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MORBIDITY AND MORTALITY WEEKLY REPORT

Foodborne Outbreak of Cryptosporidiosis — Spokane, Washington, 1997

On December 29, 1997, the Spokane Regional Health District received reports of acute gastroenteritis among members of a group attending a dinner banquet catered by a Spokane restaurant on December 18. The illness was characterized by a prolonged (3–9 days) incubation period and diarrhea, which led public health officials to suspect a parasitic cause of the illness. Eight of 10 stool specimens obtained from ill banquet attendees were positive for *Cryptosporidium* using both modified acid-fast and auramine-rhodamine staining of concentrated specimens. This report summarizes the epidemiologic investigation of the outbreak, which suggests that foodborne transmission occurred through a contaminated ingredient in multiple menu items.

In a retrospective cohort study, a case was defined as diarrhea or abdominal cramping in a banquet attendee with onset within 10 days after the banquet. Of the 62 attendees, 54 (87%) had illnesses meeting the case definition; they became ill a median of 6 days (range: 3–9 days) after the banquet. Symptoms included diarrhea (98%), fever/chills (61%), headache (59%), body ache (54%), abdominal cramps (50%), nausea (28%), and vomiting (11%). Based on information from initial interviews, the median length of illness was 5 days (range: 1–13 days), but subsequently several persons reported that they had symptoms intermittently for a month or longer. Two persons were hospitalized, and six others sought health care for their illness.

The banquet buffet included 18 separate food and beverage items; seven items contained uncooked produce. No single food was significantly associated with illness. When menu items that contained green onions were combined, foods containing uncooked green onions (au gratin potatoes, romaine salad, and pasta salad) were reportedly eaten by all 51 case-patients who could recall and by three of four persons who were not ill and could recall (undefined relative risk, p=0.07).

The banquet food items were prepared or served by 15 food workers. Stool specimens were available from 14 food workers within 3–4 weeks of the banquet; specimens from two tested positive for *Cryptosporidium*. One of the two food workers was symptomatic at the same time as banquet attendees; the other was asymptomatic. A stool specimen from another food worker was not available for testing until 5 weeks after the outbreak and was negative; he reported that he worked for 2 days in December while experiencing diarrhea but he could not remember the dates of his illness. All

Foodborne Cryptosporidiosis — Continued

three of these food workers reportedly ate food items served at the banquet associated with the outbreak.

The green onions were not washed before delivery at the restaurant. Food workers at the restaurant reported they did not consistently wash green onions before using them to prepare food or serving them to patrons.

To determine the extent of the outbreak, the health district requested by fax that Spokane area physicians report any patients with symptoms typical of cryptosporidiosis. No other cryptosporidiosis-like illnesses were identified at the time of the outbreak. Two other banquets catered by the restaurant on December 18 and 19 had menus similar to the banquet where the outbreak occurred; no illness was reported in either of these groups.

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Editorial Note: Since 1993, three foodborne outbreaks of cryptosporidiosis have been reported in the United States. In 1993, an outbreak was associated with drinking unpasteurized, fresh-pressed apple cider (*1*); the apples used for the cider probably were contaminated when they fell to the ground in a cow pasture. In 1995, an outbreak was associated with eating chicken salad that may have been contaminated by a food worker who operated a day care facility in her home (*2*). In 1996, an outbreak was associated with drinking commercially produced, unpasteurized apple cider (*3*); the apples used for the cider may have become contaminated when they were washed with well water that had fecal contamination.

The outbreak described in this report had characteristics similar to others in the United States caused by enteric coccidian parasites (*Cryptosporidium parvum* and *Cyclospora cayetanensis*) in that case-patients had prolonged diarrhea; the incubation period averaged 6 days; and the attack rates were high (*4,5*). Physicians and public health officials should have a high index of suspicion for infection with coccidian parasites in patients with severe or prolonged watery diarrhea. Because most laboratories do not routinely test stool for either *Cryptosporidium* or *Cyclospora* (*6*), specific testing for these organisms generally must be ordered by a physician.

The high attack rate among banquet attendees made finding a statistically significant association with a particular menu item difficult. The strongest association between illness and eating a menu item was observed for food items containing uncooked green onions. This suggests that the onions were a possible source, but the data are inadequate to conclusively implicate them as the vehicle of infection. Available data do not exclude the possibility that multiple menu items may have been contaminated before arriving at the restaurant, contaminated by a food worker, or by cross-contamination during preparation.

This outbreak highlights several key issues for food workers. Uncooked produce should be throughly washed before being placed on kitchen work surfaces to prevent contamination of these surfaces. The FDA Food Code prohibits further bare-handed contact with fruits and vegetables after washing when they are intended for use in "ready-to-eat" foods except where approved by the regulating authority (*7*). Food preparation surfaces should be washed between preparation of different produce to prevent cross-contamination. Food workers should not work when experiencing a

Foodborne Cryptosporidiosis — Continued

gastrointestinal illness. Persons infected with *Cryptosporidium* may intermittently shed oocysts in stool and remain infectious for up to 60 days after diarrhea has resolved; however, most persons will cease shedding within 2 weeks after resolution of their diarrhea (*8*). Therefore, food workers should be particularly meticulous about handwashing. Asymptomatic shedding probably occurs in persons exposed to the parasite who have developed some immunity, but the frequency of asymptomatic shedding is unknown.

References

1. Millard PS, Gensheimer KF, Addiss DG, et al. An outbreak of cryptosporidiosis from fresh-pressed apple cider. JAMA 1994;272:1592–6.
2. CDC. Foodborne outbreak of diarrheal illness associated with *Cryptosporidium parvum*—Minnesota, 1995. MMWR 1996;45:783–4.
3. CDC. Outbreaks of *Escherichia coli* O157:H7 infection and cryptosporidiosis associated with drinking unpasteurized apple cider—Connecticut and New York, October 1996. MMWR 1997;46:4–8.
4. Mac Kenzie WR, Schell WL, Blair KA, et al. Massive outbreak of waterborne *Cryptosporidium* infection in Milwaukee, Wisconsin: recurrence of illness and risk of secondary transmission. Clin Infect Dis 1995;21:57–62.
5. Herwaldt BL, Ackers ML, The Cyclospora Working Group. An outbreak in 1996 of cyclosporiasis associated with imported raspberries. N Engl J Med 1997;336:1548–56.
6. Boyce TG, Pemberton AG, Addiss DG. *Cryptosporidium* testing practices among clinical laboratories in the United States. Pediatr Infect Dis J 1996;15:87–8.
7. Food and Drug Administration. Food code, 1997. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, Food and Drug Administration, 1997.
8. Stehr-Green JK, McCaig L, Remsen HM, Rains CS, Fox M, Juranek DD. Shedding of oocysts in immunocompetent individuals infected with *Cryptosporidium*. Am J Trop Med Hyg 1987;36:338–42.

Civilian Outbreak of Adenovirus Acute Respiratory Disease — South Dakota, 1997

Adenoviruses are human pathogens that commonly infect the respiratory and gastrointestinal tracts (*1*). Adenovirus infections are endemic, particularly among children, but also may cause epidemics of pharyngoconjunctival fever, keratoconjunctivitis, gastroenteritis, and acute respiratory disease (ARD) among military trainees. Outbreaks of ARD among adults in the civilian sector are rare (*2*). In March 1997, an outbreak of acute respiratory disease (ARD) caused by adenovirus serotype 11 occurred among students at a job training facility in South Dakota. This report summarizes the epidemiologic and clinical features of this outbreak and discusses the change in availability of adenovirus vaccines for military use.

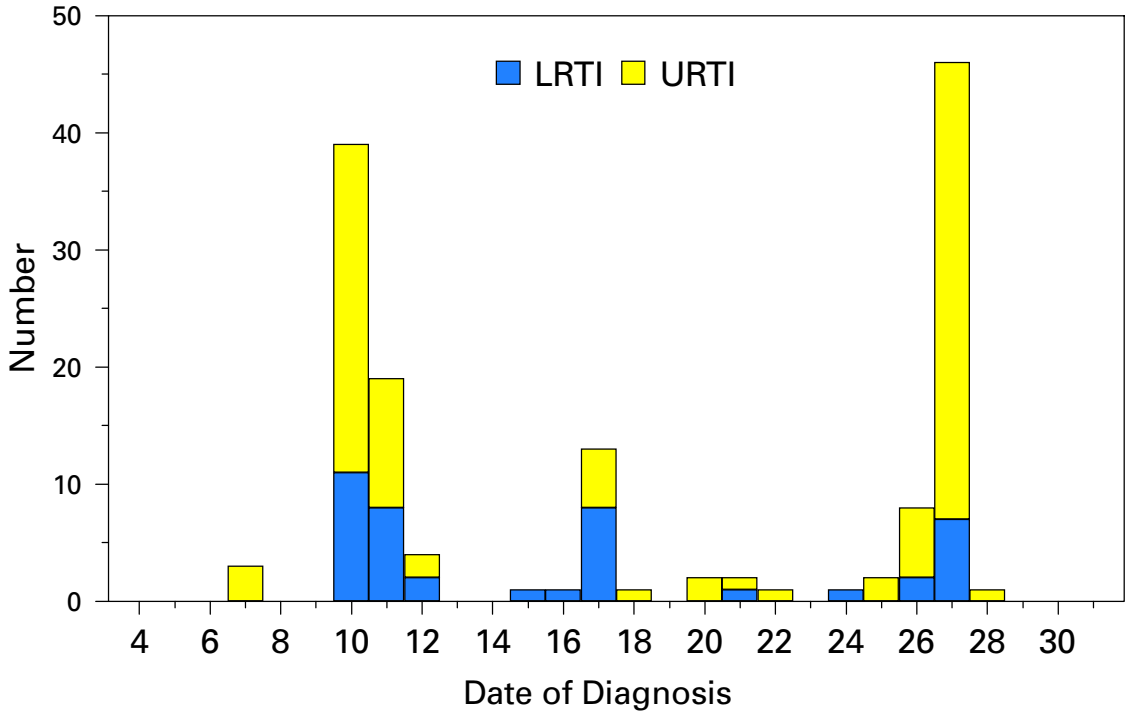
The facility provides high school education and vocational training for 240 persons aged 16–21 years. New students matriculate year-round at 2-week intervals and remain for approximately 1–2 years. All students live on campus in one of four barracks-style dormitories (three for males and one for females). Sixty students are housed in each dormitory, with six to 10 persons per room sleeping in bunk beds. Students share a common dining hall. Routine medical care is provided by an infirmary nurse, who refers more severe illnesses to visiting physicians or local hospitals. Hospitalization discharge summaries are forwarded to the infirmary nurse.

Adenovirus Respiratory Disease — Continued

Following the outbreak, a chart review was conducted at the facility's infirmary by the infirmary nurse. A case of lower respiratory tract infection (LRTI) was defined as physician-diagnosed pneumonia, an abnormal chest radiograph, or rales or wheezing on pulmonary auscultation in any student. A case of upper respiratory tract infection (URTI) was defined as coryza and sore throat without LRTI in any student. A case of ARD was defined as either URTI or LRTI in any student.

During March 8–28, a total of 146 (61%) students were diagnosed with ARD (Figure 1); 103 (71%) had URTI and 43 (29%) had LRTI. The ARD attack rate was higher among males than females (69% versus 37%, respectively, $p<0.01$). Although students with URTI and LRTI were similar in age and sex, frequencies of associated signs and symptoms differed between the two groups (Table 1). Students with URTI were more likely than students with LRTI to have headache. Students with LRTI were more likely to have fever ≥101 F (≥38.3 C), pleuritic chest pain, shortness of breath, lymphadenopathy, vomiting, conjunctivitis, and dysuria (all p-values <0.05). Students with LRTI had higher fevers than students with URTI (median maximum temperatures: 103 F [39.4 C] versus 102 F [38.9 C], $p<0.001$). Five (12%) of 43 students with LRTI were hospitalized for 3 to 7 days each. One ill student with a poorly controlled seizure disorder suffered a respiratory arrest and required intensive care. Staff members at this facility also reported ARD symptoms during this time period.

FIGURE 1. Cases of lower respriatory tract infection (LRTI) and upper respiratory tract infection (URTI)* among students at a job-training facility, by date of diagnosis — South Dakota, March 4–31, 1997



*A case of LRTI was defined as physician-diagnosed pneumonia, an abnormal chest radiograph, or rales or wheezing on pulmonary auscultation in any student. A case of URTI was defined as coryza and sore throat without LRTI in any student.

Adenovirus Respiratory Disease — Continued

TABLE 1. Clinical features of students with acute respiratory disease (ARD), upper respiratory tract infection (URTI), and lower respiratory tract infection (LRTI)* — South Dakota, 1997

	ARD (n=146)		URTI (n=103)		LRTI (n=43)	
Clinical features	**No.**	**(%)**	**No.**	**(%)**	**No.**	**(%)**
Coryza	140	(96)	103	(100)	37	(86)
Sore throat	139	(95)	103	(100)	36	(84)
Headache	138	(95)	102	(99)	36	(84)
Fever ≥101 F (≥38.3 C)	76	(52)	36	(35)	40	(93)
Lympadenopathy	34	(23)	12	(12)	22	(51)
Shortness of breath	34	(23)	0	—	34	(79)
Wheezing	34	(23)	0	—	34	(79)
Conjunctivitis	30	(21)	13	(13)	17	(40)
Pleuritic chest pain	26	(18)	0	—	26	(61)
Vomiting	22	(15)	4	(4)	18	(42)
Rales	22	(15)	0	—	22	(51)
Dysuria or hematuria	3	(2)	0	—	3	(7)
Abnormal chest radiograph	28	(19)	0	—	28	(65)

*A case of LRTI was defined as physician-diagnosed pneumonia, an abnormal chest radiograph, or rales or wheezing on pulmonary auscultation in any student. A case of URTI was defined as coryza and sore throat without LRTI in any student. A case of ARD was defined as either URTI or LRTI in any student.

Throat swab specimens were collected from seven ill students and inoculated into RMK and A549 cells. Six specimens yielded adenovirus, identified as subgenus B by the polymerase chain reaction assay, and as adenovirus 11 by microneutralization assays (*2–4*). The sequences of a one kilobase region of the fiber gene were identical for all isolates, suggesting a single outbreak strain.

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Editorial Note: Although adenovirus-associated ARD outbreaks among military training populations are well-described, they have not been recognized among college students or other young adults in the civilian sector. However, the setting of this outbreak of adenovirus ARD is similar to settings of previous military ARD outbreaks. In both settings, young adults live in crowded conditions, and new groups of potentially susceptible persons are introduced regularly. This outbreak differed from military outbreaks because most adenovirus-associated ARD outbreaks among U.S. military trainees are associated with adenoviruses 4 and 7. Adenovirus 11 is most commonly recognized as a cause of hemorrhagic cystitis, acute hemorrhagic conjunctivitis, and illnesses among immunocompromised persons (*1,5*) and has rarely been associated with ARD in military trainees or in any other immunocompetent adult population (*6*).

Outbreaks of adenovirus-associated ARD were common among U.S. military trainees before the 1970s, when routine vaccination of this group with oral vaccines against adenovirus serotypes 4 and 7 was instituted (*7,8*). Although these vaccines were highly effective, their manufacture has been discontinued (*9*). Residual supplies

Adenovirus Respiratory Disease — Continued

of the vaccines will probably be exhausted in 1999, at which time large ARD outbreaks in military settings are expected, primarily in winter months (*9*). This outbreak underscores that adenoviruses can cause outbreaks of ARD among young adults, persons living in crowded conditions, and military recruits.

References

1. Foy HM. Adenoviruses. In: Evans AS, Kaslow RS, eds. Viral infections of humans. 4th ed. New York, New York: Plenum Medical Book Co., 1997:119–38.
2. Sánchez MP, Erdman DD, Török TJ, Freeman CJ, Mátyás BT. Outbreak of adenovirus 35 pneumonia among adult residents and staff of a chronic care psychiatric facility. J Infect Dis 1997;176:760–3.
3. McDonough M, Kew O, Hierholzer J. PCR detection of human adenoviruses. In: Persing DH, Smith TF, Tenover FC, White TJ, eds. Diagnostic molecular microbiology: principles and applications. Washington, DC: American Society for Microbiology, 1993:389–93.
4. Hierholzer JC. Adenoviruses. In: Lennette EH, Lennette DA, Lennette ET, eds. Diagnostic procedures for viral rickettsial, and chlamydial infections. 7th ed. Washington, DC: American Public Health Association, 1995:169–88.
5. Hierholzer JC. Adenoviruses in the immunocompromised host. Clin Micro Rev 1992;5:262–74.
6. Hierholzer JC, Pumarola A, Rodriguez-Torres A, Beltran M. Occurrence of respiratory illness due to an atypical strain of adenovirus 11 during a large outbreak in Spanish military recruits. Am J Epidemiol 1974;99:434–42.
7. Rubin BA, Rorke LB. Adenovirus vaccines. In: Plotkin SA, Mortimer EA, eds. Vaccines. 2nd ed. Philadelphia, Pennsylvania: WB Saunders Co., 1994:475–502.
8. Gaydos CA, Gaydos JC. Adenovirus vaccines in the US military. Mil Med 1995;6:300–4.
9. Howell MR, Nang RN, Gaydos CA, Gaydos JC. Prevention of adenoviral acute respiratory disease in army recruits: cost-effectiveness of a military vaccination policy. Am J Prev Med 1998;14:168–75.

Adult Blood Lead Epidemiology and Surveillance — United States, Fourth Quarter, 1997

CDC's National Institute for Occupational Safety and Health Adult Blood Lead Epidemiology and Surveillance program (ABLES) monitors laboratory-reported elevated blood lead levels (BLLs) among adults in the United States. During 1997, a total of 27 states reported surveillance data to ABLES.* This report presents ABLES data through the fourth quarter for 1997 and compares the data for each quarter of 1997 with data reported for the corresponding quarter of 1996; preliminary totals for the fourth quarter 1997 reports suggest that the overall number of persons with BLLs ≥25 μg/dL were similar for 1996 and 1997.

Beginning with this report, the focus is on the number of persons with elevated BLLs (prevalence); previous ABLES reports focused primarily on the number of laboratory reports of elevated BLLs (there are often multiple laboratory reports for the same person, representing repeat or follow-up testing of the person). The number of new cases of elevated BLLs (incidence) will continue to be reported as cumulative annual data, which accompanies the succeeding year's first quarter report.

*Alabama, Arizona, California, Connecticut, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming.

Adult Blood Lead Epidemiology — Continued

States in the ABLES program mandate that laboratories report elevated BLLs for adults to the state health departments or another designee. The minimum BLL required to be reported varies among the states; the ABLES definition of an elevated BLL is ≥25 μg/dL. ABLES follow-back procedures have been previously described (*1*).

During October–December 1996 and 1997, the number of persons with BLLs ≥25 μg/dL reported by the same 27 participating states decreased 5%, from 4229 (*2*) to 4010.[†] This quarterly decrease in the number of persons with BLLs ≥25 μg/dL follows no change from 1996 when compared with 1997 in the third quarter (from 3747 to 3748), a decrease of 6% in second quarter (from 4421 to 4148), and a 10% increase in first quarter (from 4198 to 4598) (Figure 1). A similar quarterly pattern was observed for the number of persons with BLLs ≥50 μg/dL (the level designated by the Occupational Safety and Health Administration [OSHA] for medical removal from the workplace [*3*])—decreases of 6% in the fourth quarter (from 250 to 236), 12% in the third quarter (from 214 to 188), and 20% in the second quarter (from 245 to 197), and an increase of 14% in the first quarter (from 194 to 222).

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Editorial Note: Beginning with this report, the ABLES program will report the prevalence of persons with elevated BLLs, rather than the number of laboratory reports of elevated BLLs. Prevalence is a more accurate measure of the burden of elevated BLLs among adults. ABLES continues to collect and analyze data about the number of laboratory reports for use in following persons with persistently high BLLs and for use as a measure of compliance with OSHA testing requirements.[§]

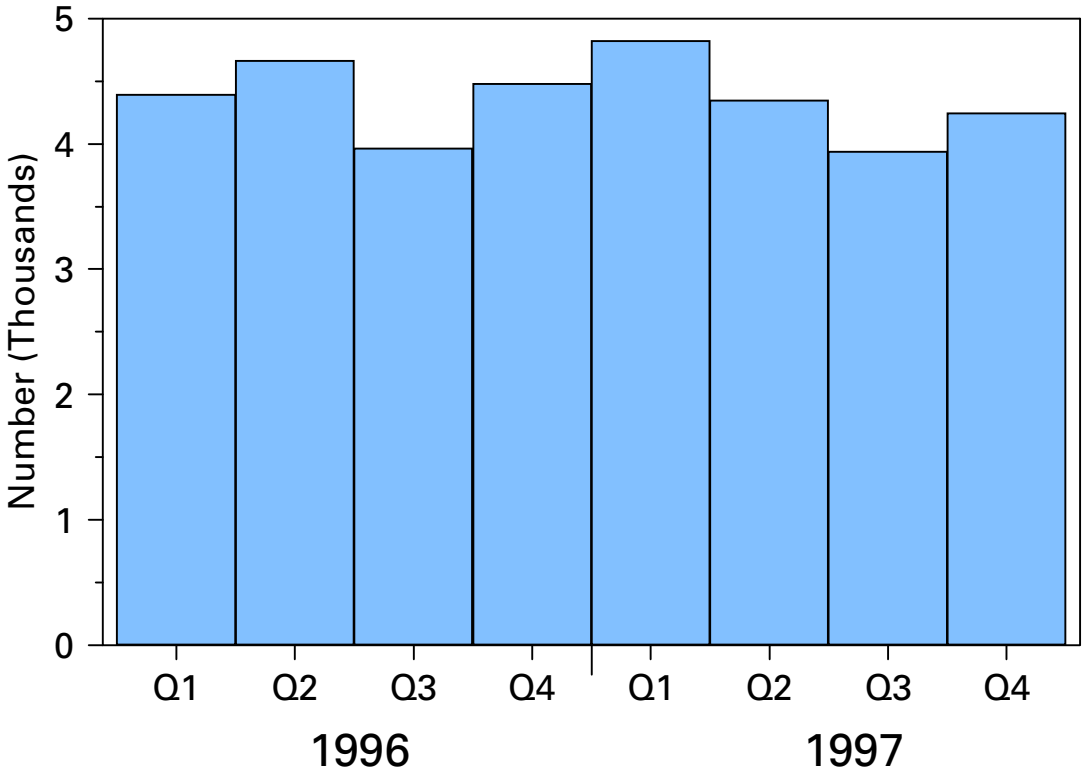
The number of persons with elevated BLLs is not directly comparable with previously reported numbers of laboratory reports. However, trends in these two forms of data are similar, and the general pattern in the number of persons with elevated

[†] To compare the number of persons for a constant roster of 27 states in 1997 and 1996, data for 1997 for New Mexico, Rhode Island, and Wyoming were added to previously reported totals for 1996 (*1*). In addition, 1996 data for Illinois, which no longer reports, were subtracted from previously reported totals for 1996 (*1*). Alabama and Ohio have updated their reports for 1996, and these updated data are now incorporated.

[§] The number of laboratory reports for the fourth quarter of 1997 was 5421, compared with 5874 in 1996.

Adult Blood Lead Epidemiology — Continued

FIGURE 1. Number of persons* with blood lead levels (BLLs) ≥25 µg/dL, by quarter — 27 states,† 1996–1997



*Persons are categorized according to the highest reported BLL for the person during the given quarter.

†Alabama, Arizona, California, Connecticut, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Vermont, Washington, Wisconsin, and Wyoming. To compare the number of persons for a constant roster of 27 states in 1997 and 1996, 1997 data for New Mexico, Rhode Island, and Wyoming were added to previously reported totals for 1996 (*1*). In addition, 1996 data for Illinois, which no longer reports, were subtracted from the previously reported totals for 1996. Alabama and Ohio have updated their reports for 1996 and these updated data are now incorporated.

BLLs over the four quarters of 1997 suggests a continuation of the long-term declines observed for laboratory reports since 1993 (*2,4,5*). This decline detected in the last three quarters of 1997, when compared to the same period of 1996, may reflect decreased occupational exposures to lead through improved controls implemented by employers. Alternatively, the decreases might also reflect 1) decreased efforts of the various participating states, and lead-using industries within them, to identify lead-exposed workers; 2) a reduction in the size of the workforce in lead-using industries; and/or 3) a change in reporting laws or in compliance with these laws. Quarterly increases and decreases also might represent normal fluctuations in case reporting, which may result from changes in staffing and funding in state-based surveillance

Adult Blood Lead Epidemiology — Continued

programs, interstate differences in worker BLL testing by lead-using industries, or random variation.

The findings in this report document the continuing hazard of lead exposures as an occupational health problem in the United States. ABLES enhances surveillance for this preventable condition by expanding the number of participating states, exploring ways to increase the usefulness of reporting, and alerting the public to potential new sources of lead exposure.

References

1. CDC. Surveillance for occupational lead exposure—United States, 1987. MMWR 1989;38:642–6.
2. CDC. Adult blood lead epidemiology and surveillance—United States, fourth quarter, 1996. MMWR 1997;46:358–60,367.
3. US Department of Labor, Occupational Safety and Health Administration. Final standard for occupational exposure to lead. Federal Register 1978;43:52952–3014. (29 CFR 1910.1025).
4. CDC. Adult blood lead epidemiology and surveillance—United States, third quarter, 1996. MMWR 1997;46:105–7.
5. CDC. Adult blood lead epidemiology and surveillance—United States, first quarter, 1997, and annual 1996. MMWR 1997;46:643–7.

Notice to Readers

CDC's National Profile of Local Boards of Health, September 1997

During 1995–1996, CDC, in collaboration with the National Association of Local Boards of Health (NALBOH), conducted the National Survey of Local Boards of Health (*1*). The survey was designed to characterize the nation's local boards of health (LBOHs) and learn more about their needs, concerns, and capacities. Data were collected in five areas: 1) demographic characteristics of LBOHs and the areas they represent, 2) telecommunications capability/infrastructure, 3) roles, responsibilities, and authorities, 4) composition and structure, and 5) concerns and needs.

An LBOH was defined as any officially constituted local body that establishes general public health policies for a local jurisdiction or that provides advice about the development of such policies to those responsible for policy development. Surveys were completed by 1391 (44%) of 3186 LBOHs.

The survey found that, although 70% of respondents reported having access to a computer, only 31% used e-mail and only 18% used Internet e-mail. Most (80%) LBOHs reported performing multiple functions. More than half reported performing a combination of advisory, governing, and policy-making functions, and 70% reported that they recommended public health policy; proposed, adopted, and enforced public health regulations; and recommended health department budgets and priorities.

Approximately 70% of respondents reported needing training, information, or technical assistance in establishing community health priorities, identifying funding sources, conducting state and local health reform activities and community health assessments, and working with managed care organizations.

Reported by: JC Saccenti, NE Baker, MPH, National Association of Local Boards of Health, Bowling Green, Ohio. Div of Public Health Systems, Public Health Practice Program Office, CDC.

Notice to Readers — Continued

Reference

1. CDC. National profile of local boards of health. Atlanta, Georgia: US Department of Health and Human Services, CDC, 1997.

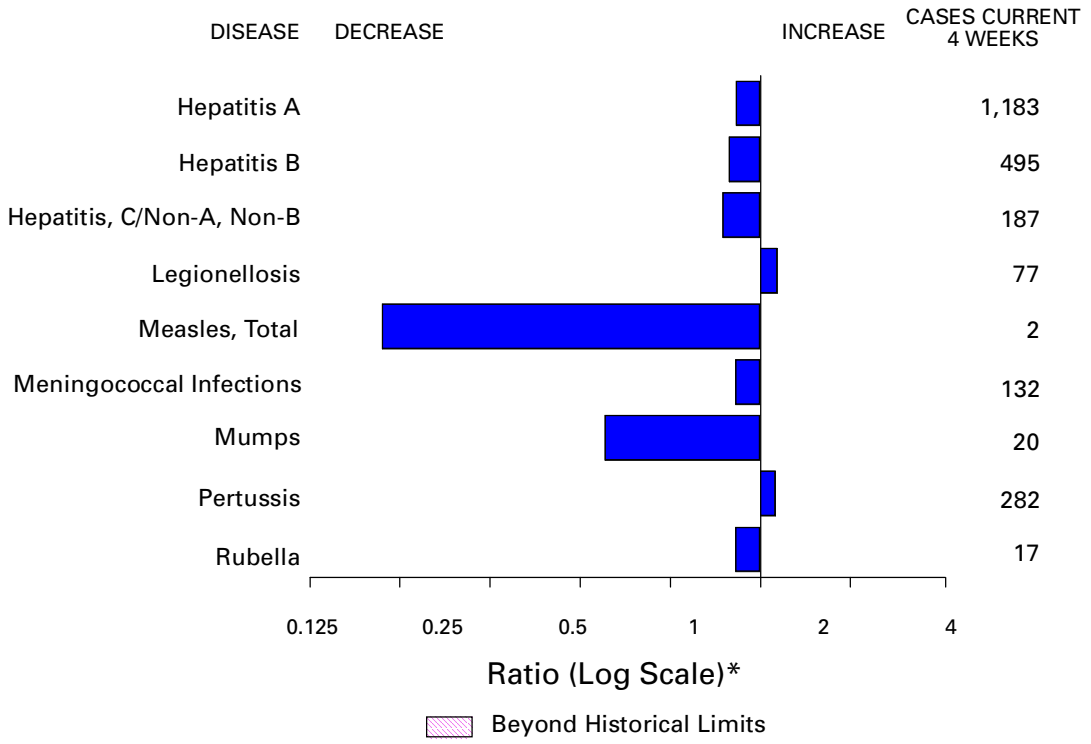
Erratum: Vol. 47, No. 26

In the table "TABLE IV. Deaths in 122 U.S. cities, week ending July 4, 1998 (26th Week)," on page 562, mortality data for the city of Memphis, Tenn., are printed twice, resulting in incorrect column totals for the E.S. Central region and the overall Total. The E.S. Central column totals should be: All Ages, 858; ages >65, 540; ages 45–64, 192; ages 25–44, 77; ages 1–24, 19; ages <1, 29; and P&I Total, 49. The Total line should be: All Ages, 10,537; ages >65, 7,165; ages 45–64, 2,056; ages 25–44, 792; ages 1–24, 280; ages <1, 224; and P&I Total, 628.

Erratum: Vol 47, No. 24

In the article "Primary and Secondary Syphilis—United States, 1997," on page 493 the last sentence in the first paragraph should read "This report summarizes the findings of the analysis, which indicate that 8551 cases of primary and secondary (P&S) syphilis were reported in 1997, an 83% decline in cases from the peak of the epidemic in 1990, and that syphilis remains substantially more common in non-Hispanic blacks than in other racial/ethnic groups and continues to be be concentrated in the Southern region of the United States."

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending July 11, 1998, with historical data — United States



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

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending July 11, 1998 (27th Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	3
Brucellosis	37	Poliomyelitis, paralytic	1
Cholera	5	Psittacosis	26
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	956	Rocky Mountain spotted fever (RMSF)	97
Diphtheria	1	Streptococcal disease, invasive Group A	1,327
Encephalitis: California*	2	Streptococcal toxic-shock syndrome*	34
eastern equine*	-	Syphilis, congenital¶	128
St. Louis*	-	Tetanus	16
western equine*	-	Toxic-shock syndrome	67
Hansen Disease	60	Trichinosis	6
Hantavirus pulmonary syndrome*†	1	Typhoid fever	143
Hemolytic uremic syndrome, post-diarrheal*	19	Yellow fever	-
HIV infection, pediatric*§	127		

-:no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update June 28, 1998.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending July 11, 1998, and July 5, 1997 (27th Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1998	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
UNITED STATES	23,929	31,182	270,066	254,987	912	405	156,074	149,479	2,047	1,749
NEW ENGLAND	830	1,269	9,988	8,809	126	90	2,713	2,991	27	35
Maine	18	28	499	484	12	-	35	29	-	-
N.H.	22	17	473	397	18	18	48	58	-	-
Vt.	10	24	206	201	6	4	13	25	-	1
Mass.	386	462	4,297	3,633	64	52	1,030	1,122	25	30
R.I.	67	83	1,276	1,019	5	1	183	242	2	4
Conn.	327	655	3,237	3,075	21	15	1,404	1,515	-	-
MID. ATLANTIC	6,951	9,760	32,453	27,987	85	18	18,000	18,042	216	161
Upstate N.Y.	849	1,620	N	N	62	-	3,015	3,142	166	117
N.Y. City	3,910	4,965	17,563	13,618	3	6	7,676	6,730	-	-
N.J.	1,232	2,027	5,208	5,028	20	11	2,880	3,723	-	-
Pa.	960	1,148	9,682	9,341	N	1	4,429	4,447	50	44
E.N. CENTRAL	1,768	2,165	44,106	37,200	173	78	30,201	22,040	266	336
Ohio	331	432	12,419	11,343	39	16	7,564	6,969	7	8
Ind.	326	360	2,864	4,396	52	22	1,851	2,960	3	10
Ill.	706	760	13,079	6,758	43	-	10,460	3,308	14	56
Mich.	305	473	11,206	9,173	39	20	8,523	6,529	242	243
Wis.	100	140	4,538	5,530	N	20	1,803	2,274	-	19
W.N. CENTRAL	444	613	16,074	16,239	112	51	7,886	7,275	115	34
Minn.	65	99	3,098	3,366	38	26	1,081	1,170	6	2
Iowa	49	69	2,010	2,397	33	-	638	647	11	17
Mo.	209	294	6,110	5,986	13	17	4,538	3,928	94	4
N. Dak.	4	6	290	437	2	5	29	33	-	2
S. Dak.	9	3	827	642	8	1	133	69	-	-
Nebr.	39	59	1,102	1,036	7	-	366	392	2	2
Kans.	69	83	2,637	2,375	11	2	1,101	1,036	2	7
S. ATLANTIC	5,900	7,766	56,698	48,317	71	29	45,618	46,771	103	113
Del.	75	144	1,292	-	-	1	702	601	-	-
Md.	718	954	4,324	3,710	13	4	4,787	5,951	5	3
D.C.	481	598	N	N	1	-	1,794	2,175	-	-
Va.	425	650	5,581	5,809	N	7	3,339	4,003	5	11
W. Va.	57	57	1,426	1,488	N	2	410	471	4	9
N.C.	390	429	11,370	8,755	12	10	9,536	8,370	12	29
S.C.	386	403	9,723	6,499	3	-	6,282	5,779	3	26
Ga.	616	970	12,914	8,850	24	-	10,678	10,154	9	-
Fla.	2,752	3,561	10,068	13,206	15	5	8,090	9,267	65	35
E.S. CENTRAL	936	1,019	18,539	17,503	51	11	17,517	17,312	81	195
Ky.	127	177	3,125	3,492	13	-	1,789	2,186	16	8
Tenn.	333	414	6,593	6,490	24	10	5,640	5,393	62	127
Ala.	274	239	5,161	4,140	14	-	6,400	5,916	3	6
Miss.	202	189	3,660	3,381	U	1	3,688	3,817	U	54
W.S. CENTRAL	2,899	3,174	36,650	29,070	53	8	21,054	19,271	514	215
Ark.	104	120	1,727	1,466	4	3	1,162	2,438	3	7
La.	512	562	6,732	4,276	-	2	5,638	4,000	10	115
Okla.	170	165	5,093	3,755	5	3	2,786	2,384	4	4
Tex.	2,113	2,327	23,098	19,573	44	-	11,468	10,449	497	89
MOUNTAIN	831	900	11,090	14,341	108	50	4,023	3,908	239	160
Mont.	15	22	655	534	6	-	25	20	5	12
Idaho	15	28	919	754	9	1	85	57	87	24
Wyo.	2	13	330	290	21	-	15	27	43	40
Colo.	147	224	-	3,142	26	18	1,180	1,083	14	19
N. Mex.	130	80	1,986	2,000	10	6	394	465	53	32
Ariz.	329	227	5,723	5,249	N	9	2,072	1,670	3	21
Utah	65	73	1,168	854	16	10	114	124	21	3
Nev.	128	233	309	1,518	7	6	138	462	13	9
PACIFIC	3,370	4,516	44,468	55,521	133	70	9,062	11,869	486	500
Wash.	236	377	5,717	4,703	27	22	986	983	10	16
Oreg.	93	162	2,910	2,475	33	27	402	380	2	2
Calif.	2,962	3,913	33,849	46,714	71	18	7,312	10,043	419	396
Alaska	12	28	974	751	2	-	159	211	1	-
Hawaii	67	36	1,018	878	N	3	203	252	54	86
Guam	-	2	8	193	N	-	2	27	-	-
P.R.	1,001	1,019	U	U	-	U	223	339	-	-
V.I.	17	51	N	N	N	U	U	U	U	U
Amer. Samoa	-	-	U	U	N	U	U	U	U	U
C.N.M.I.	-	1	N	N	N	U	14	16	-	2

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

*Updated monthly to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update June 28, 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 July 11, 1998, and July 5, 1997 (27th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998*	Cum. 1997	Cum. 1998
UNITED STATES	553	430	3,610	2,601	579	792	3,393	4,414	6,565	8,887	3,571
NEW ENGLAND	30	27	1,229	613	38	42	38	88	226	226	684
Maine	1	1	6	3	4	1	1	-	4	15	114
N.H.	3	4	18	7	3	2	1	-	6	6	34
Vt.	2	4	5	3	-	2	3	-	1	3	31
Mass.	10	8	199	122	11	19	24	40	121	124	224
R.I.	8	5	90	43	2	4	-	2	30	16	36
Conn.	6	5	911	435	18	14	9	46	64	62	245
MID. ATLANTIC	119	73	1,937	1,569	138	235	105	216	1,283	1,584	784
Upstate N.Y.	35	18	1,094	566	38	35	17	24	155	210	541
N.Y. City	19	4	10	82	65	145	25	42	730	813	U
N.J.	4	14	350	415	20	41	20	94	295	316	100
Pa.	61	37	483	506	15	14	43	56	103	245	143
E.N. CENTRAL	176	154	43	39	49	83	484	381	468	936	66
Ohio	75	67	37	12	3	9	74	112	5	153	39
Ind.	33	27	5	10	2	7	100	76	6	81	4
Ill.	14	5	-	6	18	37	180	47	285	496	5
Mich.	34	34	1	11	25	19	104	72	172	149	15
Wis.	20	21	U	U	1	11	26	74	U	57	3
W.N. CENTRAL	38	29	22	32	38	26	76	91	126	269	390
Minn.	3	1	9	15	18	9	5	13	U	70	73
Iowa	4	7	9	1	3	6	-	3	U	30	86
Mo.	14	4	1	12	10	5	58	51	86	106	19
N. Dak.	-	2	-	-	2	2	-	-	3	5	80
S. Dak.	2	2	-	-	-	-	1	-	14	7	66
Nebr.	12	10	1	1	-	1	4	1	5	12	3
Kans.	3	3	2	3	5	3	8	23	18	39	63
S. ATLANTIC	73	56	267	218	138	123	1,418	1,737	1,063	1,656	1,116
Del.	8	7	5	45	1	2	15	15	-	17	17
Md.	14	11	184	140	44	42	355	486	146	149	275
D.C.	4	3	4	7	10	9	39	66	61	52	-
Va.	7	11	25	4	23	32	89	145	144	165	343
W. Va.	N	N	6	1	-	-	2	3	24	29	46
N.C.	6	6	13	8	12	7	386	364	217	196	136
S.C.	5	2	3	1	4	9	162	212	171	191	81
Ga.	2	-	2	1	15	14	249	288	230	298	106
Fla.	26	16	25	11	29	8	121	158	70	559	112
E.S. CENTRAL	25	28	35	41	14	16	576	947	282	653	133
Ky.	14	7	8	6	2	4	62	80	-	96	20
Tenn.	8	14	17	17	8	4	296	395	120	240	81
Ala.	3	2	10	4	4	5	139	242	162	209	32
Miss.	U	5	U	14	U	3	79	230	U	108	U
W.S. CENTRAL	16	7	10	28	17	9	422	655	54	1,317	107
Ark.	-	1	5	8	1	2	59	96	54	107	21
La.	1	2	-	1	4	4	155	204	-	102	-
Okla.	6	1	-	5	2	3	26	59	U	117	86
Tex.	9	3	5	14	10	-	182	296	U	991	-
MOUNTAIN	32	29	5	6	27	37	114	86	226	285	84
Mont.	1	1	-	-	-	2	-	-	12	6	29
Idaho	-	2	1	2	3	-	-	-	8	7	-
Wyo.	1	1	-	1	-	2	1	-	2	2	42
Colo.	6	9	2	-	7	18	8	4	U	49	1
N. Mex.	2	1	1	-	11	5	12	4	28	22	2
Ariz.	5	7	-	1	5	4	88	68	114	142	7
Utah	16	5	-	-	1	2	3	3	33	11	3
Nev.	1	3	1	2	-	4	2	7	29	46	-
PACIFIC	44	27	62	55	120	221	160	213	2,837	1,961	207
Wash.	5	6	2	2	9	8	12	7	120	152	-
Oreg.	-	-	8	10	11	10	2	4	60	89	1
Calif.	38	20	51	43	99	196	146	200	2,548	1,577	186
Alaska	-	-	1	-	-	3	-	1	26	46	20
Hawaii	1	1	-	-	1	4	-	1	83	97	-
Guam	-	-	-	-	-	-	-	3	-	13	-
P.R.	-	-	-	-	-	3	116	124	46	88	28
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.	-	-	-	-	-	-	98	9	54	2	-

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

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 11, 1998, and July 5, 1997 (27th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998	Cum. 1998	Cum. 1997
UNITED STATES	585	643	11,327	14,306	4,103	4,754	-	26	-	13	39	78
NEW ENGLAND	33	36	145	339	69	87	-	1	-	1	2	11
Maine	2	3	13	42	2	6	-	-	-	-	-	-
N.H.	5	5	8	18	10	5	-	-	-	-	-	1
Vt.	2	3	13	7	1	5	-	-	-	-	-	-
Mass.	22	22	44	158	17	38	-	1	-	1	2	9
R.I.	2	2	9	47	39	9	-	-	-	-	-	-
Conn.	-	1	58	67	-	24	-	-	-	-	-	1
MID. ATLANTIC	82	88	728	1,180	589	683	-	9	-	2	11	20
Upstate N.Y.	34	23	175	164	165	128	-	2	-	-	2	5
N.Y. City	15	23	188	528	143	269	-	-	-	-	-	7
N.J.	28	28	161	181	105	131	-	7	-	1	8	3
Pa.	5	14	204	307	176	155	-	-	-	1	1	5
E.N. CENTRAL	93	108	1,433	1,527	409	800	-	11	-	3	14	8
Ohio	35	59	184	204	42	44	-	-	-	1	1	-
Ind.	25	10	93	149	39	60	-	2	-	1	3	-
Ill.	29	25	246	392	81	151	-	-	-	-	-	6
Mich.	-	14	808	669	231	239	-	9	-	1	10	2
Wis.	4	-	102	113	16	306	-	-	-	-	-	-
W.N. CENTRAL	51	30	906	1,060	221	269	-	-	-	-	-	11
Minn.	37	21	71	90	18	23	-	-	-	-	-	2
Iowa	1	3	374	176	33	21	-	-	-	-	-	-
Mo.	8	3	365	570	138	196	-	-	-	-	-	1
N. Dak.	-	-	3	9	4	2	-	-	-	-	-	-
S. Dak.	-	2	17	14	1	-	-	-	-	-	-	8
Nebr.	-	1	15	43	7	8	-	-	-	-	-	-
Kans.	5	-	61	158	20	19	-	-	-	-	-	-
S. ATLANTIC	123	102	978	776	600	555	-	2	-	5	7	3
Del.	-	-	2	16	-	3	-	-	-	1	1	-
Md.	40	43	179	119	92	85	-	-	-	1	1	1
D.C.	-	-	30	14	6	21	-	-	-	-	-	1
Va.	12	7	135	100	54	65	-	-	-	2	2	-
W. Va.	4	3	1	6	3	9	-	-	-	-	-	-
N.C.	15	17	51	106	113	123	-	-	-	-	-	1
S.C.	4	3	17	67	13	60	-	-	-	-	-	-
Ga.	24	20	264	189	96	57	-	-	-	1	1	-
Fla.	24	9	299	159	223	132	-	2	-	-	2	-
E.S. CENTRAL	34	37	194	351	202	363	-	-	-	-	-	1
Ky.	4	4	13	45	22	23	-	-	-	-	-	-
Tenn.	23	23	133	214	147	243	-	-	-	-	-	-
Ala.	7	8	48	53	33	38	-	-	-	-	-	1
Miss.	U	2	U	39	U	59	U	U	U	U	U	-
W.S. CENTRAL	31	29	2,126	2,941	669	580	-	-	-	-	-	4
Ark.	-	2	49	127	46	45	-	-	-	-	-	-
La.	14	6	41	113	47	67	-	-	-	-	-	-
Okla.	15	19	307	873	41	18	-	-	-	-	-	-
Tex.	2	2	1,729	1,828	535	450	-	-	-	-	-	4
MOUNTAIN	68	65	1,799	2,125	449	458	-	-	-	-	-	7
Mont.	-	-	59	51	3	5	-	-	-	-	-	-
Idaho	-	1	148	78	18	15	-	-	-	-	-	-
Wyo.	1	1	23	20	2	14	-	-	-	-	-	-
Colo.	14	10	136	238	54	88	-	-	-	-	-	-
N. Mex.	5	6	87	166	189	151	-	-	-	-	-	-
Ariz.	38	23	1,158	1,006	119	100	-	-	-	-	-	5
Utah	4	3	119	347	39	54	-	-	-	-	-	-
Nev.	6	21	69	219	25	31	U	-	U	-	-	2
PACIFIC	70	148	3,018	4,007	895	959	-	3	-	2	5	13
Wash.	4	2	573	285	64	41	-	-	-	1	1	-
Oreg.	30	24	211	201	59	59	-	-	-	-	-	-
Calif.	28	116	2,197	3,421	761	840	-	3	-	1	4	10
Alaska	1	1	14	23	6	11	-	-	-	-	-	-
Hawaii	7	5	23	77	5	8	-	-	-	-	-	3
Guam	-	-	-	-	-	3	U	-	U	-	-	-
P.R.	2	-	24	183	247	403	-	-	-	-	-	-
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.	-	6	1	1	28	28	U	-	U	-	-	1

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

*Of 135 cases among children aged <5 years, serotype was reported for 74 and of those, 32 were type b.

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

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending July 11, 1998, and July 5, 1997 (27th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997
UNITED STATES	1,584	2,057	7	251	361	92	2,252	2,720	9	274	91
NEW ENGLAND	69	127	-	1	7	10	393	560	-	35	1
Maine	4	12	-	-	-	-	5	6	-	-	-
N.H.	4	12	-	-	-	5	39	65	-	-	-
Vt.	1	2	-	-	-	2	38	174	-	-	-
Mass.	34	66	-	1	2	2	292	292	-	6	1
R.I.	3	9	-	-	4	-	3	12	-	-	-
Conn.	23	26	-	-	1	1	16	11	-	29	-
MID. ATLANTIC	146	210	-	16	43	4	284	217	2	113	27
Upstate N.Y.	37	58	-	3	9	4	144	78	2	106	5
N.Y. City	16	37	-	4	3	-	6	52	-	2	22
N.J.	40	42	-	1	7	-	5	11	-	4	-
Pa.	53	73	-	8	24	-	129	76	-	1	-
E.N. CENTRAL	236	307	-	43	41	9	205	259	-	-	5
Ohio	86	110	-	19	16	1	73	77	-	-	-
Ind.	41	33	-	5	4	5	66	30	-	-	-
Ill.	58	90	-	2	8	1	15	34	-	-	1
Mich.	27	46	-	17	11	2	34	31	-	-	-
Wis.	24	28	-	-	2	-	17	87	-	-	4
W.N. CENTRAL	130	151	-	20	12	19	188	157	-	25	-
Minn.	24	24	-	10	5	15	115	101	-	-	-
Iowa	20	34	-	6	6	1	40	8	-	-	-
Mo.	50	69	-	3	-	2	15	25	-	2	-
N. Dak.	2	1	-	1	-	-	-	1	-	-	-
S. Dak.	6	4	-	-	-	1	5	3	-	-	-
Nebr.	4	5	-	-	1	-	5	4	-	-	-
Kans.	24	14	-	-	-	-	8	15	-	23	-
S. ATLANTIC	285	345	1	35	41	8	135	234	1	8	29
Del.	1	5	-	-	-	1	2	-	-	-	-
Md.	23	35	-	-	1	-	26	80	-	-	-
D.C.	-	5	-	-	-	-	1	2	-	-	-
Va.	23	34	-	5	6	-	6	25	-	-	1
W. Va.	9	14	-	-	-	-	1	4	-	-	-
N.C.	40	64	1	9	7	4	48	68	-	5	22
S.C.	41	38	-	4	10	-	15	11	-	-	6
Ga.	62	63	-	1	5	-	6	6	-	-	-
Fla.	86	87	-	16	12	3	30	38	1	3	-
E.S. CENTRAL	112	149	-	1	19	3	54	52	-	-	1
Ky.	17	38	-	-	3	-	20	13	-	-	-
Tenn.	43	49	-	1	3	-	18	20	-	-	-
Ala.	52	45	-	-	6	3	16	13	-	-	1
Miss.	U	17	U	U	7	U	U	6	U	U	-
W.S. CENTRAL	186	192	4	38	43	17	161	96	6	75	3
Ark.	23	25	-	-	-	6	24	7	-	-	-
La.	38	38	3	8	11	-	1	11	-	-	-
Okla.	29	23	-	-	-	-	13	13	-	-	-
Tex.	96	106	1	30	32	11	123	65	6	75	3
MOUNTAIN	90	120	1	23	46	19	506	698	-	5	5
Mont.	3	7	-	-	-	1	2	8	-	-	-
Idaho	4	8	-	3	2	5	194	435	-	-	1
Wyo.	4	1	-	1	1	-	7	5	-	-	-
Colo.	19	31	1	5	3	1	99	184	-	-	-
N. Mex.	16	19	N	N	N	2	66	33	-	1	-
Ariz.	31	30	-	5	29	8	99	19	-	1	4
Utah	10	11	-	3	6	2	27	4	-	2	-
Nev.	3	13	U	6	5	U	12	10	U	1	-
PACIFIC	330	456	1	74	109	3	326	447	-	13	20
Wash.	41	54	-	5	12	-	148	192	-	9	5
Oreg.	56	91	N	N	N	3	23	22	-	-	-
Calif.	228	308	1	54	80	-	149	217	-	2	8
Alaska	1	1	-	2	5	-	2	3	-	-	-
Hawaii	4	2	-	13	12	-	4	13	-	2	7
Guam	-	1	U	-	1	U	-	-	U	-	-
P.R.	5	8	-	1	4	-	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	4	U	1	-	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending July 11, 1998 (27th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	570	410	95	37	14	14	34
Boston, Mass.	157	97	30	16	8	6	12
Bridgeport, Conn.	34	31	-	2	1	-	4
Cambridge, Mass.	24	17	5	1	-	1	2
Fall River, Mass.	12	8	4	-	-	-	-
Hartford, Conn.	63	40	10	5	4	4	3
Lowell, Mass.	26	23	3	-	-	-	-
Lynn, Mass.	13	9	3	1	-	-	-
New Bedford, Mass.	27	24	3	-	-	-	1
New Haven, Conn.	39	25	9	5	-	-	1
Providence, R.I.	57	42	12	1	1	1	1
Somerville, Mass.	2	1	1	-	-	-	-
Springfield, Mass.	30	26	2	2	-	-	2
Waterbury, Conn.	26	22	3	1	-	-	2
Worcester, Mass.	60	45	10	3	-	2	6
MID. ATLANTIC	2,256	1,560	454	171	43	27	106
Albany, N.Y.	44	28	8	2	4	2	-
Allentown, Pa.	19	17	1	1	-	-	2
Buffalo, N.Y.	89	72	11	5	-	-	9
Camden, N.J.	36	23	7	3	2	1	2
Elizabeth, N.J.	35	26	7	2	-	-	-
Erie, Pa.	50	35	11	3	1	-	-
Jersey City, N.J.	51	34	12	3	2	-	-
New York City, N.Y.	993	680	206	81	17	9	29
Newark, N.J.	46	19	16	10	-	1	5
Paterson, N.J.	27	18	5	2	-	2	-
Philadelphia, Pa.	399	262	84	34	12	7	23
Pittsburgh, Pa.§	105	62	25	12	3	3	10
Reading, Pa.	36	27	7	1	1	-	1
Rochester, N.Y.	154	124	26	4	-	-	9
Schenectady, N.Y.	15	12	3	-	-	-	1
Scranton, Pa.	22	20	2	-	-	-	1
Syracuse, N.Y.	81	63	14	4	-	-	10
Trenton, N.J.	37	24	6	4	1	2	-
Utica, N.Y.	17	14	3	-	-	-	4
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,076	1,372	418	179	50	55	103
Akron, Ohio	51	33	11	3	1	3	-
Canton, Ohio	35	25	8	2	-	-	3
Chicago, Ill.	386	241	86	38	11	8	28
Cincinnati, Ohio	106	81	12	8	1	4	11
Cleveland, Ohio	151	98	27	16	9	1	1
Columbus, Ohio	185	120	37	20	3	5	19
Dayton, Ohio	135	91	32	8	2	2	6
Detroit, Mich.	213	113	50	36	6	8	6
Evansville, Ind.	57	39	11	3	-	4	3
Fort Wayne, Ind.	53	30	14	7	1	1	2
Gary, Ind.	8	7	-	1	-	-	-
Grand Rapids, Mich.	51	34	11	3	1	2	2
Indianapolis, Ind.	220	140	45	18	4	13	-
Lansing, Mich.	57	42	13	2	-	-	2
Milwaukee, Wis.	125	86	27	6	4	2	7
Peoria, Ill.	30	26	2	-	2	-	3
Rockford, Ill.	41	30	6	3	1	1	3
South Bend, Ind.	51	38	9	1	3	-	1
Toledo, Ohio	77	63	10	2	1	1	2
Youngstown, Ohio	44	35	7	2	-	-	4
W.N. CENTRAL	674	484	106	44	13	19	36
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	35	26	6	2	-	1	2
Kansas City, Kans.	20	18	1	1	-	-	-
Kansas City, Mo.	84	53	13	7	1	2	3
Lincoln, Nebr.	38	31	4	3	-	-	2
Minneapolis, Minn.	214	156	37	12	4	5	14
Omaha, Nebr.	55	42	10	-	-	3	4
St. Louis, Mo.	95	62	17	8	4	4	6
St. Paul, Minn.	68	48	10	4	2	4	3
Wichita, Kans.	65	48	8	7	2	-	2
S. ATLANTIC	959	614	189	109	28	18	47
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	164	100	42	17	3	1	13
Charlotte, N.C.	71	46	13	9	1	2	4
Jacksonville, Fla.	150	103	30	11	4	2	5
Miami, Fla.	107	68	21	13	2	3	-
Norfolk, Va.	33	19	5	4	2	3	-
Richmond, Va.	61	40	8	9	1	3	1
Savannah, Ga.	53	36	8	6	2	1	4
St. Petersburg, Fla.	58	46	6	3	2	1	7
Tampa, Fla.	140	93	25	18	3	1	11
Washington, D.C.	101	54	27	11	8	1	2
Wilmington, Del.	21	9	4	8	-	-	-
E.S. CENTRAL	770	527	146	56	23	15	44
Birmingham, Ala.	147	98	27	15	3	1	7
Chattanooga, Tenn.	73	53	12	5	3	-	6
Knoxville, Tenn.	60	42	11	4	3	-	7
Lexington, Ky.	77	56	11	4	-	6	3
Memphis, Tenn.	201	132	44	13	7	5	16
Mobile, Ala.	40	27	6	4	1	2	-
Montgomery, Ala.	38	29	9	-	-	-	2
Nashville, Tenn.	134	90	26	11	6	1	3
W.S. CENTRAL	1,457	941	313	125	40	38	79
Austin, Tex.	76	45	15	12	3	1	6
Baton Rouge, La.	27	10	11	3	3	-	-
Corpus Christi, Tex.	53	35	10	6	1	1	2
Dallas, Tex.	234	146	44	27	7	10	8
El Paso, Tex.	53	35	9	6	-	3	1
Ft. Worth, Tex.	103	76	17	6	1	3	10
Houston, Tex.	359	216	92	26	14	11	27
Little Rock, Ark.	66	43	12	5	2	4	2
New Orleans, La.	109	66	24	13	5	1	-
San Antonio, Tex.	237	170	54	13	-	-	16
Shreveport, La.	U	U	U	U	U	U	U
Tulsa, Okla.	140	99	25	8	4	4	7
MOUNTAIN	926	632	184	65	21	24	56
Albuquerque, N.M.	128	93	29	4	1	1	5
Boise, Idaho	40	26	12	-	1	1	3
Colo. Springs, Colo.	39	27	4	4	1	3	1
Denver, Colo.	97	63	18	9	3	4	8
Las Vegas, Nev.	148	101	28	12	4	3	5
Ogden, Utah	41	32	4	3	1	1	4
Phoenix, Ariz.	165	97	37	17	5	9	8
Pueblo, Colo.	30	21	8	-	1	-	-
Salt Lake City, Utah	93	65	14	11	1	2	13
Tucson, Ariz.	145	107	30	5	3	-	9
PACIFIC	1,955	1,446	302	135	30	42	157
Berkeley, Calif.	19	16	3	-	-	-	2
Fresno, Calif.	78	53	15	7	1	2	6
Glendale, Calif.	38	23	11	2	1	1	-
Honolulu, Hawaii	75	59	13	1	1	1	7
Long Beach, Calif.	71	44	13	11	2	1	4
Los Angeles, Calif.	700	579	49	49	10	13	31
Pasadena, Calif.	28	21	6	-	-	1	3
Portland, Oreg.	53	38	10	3	1	1	3
Sacramento, Calif.	152	105	31	13	3	-	27
San Diego, Calif.	172	110	38	11	5	8	19
San Francisco, Calif.	109	78	20	8	-	3	12
San Jose, Calif.	150	106	29	11	-	4	19
Santa Cruz, Calif.	24	16	6	2	-	-	3
Seattle, Wash.	123	81	26	10	2	4	5
Spokane, Wash.	62	47	10	3	2	-	11
Tacoma, Wash.	101	70	22	4	2	3	5
TOTAL	11,643¶	7,986	2,207	921	262	252	662

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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