	2	1	-	-	-	-	-	1	-	-	-
N.H.	-	1	1	1	-	1	1	5	-	-	-
Vt.	1	1	-	-	-	-	5	12	-	-	-
Mass.	7	7	-	-	-	-	40	37	-	-	-
R.I.	-	1	-	-	-	-	-	-	-	-	-
Conn.	-	6	-	-	-	-	-	-	-	-	-
MID. ATLANTIC	9	27	-	-	1	1	4	16	-	-	9
Upstate N.Y.	3	2	-	-	1	1	4	14	-	-	8
N.Y. City	-	6	-	-	-	-	-	-	-	-	-
N.J.	5	12	U	-	-	U	-	2	U	-	1
Pa.	1	7	-	-	-	-	-	-	-	-	-
E.N. CENTRAL	12	41	-	-	2	6	36	41	-	-	-
Ohio	10	19	-	-	1	6	36	16	-	-	-
Ind.	-	5	-	-	-	-	-	-	-	-	-
Ill.	2	10	-	-	-	-	-	-	-	-	-
Mich.	-	3	-	-	1	-	-	8	-	-	-
Wis.	-	4	-	-	-	-	-	17	-	-	-
W.N. CENTRAL	6	18	-	1	-	1	2	11	-	-	-
Minn.	-	-	-	-	-	-	-	2	-	-	-
Iowa	2	1	-	1	-	-	1	4	-	-	-
Mo.	-	9	U	-	-	U	-	-	U	-	-
N. Dak.	-	-	-	-	-	-	-	-	-	-	-
S. Dak.	3	1	-	-	-	1	1	-	-	-	-
Nebr.	-	1	-	-	-	-	-	2	-	-	-
Kans.	1	6	U	-	-	U	-	3	U	-	-
S. ATLANTIC	21	37	1	3	5	4	16	26	-	3	1
Del.	-	-	-	-	-	-	-	-	-	-	-
Md.	6	7	-	-	-	2	7	5	-	-	-
D.C.	-	-	-	-	-	-	-	-	-	-	-
Va.	1	4	-	-	-	1	1	-	-	-	-
W. Va.	-	2	-	-	-	-	-	-	-	-	-
N.C.	3	3	-	1	3	-	7	21	-	3	1
S.C.	2	5	1	1	2	1	1	-	-	-	-
Ga.	-	16	U	-	-	U	-	-	U	-	-
Fla.	9	-	-	1	-	-	-	-	-	-	-
E.S. CENTRAL	13	26	-	-	-	2	6	9	-	-	-
Ky.	-	7	U	-	-	U	-	-	U	-	-
Tenn.	6	7	-	-	-	2	3	2	-	-	-
Ala.	7	10	-	-	-	-	3	7	-	-	-
Miss.	-	2	-	-	-	-	-	-	-	-	-
W.S. CENTRAL	2	14	-	2	3	6	7	2	-	-	1
Ark.	-	2	-	-	-	2	2	-	-	-	-
La.	2	4	-	-	-	-	-	-	-	-	-
Okla.	-	8	-	-	-	-	-	-	-	-	-
Tex.	-	-	-	2	3	4	5	2	-	-	1
MOUNTAIN	10	22	-	-	2	20	47	73	-	-	-
Mont.	-	1	-	-	-	-	-	1	-	-	-
Idaho	1	1	-	-	-	17	31	29	-	-	-
Wyo.	-	1	U	-	-	U	-	-	U	-	-
Colo.	2	8	-	-	-	-	2	10	-	-	-
N. Mex.	2	2	N	N	N	2	5	30	-	-	-
Ariz.	3	7	-	-	1	-	1	-	-	-	-
Utah	2	1	-	-	-	1	8	2	-	-	-
Nev.	-	1	U	-	1	U	-	1	U	-	-
PACIFIC	30	60	-	6	7	1	4	34	-	-	1
Wash.	3	6	-	-	-	-	2	2	-	-	-
Oreg.	3	20	N	N	N	1	2	7	-	-	-
Calif.	21	34	-	5	2	-	-	25	-	-	1
Alaska	2	-	-	-	2	-	-	-	-	-	-
Hawaii	1	-	-	1	3	-	-	-	-	-	-
Guam	-	-	U	-	-	U	-	-	U	-	-
P.R.	-	-	-	-	-	-	-	-	-	-	-
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	-	-	U	-	-	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending January 30, 1999 (4th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	631	469	107	38	9	8	80
Boston, Mass.	159	107	33	12	5	2	23
Bridgeport, Conn.	32	24	5	3	-	-	2
Cambridge, Mass.	18	13	4	1	-	-	5
Fall River, Mass.	25	20	3	2	-	-	1
Hartford, Conn.	57	31	14	6	1	5	6
Lowell, Mass.	28	22	6	-	-	-	4
Lynn, Mass.	27	23	4	-	-	-	3
New Bedford, Mass.	46	38	5	3	-	-	1
New Haven, Conn.	66	53	8	4	1	-	3
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	7	5	1	-	1	-	-
Springfield, Mass.	52	39	10	2	1	-	7
Waterbury, Conn.	55	43	8	3	-	1	14
Worcester, Mass.	59	51	6	2	-	-	11
MID. ATLANTIC	2,842	2,062	524	174	48	34	119
Albany, N.Y.	55	47	5	-	1	2	4
Allentown, Pa.	27	22	4	1	-	-	5
Buffalo, N.Y.	U	U	U	U	U	U	U
Camden, N.J.	50	30	13	5	-	2	11
Elizabeth, N.J.	7	5	2	-	-	-	2
Erie, Pa.	40	32	8	-	-	-	4
Jersey City, N.J.	54	36	16	2	-	-	-
New York City, N.Y.	1,644	1,183	317	107	23	14	8
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	34	22	7	2	-	3	5
Philadelphia, Pa.	400	282	72	30	12	4	28
Pittsburgh, Pa.§	87	58	18	3	2	6	9
Reading, Pa.	46	42	3	-	-	1	9
Rochester, N.Y.	148	117	21	7	3	-	16
Schenectady, N.Y.	36	32	3	-	1	-	3
Scranton, Pa.	46	39	5	2	-	-	1
Syracuse, N.Y.	108	77	16	8	5	2	12
Trenton, N.J.	37	21	9	6	1	-	1
Utica, N.Y.	23	17	5	1	-	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,482	1,699	481	199	54	48	198
Akron, Ohio	66	53	8	2	1	2	2
Canton, Ohio	40	33	6	1	-	-	7
Chicago, Ill.	418	246	76	66	17	12	32
Cincinnati, Ohio	112	76	28	4	-	4	21
Cleveland, Ohio	205	136	45	16	2	6	1
Columbus, Ohio	238	160	54	11	7	6	27
Dayton, Ohio	142	114	24	3	-	1	10
Detroit, Mich.	239	142	56	29	5	7	15
Evansville, Ind.	44	32	10	2	-	-	5
Fort Wayne, Ind.	82	61	16	2	3	-	4
Gary, Ind.	19	10	3	6	-	-	-
Grand Rapids, Mich.	59	45	7	4	1	2	12
Indianapolis, Ind.	294	201	59	21	10	3	30
Lansing, Mich.	U	U	U	U	U	U	U
Milwaukee, Wis.	153	100	36	11	4	2	8
Peoria, Ill.	40	29	8	-	2	1	7
Rockford, Ill.	59	44	11	4	-	-	4
South Bend, Ind.	58	49	9	-	-	-	6
Toledo, Ohio	108	90	9	6	1	2	4
Youngstown, Ohio	106	78	16	11	1	-	3
W.N. CENTRAL	770	599	109	31	15	15	71
Des Moines, Iowa	105	86	14	2	3	-	13
Duluth, Minn.	11	10	1	-	-	-	1
Kansas City, Kans.	U	U	U	U	U	U	U
Kansas City, Mo.	94	72	8	4	3	7	7
Lincoln, Nebr.	35	30	3	2	-	-	2
Minneapolis, Minn.	196	149	31	11	3	1	24
Omaha, Nebr.	106	86	12	3	4	1	14
St. Louis, Mo.	103	70	20	6	1	6	-
St. Paul, Minn.	120	96	20	3	1	-	10
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	1,281	883	248	92	37	21	85
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	287	177	62	28	13	7	23
Charlotte, N.C.	98	73	17	-	6	2	13
Jacksonville, Fla.	168	120	32	8	6	2	11
Miami, Fla.	102	70	24	7	1	-	-
Norfolk, Va.	65	43	14	4	2	2	3
Richmond, Va.	90	63	13	9	1	4	5
Savannah, Ga.	61	48	6	6	-	1	5
St. Petersburg, Fla.	111	87	18	4	2	-	13
Tampa, Fla.	186	139	30	13	3	1	10
Washington, D.C.	101	57	26	13	3	2	2
Wilmington, Del.	12	6	6	-	-	-	-
E.S. CENTRAL	1,250	837	267	93	36	17	82
Birmingham, Ala.	289	194	57	25	10	3	20
Chattanooga, Tenn.	96	67	23	5	-	1	11
Knoxville, Tenn.	104	67	28	7	1	1	9
Lexington, Ky.	95	65	19	8	2	1	8
Memphis, Tenn.	340	218	82	26	8	6	28
Mobile, Ala.	106	67	21	8	8	2	1
Montgomery, Ala.	50	40	5	3	1	1	2
Nashville, Tenn.	170	119	32	11	6	2	3
W.S. CENTRAL	1,871	1,286	368	140	37	40	133
Austin, Tex.	95	68	15	7	2	3	4
Baton Rouge, La.	39	26	7	4	2	-	-
Corpus Christi, Tex.	78	50	20	6	2	-	7
Dallas, Tex.	264	182	50	23	5	4	17
El Paso, Tex.	94	70	15	5	2	2	3
Ft. Worth, Tex.	160	105	30	17	5	3	16
Houston, Tex.	389	257	84	32	8	8	28
Little Rock, Ark.	101	68	21	6	2	4	6
New Orleans, La.	119	75	31	9	3	1	-
San Antonio, Tex.	270	191	49	19	5	6	26
Shreveport, La.	127	93	23	7	1	3	13
Tulsa, Okla.	135	101	23	5	-	6	13
MOUNTAIN	1,024	726	173	79	25	20	82
Albuquerque, N.M.	128	96	18	12	2	-	10
Boise, Idaho	28	19	3	4	1	1	2
Colo. Springs, Colo.	61	39	12	6	1	3	3
Denver, Colo.	102	63	20	10	3	6	6
Las Vegas, Nev.	249	175	55	14	4	1	16
Ogden, Utah	25	18	3	3	-	1	1
Phoenix, Ariz.	112	81	21	5	2	2	13
Pueblo, Colo.	31	22	8	1	-	-	5
Salt Lake City, Utah	132	96	14	11	7	4	14
Tucson, Ariz.	156	117	19	13	5	2	12
PACIFIC	2,000	1,458	314	152	44	30	183
Berkeley, Calif.	26	16	5	4	-	1	3
Fresno, Calif.	140	100	19	10	9	2	18
Glendale, Calif.	40	27	8	4	1	-	3
Honolulu, Hawaii	69	58	4	5	1	1	5
Long Beach, Calif.	83	60	12	2	5	4	14
Los Angeles, Calif.	653	453	114	59	17	10	43
Pasadena, Calif.	39	33	3	2	-	1	5
Portland, Oreg.	169	126	24	17	1	1	7
Sacramento, Calif.	245	194	33	17	-	1	44
San Diego, Calif.	199	148	29	14	4	4	25
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	U	U	U	U	U	U	U
Santa Cruz, Calif.	38	29	6	2	1	-	4
Seattle, Wash.	143	101	28	9	2	3	2
Spokane, Wash.	58	48	5	1	2	2	3
Tacoma, Wash.	98	65	24	6	1	-	7
TOTAL	14,151¶	10,019	2,591	998	305	233	1,033

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.

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