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Multistate Outbreak of Listeriosis — United States, 1998

Since early August 1998, 40 illnesses caused by a single strain of *Listeria monocytogenes* (LM) have been identified in 10 states: Ohio (13 cases); New York (12); Tennessee, Massachusetts, and West Virginia (three each); Michigan (two); and Connecticut, Oregon, Vermont, and Georgia (one each). Dates of illness onset or LM isolation ranged from August 2 through December 2. All LM isolates from these cases are serotype 4b and share an unusual pattern when subtyped either by pulsed-field gel electrophoresis or by ribotyping methods. Historically, this pattern is rare among LM isolates from humans.

Among 38 patients for whom demographic data are available, six were newborns and 32 were adults (median age: 69 years; range: 18–88 years); 55% of patients were female. Four deaths occurred, including one fetus and three elderly persons.

In collaboration with CDC, health departments in Connecticut, New York, Ohio, and Tennessee conducted a multistate case-control study comparing 4-week food histories of 20 patients infected with the outbreak strain with those of 20 control patients infected with other LM strains. Sixteen (89%) of 18 cases but only six (32%) of 19 controls consumed cooked hot dogs during the month before illness onset (odds ratio=17.3; 95% confidence interval=2.4–160.0; $p<0.01$). On December 19, the outbreak strain of LM was isolated from an open package of hot dogs. These hot dogs had been eaten by a patient 4 weeks before onset of listeriosis caused by the outbreak strain.

On December 22, the manufacturer, Bil Mar Foods, voluntarily recalled specific production lots of hot dogs and other meat products that might be contaminated. The affected products bear the establishment numbers EST P261 or EST 6911 and include the Ball Park, Bil Mar, Bryan Bunsize and Bryan 3-lb Club Pack, Grillmaster, Hygrade, Mr. Turkey, Sara Lee Deli Meat, and Sara Lee Home Roast brands. The establishment number appears on the outer edge of all packages. Packages for the above brand names that carry any other establishment numbers are not affected by the recall.

An investigation by CDC is ongoing with local and state health departments. Recent cases of listeriosis should be reported to CDC through state and local health departments. Consumers should return recalled product to the point of purchase.

Reported by: Local and state health depts. Foodborne and Diarrheal Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

Listeriosis — Continued

Editorial Note: The general guidelines for preventing listeriosis are similar to those for preventing other foodborne illnesses, such as salmonellosis. The general recommendations are

- Cook thoroughly raw food from animal sources (e.g., beef, pork, or poultry).
- Wash raw vegetables thoroughly before eating.
- Keep uncooked meats separate from vegetables and from cooked foods and ready-to-eat foods.
- Avoid raw (unpasteurized) milk or foods made from raw milk.
- Wash hands, knives, and cutting boards after each handling of uncooked foods.

In addition, persons at high risk for complications from listeriosis (i.e., pregnant women and immunocompromised persons) should

- Avoid soft cheeses (i.e., feta, Brie, Camembert, blue-veined, and Mexican-style cheese). Hard cheeses, processed cheeses, cream cheese, cottage cheese, or yogurt need not be avoided.
- Cook leftover foods or ready-to-eat foods (e.g., hot dogs) until steaming hot.
- Although the risk for listeriosis associated with foods from deli counters is low, pregnant women and immunocompromised persons may choose to avoid these foods or thoroughly reheat cold cuts before eating.

HIV Testing Among Populations at Risk for HIV Infection — Nine States, November 1995–December 1996

Extending acquired immunodeficiency syndrome (AIDS) case surveillance systems to include confidential (name-based) reporting of human immunodeficiency virus (HIV) infections provides data representing recent HIV transmission patterns (*1*). These data may improve the ability of public health agencies to plan and evaluate HIV prevention and treatment services. Thirty-two states conduct name-based HIV infection case surveillance as an extension of AIDS case surveillance (*2*), and such surveillance is being considered in other states. Some community representatives and public health officials, however, are concerned that HIV infection surveillance may deter some at-risk persons from seeking HIV testing. This report describes the results of a survey conducted to assess deterrents to HIV testing in populations at risk for HIV infection during 1995 and 1996. The findings indicate that in these populations knowledge of state HIV reporting policies was low, and fear of a positive HIV test result and a lack of perceived risk for HIV infection were the most common deterrents to testing in all risk groups. However, untested men who have sex with men (MSM) who resided in states with name-based reporting cited concerns about reporting as a reason they had not tested more often than untested MSM in states without name-based reporting.

HIV Testing — Continued

The HIV Testing Survey (HITS) was a cross-sectional study conducted among persons at risk for HIV infection in nine states with different HIV reporting policies.* MSM were recruited from gay bars; injecting-drug users (IDUs), through street outreach; and sexually active heterosexuals, through sexually transmitted disease clinics. The study was designed to recruit approximately equal numbers of persons from each of these populations in all states. Using an anonymous structured questionnaire, trained interviewers from health departments and community-based organizations assessed participants' knowledge of state HIV reporting laws, self-reported HIV testing history, and reasons for delaying testing or not being tested.

During December 1995–November 1996, 2570 eligible participants were interviewed. Of these, 200 (7.8%) reported being HIV infected and were excluded from this analysis. Of the remaining 2370 HIV-negative or untested persons, 1810 (76%) had been tested for HIV at least once. The proportion of persons who had been tested for HIV differed by risk group: 582 (68%) of 851 heterosexuals, 596 (79%) of 750 MSM, and 632 (82%) of 769 IDUs had been tested. Testing rates were the same for men and women (76% of 1774 men and 592 women); similar for non-Hispanic blacks (76% of 934), non-Hispanic whites (76% of 873), and Hispanics (75% of 444); and differed significantly by age group (persons aged 18–24 years were less likely to have been tested [68%] than persons in older age groups [range: 76%–81%]).

Most of the respondents stated that they did not know whether persons with HIV infection were reported to the health department by name: 60% in name-based reporting states, 60% in unique identifier (UI)-based reporting states, and 66% in nonreporting states. Only a small proportion of respondents knew their state's HIV reporting policy: 19% in states with name-based reporting, 12% in states with UI-based reporting, and 11% in states with neither name-based or UI-based reporting.

Respondents were asked about the likelihood of being tested for HIV infection during the next 12 months according to several scenarios. Overall, 84% of respondents stated that they were likely to get tested during the next year if they could be tested anonymously and no results were reported to the health department. Respondents were then asked their likelihood of seeking testing during the next 12 months if no anonymous testing was available and various HIV case reporting scenarios existed: no HIV reporting, 72%; UI-based HIV reporting, 73%; and name-based HIV reporting, 61%.

Respondents were asked to indicate whether each of 17 factors had contributed to not being tested (556 respondents) or to delaying testing (1810 respondents) and which of these was the main factor (Table 1). The main factors for not being tested or delaying testing were fear of learning they were HIV-positive (25% and 23%, respectively); thinking they were unlikely to have been exposed to HIV (18% and 10%); thinking that they were HIV-negative (13% and 11%); not wanting to think about the possibility of being HIV-positive (8% and 9%); and thinking there was little they could do about being HIV-positive (6% and 4%). Among persons who had not been tested, a concern about having one's name reported to the government was cited as one of the factors for not testing for 19% and was the main factor for 2% (Table 1). Concern about

*Name-based HIV case surveillance was conducted in Arizona, Colorado, Mississippi, Missouri, and North Carolina (patient names are not reported to CDC); unique identifier (UI)-based HIV case surveillance was conducted in Maryland and Texas; neither name-based nor UI-based HIV case surveillance was conducted in New Mexico and Oregon during the study period. All states except Mississippi offered publicly funded anonymous HIV testing and counseling.

TABLE 1. Percentage of untested respondents reporting factors* for not testing for HIV, and percentage of tested respondents reporting factors* for delaying testing, by HIV risk factor — HIV Testing Survey,† December 1995–November 1996

	Men who have sex with men		Heterosexual		Injecting-drug user		Total§	
Testing status/Factor	A factor	Main factor	A factor	Main factor	A factor	Main factor	A factor	Main factor
Not testing¶	(n=151)		(n=269)		(n=136)		**(n=556)**	
Afraid to find out	59	27	41	21	51	30	**48**	**25**
Unlikely to have been exposed	52	17	48	25	25	7	**44**	**18**
Thought they were HIV negative	57	19	49	15	33	6	**47**	**13**
Didn't want to think about being positive	55	7	42	8	54	10	**48**	**8**
Could do little if HIV positive	45	9	19	3	40	7	**31**	**6**
Didn't have time	14	3	20	4	20	5	**19**	**4**
Unsure where to go	15	2	21	4	32	6	**22**	**4**
Worried name would be reported	28	4	13	1	18	1	**19**	**2**
Test costs too much	5	2	5	<1	17	3	**8**	**2**
People might think you have AIDS	27	1	10	<1	18	4	**17**	**1**
Delaying testing**	(n=596)		(n=582)		(n=632)		**(n=1810)**	
Afraid to find out	53	26	38	18	47	24	**46**	**23**
Thought they were HIV negative	41	10	45	13	36	9	**41**	**11**
Unlikely to have been exposed	29	9	34	14	25	6	**29**	**10**
Didn't want to think about being positive	49	8	42	8	49	10	**47**	**9**
Didn't have time	16	5	16	6	18	5	**17**	**5**
Could do little if HIV positive	22	2	18	3	31	6	**24**	**4**
Waiting for results would be hard	38	7	22	3	28	3	**30**	**4**
Afraid of needle used to draw blood	15	4	16	4	7	<1	**12**	**3**
Worried name would be reported	22	4	11	<1	18	3	**17**	**2**
Worried about who would learn results	25	3	15	1	19	1	**20**	**2**

*Data presented for the 10 most frequently cited factors of 17 listed in the survey.
†Survey was conducted in Arizona, Colorado, Maryland, Mississippi, Missouri, New Mexico, North Carolina, Oregon, and Texas.
§The totals are based on unweighted data from all participants included in this analysis; data do not represent the general population or a weighted average of populations at increased risk for HIV infection.
¶Main factors do not sum to 100% because 10 of 17 factors are presented and 62 (11%) of 556 untested respondents cited no factors for not testing.
**Main factors do not sum to 100% because 10 of 17 factors are presented and 374 (21%) of 1810 tested respondents cited no factors for delaying testing.

HIV Testing — Continued

reporting was the main factor for not testing for 4% of untested MSM, 1% of untested IDUs, 1% of untested heterosexuals, 3% of untested non-Hispanic whites, <1% of untested non-Hispanic blacks, and 3% of untested Hispanics. Among persons who had been tested, the proportions of these subgroups citing concern about reporting as the main factor for delaying testing were similar (≤4%).

Among the 556 untested persons, concern about name-based reporting was stratified by state HIV reporting policy (Table 2). A higher proportion of MSM in states with name-based reporting than in states without name-based reporting cited concern about having their name reported to the government as a factor for not testing (35% compared with 11%; p<0.01), but there was no difference in the frequency of concern about reporting as the main factor for not testing (3% compared with 7%, p=0.4).

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Editorial Note: The findings in this report indicate that, although the proportion of respondents that had been tested was high (76%), most reported at least some delay before getting tested. Fear of learning that one is infected with HIV and the belief that one is unlikely to have been exposed to HIV were cited most frequently as factors for delaying testing or not testing. Reducing fear and increasing knowledge about HIV risk present ongoing challenges to designing effective prevention programs.

TABLE 2. Frequency of concern about having one's name reported to the government as a factor for not testing for HIV infection, by state HIV reporting policy — HIV Testing Survey,* December 1995–November 1996

Characteristics	Named		Non-named†		p value§
	No.	(%)	No.	(%)	
Men who have sex with men	107		44		
A factor	38	(35)	5	(11)	<0.01
Main factor	3	(3)	3	(7)	0.4
Heterosexual	177		92		
A factor	22	(13)	14	(15)	0.5
Main factor	3	(2)	1	(1)	1
Injecting-drug user	66		70		
A factor	14	(21)	10	(14)	0.3
Main factor	2	(3)	0	(0)	0.2
Total¶	**350**		**206**		
A factor	**74**	**(21)**	**29**	**(14)**	**0.05**
Main factor	**8**	**(2)**	**4**	**(2)**	**1**

* Name-based HIV case surveillance was conducted in Arizona, Colorado, Mississippi, Missouri, and North Carolina (patient names are not reported to CDC); unique identifier (UI)-based HIV case surveillance was conducted in Maryland and Texas; neither name-based nor UI-based HIV case surveillance was conducted in New Mexico and Oregon during the study period.

† UI-based reporting was implemented during the year preceding the study in Maryland and Texas; 67% of tested respondents in these states had been tested at least once before this policy change. Because of the state reporting policy changes and to avoid small cell sizes in the analysis restricted to the minority of respondents who had never been tested, UI-based reporting and nonreporting states were combined in the non-named reporting category.

§ Fisher's exact test.

¶ The totals are based on unweighted data from all participants included in this analysis; data do not represent the general population or a weighted average of populations at increased risk for HIV infection.

HIV Testing — Continued

Although concern about having one's name reported to the government was a less commonly cited factor for not testing or delaying testing for HIV infection, the findings suggest that state HIV reporting policies may deter or delay some persons, particularly MSM, from being tested. The effect of HIV-infection reporting policies on actual testing may be limited because in this study most respondents did not know their state's HIV reporting policy and because the implementation of name-based HIV reporting policies also does not appear to have a significant effect on use of publicly funded counseling and testing programs (*3*). However, any potential deterrent effect on HIV testing among MSM or other at-risk populations (e.g., racial/ethnic minorities) is important. The findings in this report support the importance of addressing privacy concerns both in states that are considering implementing name-based HIV reporting and in states that already have adopted such policies. CDC and the Council of State and Territorial Epidemiologists are promoting development of model privacy statutes, which will strengthen current state confidentiality protections. In addition, CDC requires standardized security measures for all recipients of CDC HIV/AIDS surveillance funds and continues to provide technical assistance to all states to monitor the effect of changes in HIV testing and reporting policies on testing behaviors.

In this study, respondents reported they would be more likely to seek future testing if an anonymous HIV test option were available. Persons who recognize their risk, seek early HIV testing, and receive counseling can modify their behavior to reduce HIV transmission and seek medical care and other services that promote health and improve survival. Maintaining access to anonymous HIV testing is an important option for some persons at high risk for HIV infection (*4*), and CDC strongly recommends that all states provide publicly funded anonymous HIV testing and counseling.

The findings in this report are subject to at least four limitations. First, the study was not population-based; it was designed to enroll equal proportions of each of three groups recruited from specific venues and it may not represent all at-risk populations or their distribution in the general population. Second, findings from the nine states included in the survey may not be generalizable to all other states. Third, stated intentions by respondents in this survey may not reflect actual behaviors in obtaining testing for HIV infection. Finally, the beneficial effects of recently available therapies (*5,6*) or increased knowledge about state HIV reporting policies (*7*) may alter current test-seeking behavior.

HITS and related studies and analyses (*3,4,8–10*) were conducted to enhance the scientific basis for public health policy on HIV case surveillance. To monitor the effect of changes in HIV reporting policies on HIV testing behaviors, studies similar to HITS will be conducted in additional states. CDC will continue to provide technical assistance to state and local health departments so that they, in collaboration with public health organizations, health-care providers, and representatives of affected communities, can adopt effective HIV/AIDS surveillance practices that continue to protect confidentiality and permit an effective public health response to the epidemic.

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HIV Testing — Continued

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Haff Disease Associated with Eating Buffalo Fish — United States, 1997

Haff disease is a syndrome of unexplained rhabdomyolysis following consumption of certain types of fish; it is caused by an unidentified toxin. Rhabdomyolysis is a clinical syndrome caused by injury to skeletal muscle that results in release of muscle cell contents into the circulation (*1*). In 1997, six cases of Haff disease were identified in the United States (four in California and two in Missouri) among persons who ate buffalo fish (*Ictiobus cyprinellus*), a bottom-feeding species found mostly in the Mississippi River or its tributaries. This report summarizes the investigation of these cases.

Los Angeles County, California

Patients 1 and 2. On March 8, two Ukrainian sisters (patients 1 and 2), aged 70 and 73 years, respectively, and the husband of patient 2 (aged 75 years) ate fried buffalo fish. Eight hours after the meal, patient 1 experienced neck pain followed by stiffness in her arms. On arrival, emergency medical technicians noted both women were rigid, unable to move, and extremely sensitive even to light touch. On evaluation at a local hospital, the serum creatine kinase (CK) of patients 1 and 2 were 25,000 IU/L and 9454 IU/L, respectively (normal: <120 IU/L); the muscle/brain (MB)-fraction at the peak of the CK was 2.7% and 0.5% (normal: <5%). Patient 1 was treated with intravenous hydration and bicarbonate. Patient 2, who had a history of angina pectoris, also complained of chest pain. During hospitalization, an angiogram revealed occlusion of a coronary artery requiring dilatation. She was treated with nitrates and coumadin. The man did not become ill. Both sisters recovered. Main sequelae were newly diagnosed hypertension (patient 1) and diminished muscular strength (patient 2).

Patient 3. On March 9, a husband and wife (both aged 33 years) from Ukraine ate fried buffalo fish purchased from the same market where patients 1 and 2 purchased their fish. Eight hours after the meal, the husband experienced left-sided chest pain that radiated to his left arm and increased with deep inspiration. He was admitted to the same hospital as patients 1 and 2. A comprehensive cardiovascular examination did not reveal abnormalities except an elevated CK (4140 IU/L) with a CK-MB of 1.4% at the peak of the CK. He reported no history of angina pectoris and had not smoked

Haff Disease — Continued

for 2 years. He did not receive any special treatment. Following discharge, the patient has reported occasional chest pain that he had not noticed before this episode. His wife did not become ill.

St. Louis, Missouri

Patients 4 and 5. On June 8, a Ukrainian husband and wife (aged 66 and 58 years, respectively) ate a dish consisting of ground buffalo fish and carp. One hour later, the wife vomited. Six hours after the meal, they developed generalized body aches and muscle stiffness. On evaluation at a local hospital, the CK of patients 4 and 5 exceeded 17,700 IU/L, and the CK-MB were 4.8% and 4.5%, respectively. The husband had severe pain on inspiration, resulting in respiratory insufficiency requiring assisted ventilation. His wife was treated with intravenous fluids and mannitol. Following the acute episode, the husband complained of more frequent headaches, and his wife continued to experience tearing eyes, easy fatigability, and pruritus after eating seafood.

Bakersfield, California

Patient 6. On August 8, an 87-year-old U.S.-born man vomited 30 minutes after eating one third of a fried buffalo fish. Twenty-one hours later, he awoke with extreme stiffness and generalized muscle tenderness. At a local emergency department, his CK was 2226 IU/L with a CK-MB of 2.1%. The patient was treated with intravenous fluids and analgesics. Following this episode, the patient suffered 6 months of muscle weakness, primarily in his legs.

Follow-Up Investigations

The origin of the buffalo fish eaten by patients 1, 2, 3, and 6 was traced to the same wholesaler in Louisiana who receives fish from approximately 25 fishermen who fish rivers in Louisiana. The fish for patients 4 and 5 were caught within a 100-mile radius of St. Louis, Missouri. The Food and Drug Administration is attempting to identify a toxin from recovered fish samples. The case histories suggest that the toxin is heat stable; no particular mode of preparation seems to increase risk for disease.

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Editorial Note: During the 1920s, the name "Haff disease" was given to an illness characterized by severe muscle pain and stiffness that affected approximately 1000 persons living along the Koenigsberg Haff, a brackish inlet of the Baltic Sea (*1*). Subsequent similar outbreaks were identified in Sweden and the former Soviet Union (*2–4*). Although the etiology was not determined, epidemiologic investigations linked illness to ingestion of fish, especially burbot.

Haff Disease — Continued

The first reported case of Haff disease in the United States occurred in Texas in 1984 (M. Tormey, Los Angeles Department of Health Services, personal communication, 1997); five additional cases were reported in California during 1984–1986. All U.S. cases have been associated with eating buffalo fish.

Haff disease typically presents as a paroxysm of rhabdomyolysis, with accompanying muscle tenderness, rigidity, and dark brown urine. However, as in patient 3, milder presentations also occur. Although the median incubation period for the patients in this report was 8 hours (range: 6–21 hours), symptoms generally appear approximately 18 hours after eating fish.

Laboratory features of Haff disease include a markedly elevated CK level with an MB fraction of <5%. Levels of other muscle enzymes (e.g., lactate dehydrogenase, glutamate oxalate transaminase, and glutamate pyruvate transaminase) also are elevated. Myoglobinuria is often mistaken for gross hematuria (*5*). Diagnosis is based on a compatible clinical history.

Treatment is supportive and consists of administering large volumes of fluid early in the course of illness to prevent myoglobin toxicity to the renal tubules (*5*). Possible complications include electrolyte disturbances, renal failure, and disseminated intravascular coagulation. Symptoms usually resolve within 2–3 days. Historically, the case-fatality rate is approximately 1% (*1*).

Clinicians and public health practitioners are encountering an increasing variety of foodborne illnesses, in part because of a diversification of food preparation and eating habits. International travelers, members of ethnic groups with unique cuisines, and consumers of both imported and domestic specialty food items may be at risk for foodborne illnesses that are rare or have not been reported previously in the United States. Clinicians should be aware of food exposures that pose a risk to their patients and routinely obtain food histories, even from those patients whose illness may not appear to be food-related.

Physicians who identify or suspect cases of Haff disease, based on the clinical presentation, laboratory parameters, and food history, should report them to public health authorities for initiation of traceback and recall of implicated food items. State health departments are requested to report to the Foodborne and Diarrheal Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC, telephone (404) 639-2206.

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Influenza Vaccination Status of Persons Aged 65–79 Years — Allegheny County, Pennsylvania, February–March 1997

Because influenza disproportionately affects persons aged ≥65 years and persons who have chronic medical conditions, the Advisory Committee on Immunization Practices recommends annual influenza vaccination for persons in this age group and for all adults who have conditions that increase their likelihood of serious outcomes of influenza (*1*). Although no local surveys exist that routinely provide direct estimates of influenza vaccine use at the county level, Medicare claims for the 1996–97 influenza season indicated that 36% of Allegheny County, Pennsylvania (1990 population: 184,449), Medicare beneficiaries aged ≥65 years had Medicare claims submitted for reimbursement for influenza vaccine (*2*). However, other Medicare beneficiaries may receive influenza vaccine but do not have claims filed for reimbursement. To estimate the prevalence of influenza vaccination, assess barriers to influenza vaccine use in the county, and to evaluate Medicare claims as a measure of vaccination use, the Allegheny County Health Department (ACHD) conducted a telephone survey of residents aged 65–79 years during February–March 1997. This report summarizes the findings from this survey, which indicate that 75% of adults in this age group reported receiving influenza vaccination during the 1996–97 influenza season, primarily in physician's offices, in comparison with the 36% of Medicare claims submitted.

A stratified, random sample of 500 residents aged 65–79 years was obtained from the 1994 voter registration list for Allegheny County. The list provided data on age, sex, race/ethnicity, and address but did not include household telephone numbers. A sample size of 128 persons was estimated to provide 80% power and a 5% level of significance for detecting a difference of 20 percentage points between Medicare claims data for the 1996–97 influenza season and self-reported vaccine use among residents aged ≥65 years. The racial/ethnic distribution was 70% white and 30% all other racial/ethnic groups*, compared with distribution in Allegheny County of 85% white and 15% other, respectively. Men and women were sampled equally within each racial/ethnic category, resulting in an overrepresentation of men relative to the actual sex ratio in the county (1.3:1.0, women to men).

In February 1997, ACHD mailed a letter to the 500 residents describing the survey and inviting their participation; 105 (21%) persons declined participation by returning the postcard with the letter. Telephone numbers were available for 279 (71%) of the remaining 395 potential participants; of these, 244 (87%) completed interviews. The overall response rate was 49%. Average age of participants was 71 years (range: 65–79 years). Most respondents were non-Hispanic whites (75%); 57% were men. Respondents were asked about vaccination status for the 1996–97 influenza season, source of influenza vaccination, and if applicable, reason for not being vaccinated.

Logistic regression analysis, used to assess effects of age, sex, race/ethnicity, and geographic location of respondents, indicated that only whites were independently associated with vaccination (odds ratio [OR]=1.8; 95% confidence interval [CI]=1.2–2.6). Of the 244 survey participants, 176 (72% [95% CI=66%–78%]) reported being vaccinated during the 1996–97 influenza season. Influenza vaccine use was higher for non-Hispanic whites (77% [95% CI=71%–83%]) than for other racial/ethnic groups (57% [95% CI=44%–69%]) (chi square=8.5; $p<0.001$).

*Blacks were combined with other races in this analysis because their numbers were too small for separate analysis.

Influenza — Continued

Among the 176 vaccinated participants, the most commonly reported sources of vaccination were physicians' offices (50%), health-care centers (29%), and shopping malls or other locations (21%). Persons of other racial/ethnic groups were more likely than whites to visit personal physicians (62% [95% CI=45%–78%] versus 48% [95% CI=40%–56%]; OR=1.8; [95% CI=0.8–4.1]) and less likely to go to shopping malls and other public places for vaccination.

Among the 68 nonvaccinated participants, the most commonly reported reasons for not being vaccinated during the 1996–97 influenza season were "no specific reason" (35%), illness after vaccination for a previous influenza season (23%), failure of physicians to recommend vaccination (15%), lack of previous influenza vaccination (15%), lack of transportation (9%), and belief that vaccination would not prevent influenza (3%). For men, the most frequent response for not being vaccinated was "no specific reason" (47% [95% CI=32%–63%]); for women, the most frequent response was not being vaccinated previously (23% [95% CI=8%–38%]). Other racial/ethnic groups reported "doctor did not recommend" as the reason for not being vaccinated more often than whites (19% [95% CI=4%–34%] versus 10% [95% CI=1%–18%]).

Weighted age-, racial/ethnic-, and sex-specific estimates of vaccine use from this survey were extrapolated to the county population (Table 1). The resulting estimate of 75% (95% CI=70%–80%) for residents aged ≥65 years in Allegheny County reflected the racial/ethnic composition of the county and the higher vaccine use among white men and women. This estimate was more than double the 36% influenza vaccine use estimates for the 1996–97 influenza season from Medicare claims.

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TABLE 1. Influenza vaccination status of persons aged 65–79 years, by sex, race, and age — Allegheny County, Pennsylvania, 1996–97 influenza season

Race/Sex/ Age group (yrs)	County population	No. participants	Vaccinated persons		
			No.	(%)	(95% CI*)
White men					
65–70	30,350	39	28	(72)	(58%–86%)
71–79	39,237	63	53	(84)	(75%–93%)
White women					
65–70	38,291	34	29	(85)	(73%–97%)
71–79	62,615	48	32	(67)	(54%–80%)
Other men†					
65–70	2,567	11	6	(55)	(26%–84%)
71–79	2,823	26	14	(54)	(35%–73%)
Other women†					
65–70	3,207	6	3	(50)	(10%–90%)
71–79	5,359	17	11	(65)	(42%–88%)
Total	**184,449**	**244**	**176**	**(72)**	**(66%–78%)**

*Confidence interval.
†Blacks were combined with other races in this analysis because their numbers were too small for separate analysis.

Influenza — Continued

Editorial Note: The findings in this report suggest a relatively high influenza vaccine use (75%) among residents aged 65–79 years in Allegheny County. This estimate was substantially higher than 1995 national (58%) and 1997 Pennsylvania (66%) state-specific estimates provided by the National Health Interview Survey (NHIS) (CDC, unpublished data, 1998) and the Behavioral Risk Factor Surveillance System (BRFSS), respectively, and more than double Medicare estimates (*2,3*).

Possible reasons for the discrepancy between BRFSS, NHIS, and the findings in this report include 1) recent increases in coverage between survey years and 2) variability in local areas not captured in state or national surveys. The discrepancy between the responses of participants and the Medicare reimbursement claims summary may be attributed to limitations inherent in the claims summary. Sources of these limitations may be an insufficient number of claims filed by physicians in Allegheny County for influenza vaccinations and an increased enrollment of Medicare beneficiaries in managed-care organizations, which do not report vaccination data to the Health Care Financing Administration. However, because <21% of residents aged ≥65 years in Allegheny County were members of a managed-care organization in 1996 (*4*), the low vaccination claims probably were not caused by enrollment of Medicare beneficiaries in managed-care organizations.

The racial/ethnic disparity in vaccination levels among residents aged ≥65 years in Allegheny County was consistent with previously reported data (*5,6*). Reasons cited by survey participants for not being vaccinated also were consistent with previous reports, which indicated that lack of knowledge, misconceptions about vaccine-associated illnesses, and lack of recommendation from physicians are primary reasons for not being vaccinated against influenza (*7,8*).

The findings in this report are subject to at least four limitations. First, the results of this survey are based on responses from only 244 older voters in Allegheny County. Those who did not participate were more likely than those who participated to be white women. Second, the findings are based on self-reports not verified by a review of medical records. Third, vaccination status of nonparticipants was unknown. Finally, the results may be overestimated because the survey included only households with telephones.

The high proportion of residents reporting physicians as their source of vaccination and the 15% of residents reporting lack of physician's recommendation as a reason for not being vaccinated underscore the influence of physicians on influenza vaccine use. Academic institutions (e.g., schools of medicine and schools of public health) could provide physician training through continued medical-education sessions that focus on reducing missed opportunities for vaccination and using a patient reminder system. Countywide provider and public educational and promotional campaigns can help dispel concerns about influenza vaccination and improve acceptance of the vaccine by older adults.

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Influenza — Continued

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Self-Reported Physical Inactivity by Degree of Urbanization — United States, 1996

Physical inactivity is one of the major underlying causes of premature mortality in the United States (*1*). One of the national health objectives for 2000 is to decrease to 15% the proportion of persons aged ≥6 years who are inactive during their leisure time (*2*). However, a large proportion of adults remain physically inactive: 28.7% in 1992 and 29.4% in 1994 reported no leisure-time physical activity during the preceding month (*1*). To determine whether area of residence impacts physical activity, CDC analyzed data from the 1996 Behavioral Risk Factor Surveillance System (BRFSS) to estimate physical activity by degree of urbanization and geographic region of respondents. This report summarizes the results of that analysis, which indicate that the level of leisure-time physical activity is related to the degree of urbanization and varies in different geographic regions.

The BRFSS is a random-digit–dialed telephone survey of the noninstitutionalized U.S. population aged ≥18 years. In 1996, data on physical activity were analyzed for 118,778 respondents in 49 states and the District of Columbia (Alaska was excluded for this analysis because rural-urban measures were not available for this state). Respondents were asked whether they had participated in exercise, recreation, or physical activity other than their regular job duties during the preceding month. Respondents were classified as physically inactive if they reported no such participation.

The degree of urbanization of respondents was classified by using the U.S. Department of Agriculture's (USDA) rural-urban continuum codes, which describe metropolitan and nonmetropolitan counties by degree of urbanization and nearness to metropolitan areas (*3*). The 10 USDA continuum codes were collapsed into five categories: 1) central or fringe metropolitan areas with a population of ≥1 million; 2) metropolitan areas with a population of 50,000–999,999; 3) urban areas with a population of 20,000–49,999; 4) urban areas with a population of 2500–19,999; and 5) rural areas with a population <2500. Data were weighted and aggregated, and composite estimates and standard errors were calculated using SUDAAN (*4*). Prevalence estimates and 95% confidence intervals were calculated for demographic groups, geographic region of the country (*5*), and degree of urbanization.

Self-Reported Physical Inactivity — Continued

The overall prevalence of leisure-time physical inactivity was lowest (27.4%) in central metropolitan areas and highest (36.6%) in rural areas (Table 1). Data were stratified by age, sex, level of education, and household income and analyzed within each stratum across urban-rural categories. Inverse relations between physical inactivity and degree of urbanization remained consistent in most strata, although the pattern was weaker in some strata of education, lower income levels, and older age groups. The difference in the prevalence of leisure-time physical inactivity in residents of metropolitan areas compared with residents of rural areas was greater for men (12.0%) than women (6.7%).

The overall prevalence of physical inactivity was lowest for respondents in the West (21.1%)*. In the South, the prevalence of physical inactivity was higher (34.2%) and the inverse relation with degree of urbanization was stronger than in the other regions. The largest difference in reported physical inactivity between urban and rural areas was in the South: the prevalence was 12.3% higher for residents of rural areas than for residents of central metropolitan areas. In the West, Northeast, and Midwest, the relations were less consistent than in the South.

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Editorial Note: The national health objective for 2000 of reducing physical inactivity has not been reached in any region or in any of the urban or rural settings examined. Overall, leisure-time physical inactivity is more prevalent in rural than urban settings; in rural areas, more than one third of the population is physically inactive during leisure time, regardless of age group or sex. When analyzed by geographic region, this pattern is most evident in the South. In the other regions, the prevalence of inactivity was lower, and urban-rural patterns were less clear.

In this analysis, residents of rural areas were older, less educated, and poorer than those of urban areas. These factors may explain, in part, the difference in prevalence of physical inactivity (*6,7*). However, after adjusting for these sociodemographic factors, the relation between physical inactivity and degree of urbanization remained significant.

* *Northeast*=Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest*=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South*=Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and *West*=Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

TABLE 1. Percentage of adults reporting no participation in leisure-time physical activity, by degree of urbanization and demographic characteristics — United States, Behavioral Risk Factor Surveillance System, 1996

	Metro*		Metro†		Urban§		Urban¶		Rural**	
Characteristic	**%**	**(95% CI††)**	**%**	**(95% CI)**	**%**	**(95% CI)**	**%**	**(95% CI)**	**%**	**(95% CI)**
Geographic region§§										
Northeast	27.7	(26.6–28.7)	26.8	(25.4–28.1)	27.7	(24.4–31.1)	27.6	(24.5–30.6)	23.3	(15.9–30.7)
Midwest	28.5	(27.2–29.8)	29.0	(27.4–30.5)	34.2	(30.7–37.6)	31.2	(29.4–33.0)	32.0	(29.1–35.0)
South	31.6	(30.3–32.9)	32.2	(31.2–33.2)	36.8	(34.4–39.1)	42.1	(40.4–43.8)	43.7	(40.3–47.2)
West	22.6	(21.3–23.9)	23.3	(21.7–24.9)	23.8	(21.8–25.8)	25.5	(22.8–28.2)	24.6	(19.9–29.3)
Sex										
Men	25.1	(24.2–26.1)	26.8	(25.8–27.8)	29.8	(27.7–31.9)	34.1	(32.5–35.8)	37.1	(33.9–40.3)
Women	29.5	(28.7–30.4)	31.2	(30.4–32.1)	32.7	(30.9–34.5)	36.6	(35.2–38.0)	36.2	(33.4–39.0)
Age group (yrs)										
18–29	22.2	(20.8–23.5)	22.4	(20.9–23.8)	23.6	(20.4–26.9)	25.0	(22.6–27.3)	29.0	(23.7–34.4)
30–44	25.2	(24.1–26.2)	26.5	(25.4–27.6)	29.1	(26.6–31.6)	32.8	(30.8–34.7)	34.4	(30.7–38.0)
45–64	29.5	(28.3–30.7)	32.0	(30.7–33.3)	34.6	(32.1–37.1)	40.4	(38.4–42.4)	40.4	(36.5–44.3)
65–74	32.0	(30.0–33.9)	34.6	(32.6–36.5)	36.4	(32.5–40.3)	38.7	(35.9–41.5)	37.5	(32.1–42.9)
≥75	42.2	(39.7–44.7)	43.3	(40.9–45.8)	42.0	(37.3–46.8)	46.5	(42.9–50.1)	45.4	(38.7–52.0)
Education										
<High school	49.1	(46.9–51.4)	50.8	(48.7–52.9)	48.9	(44.9–52.8)	51.8	(49.2–54.3)	49.3	(44.1–54.5)
High school	33.0	(31.8–34.2)	34.5	(33.3–35.6)	35.9	(33.5–38.3)	37.7	(36.0–39.3)	39.3	(36.1–42.6)
Some technical school	23.8	(22.7–25.0)	23.4	(22.3–24.6)	25.5	(23.1–27.9)	28.9	(26.9–31.0)	26.9	(22.9–30.9)
College graduate	16.7	(15.8–17.6)	16.6	(15.6–17.7)	17.2	(14.8–19.5)	20.2	(18.0–22.4)	25.8	(21.1–30.5)
Annual income										
<$10,000	41.2	(37.9–44.5)	41.9	(38.7–45.1)	38.9	(32.9–44.9)	47.2	(43.0–51.4)	45.2	(36.9–53.5)
$10,000–$19,999	38.9	(36.8–40.9)	39.7	(37.7–41.7)	37.7	(34.2–41.3)	43.7	(41.0–46.4)	42.6	(37.9–47.4)
$20,000–$34,999	30.9	(29.6–32.3)	30.8	(29.5–32.1)	33.4	(30.8–36.0)	33.9	(32.0–35.8)	36.4	(32.7–40.2)
$35,000–$49,999	23.4	(22.0–24.8)	24.5	(23.0–26.0)	24.7	(21.5–27.8)	30.0	(27.4–32.5)	31.5	(26.3–36.6)
≥$50,000	17.5	(16.5–18.4)	17.9	(16.7–19.1)	23.4	(19.8–27.0)	23.7	(21.2–26.3)	25.2	(19.4–31.0)
Total	**27.4**	**(26.8–28.0)**	**29.1**	**(28.4–29.8)**	**31.3**	**(29.9–32.7)**	**34.4**	**(33.3–35.5)**	**36.6**	**(34.5–38.7)**

*Population ≥1 million.
†Population 50,000–999,999.
§Population 20,000–49,999.
¶Population 2500–19,999.
**Population <2500.
††Confidence interval.
§§*Northeast*=Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest*=Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South*=Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and *West*=Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Self-Reported Physical Inactivity — Continued

The findings in this report are subject to at least three limitations. First, all data were self-reported, potentially resulting in misclassification of activity status. Second, the study did not assess level of physical activity at work, which may be different in urban and rural areas. Finally, sample sizes were not equal for all strata and were smaller for some racial and age strata in rural areas, which diminished the precision of the results. Further analysis of individual and environmental determinants of physical activity is needed to determine the reasons for the substantial differences in the prevalence of physical inactivity between regions and the urban-rural differences of regions.

Leisure-time physical inactivity is prevalent in all parts of the country, particularly in rural areas and in the South. Because physical inactivity accounts for as many as 23% of all deaths from the major chronic diseases in the United States (*8*), interventions to increase physical activity could help decrease premature mortality. Recognizing regional and urban-rural differences is an important first step toward developing and tailoring interventions to increase physical activity in specific settings.

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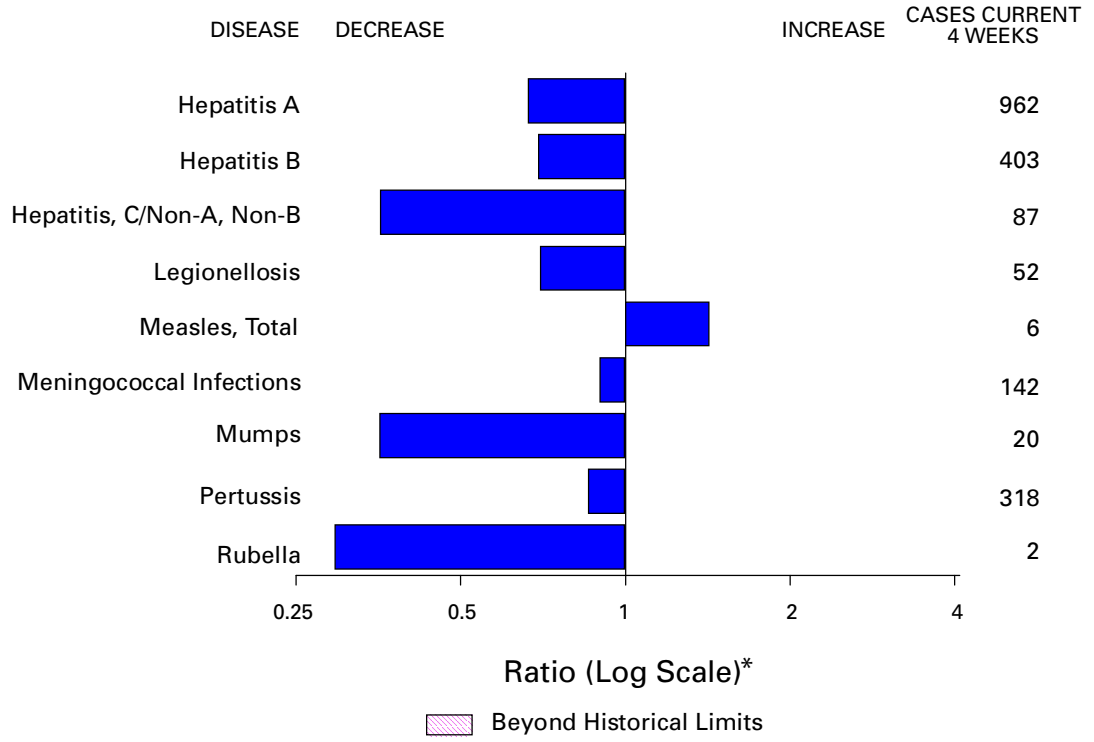
Notice to Readers

Conference on Vaccine Research

The Second Annual Conference on Vaccine Research: Basic Science–Product Development–Clinical and Field Studies will be held March 28–30, 1999, in Bethesda, Maryland. Cosponsors are CDC, the National Foundation for Infectious Diseases (NFID), the National Institute of Allergy and Infectious Diseases, the Center for Biologics Evaluation and Research of the Food and Drug Administration, the World Health Organization, the Children's Vaccine Initiative, the International Society for Vaccines, and the Albert B. Sabin Vaccine Institute. This conference will feature

(Continued on page 1107)

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending December 19, 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 December 19, 1998 (50th Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	8
Brucellosis	57	Poliomyelitis, paralytic	1
Cholera	12	Psittacosis	48
Congenital rubella syndrome	5	Rabies, human	-
Cryptosporidiosis*	3,029	Rocky Mountain spotted fever (RMSF)	329
Diphtheria	1	Streptococcal disease, invasive Group A	1,999
Encephalitis: California*	90	Streptococcal toxic-shock syndrome*	49
eastern equine*	3	Syphilis, congenital¶	399
St. Louis*	26	Tetanus	34
western equine*	-	Toxic-shock syndrome	124
Hansen Disease	100	Trichinosis	15
Hantavirus pulmonary syndrome*†	19	Typhoid fever	318
Hemolytic uremic syndrome, post-diarrheal*	81	Yellow fever	-
HIV infection, pediatric*§	243		

-: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 November 29, 1998.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 19, 1998, and December 13, 1997 (50th 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	42,564	53,705	538,402	451,961	2,856	1,883	322,286	285,858	4,707	3,338
NEW ENGLAND	1,688	2,248	17,159	17,461	328	260	4,867	5,735	106	55
Maine	28	51	1,001	997	36	-	65	65	-	-
N.H.	40	39	883	780	46	45	83	95	-	-
Vt.	19	32	398	407	21	17	36	49	3	4
Mass.	862	803	7,907	7,045	148	147	2,167	2,013	100	44
R.I.	118	145	2,227	1,958	13	1	406	406	3	7
Conn.	621	1,178	4,743	6,274	64	50	2,110	3,107	-	-
MID. ATLANTIC	11,418	16,079	66,284	55,073	286	73	39,109	37,004	339	311
Upstate N.Y.	1,323	2,379	N	N	216	-	6,283	6,213	252	232
N.Y. City	6,564	8,583	33,207	26,401	8	12	14,973	14,150	-	-
N.J.	2,025	3,119	10,737	9,873	62	51	7,207	7,259	-	-
Pa.	1,506	1,998	22,340	18,799	N	10	10,646	9,382	87	79
E.N. CENTRAL	3,063	4,078	85,531	61,431	447	321	61,909	39,620	489	526
Ohio	640	837	24,190	21,540	123	65	15,745	14,005	8	20
Ind.	472	485	4,656	9,035	102	49	4,704	5,894	7	12
Ill.	1,195	1,710	26,113	U	109	58	21,548	U	33	85
Mich.	578	801	20,785	20,105	113	62	15,674	14,916	441	383
Wis.	178	245	9,787	10,751	N	87	4,238	4,805	-	26
W.N. CENTRAL	832	1,099	29,747	31,780	486	384	15,333	14,171	281	58
Minn.	163	191	6,245	6,429	202	202	2,422	2,303	12	4
Iowa	63	99	2,063	4,345	91	58	660	1,146	8	27
Mo.	402	557	11,550	11,666	53	61	8,527	7,314	250	10
N. Dak.	5	10	849	847	12	15	71	70	-	3
S. Dak.	15	8	1,486	1,359	35	34	212	158	-	-
Nebr.	65	90	2,685	2,625	59	-	1,124	1,160	5	2
Kans.	119	144	4,869	4,509	34	14	2,317	2,020	6	12
S. ATLANTIC	11,132	13,315	109,439	90,608	257	155	89,676	89,000	185	243
Del.	154	211	2,461	70	-	2	1,454	1,259	-	-
Md.	1,489	1,800	7,006	7,214	39	14	9,303	11,012	22	11
D.C.	809	1,016	N	N	1	-	3,305	4,178	-	-
Va.	910	1,113	13,090	11,272	N	42	9,075	8,511	12	25
W. Va.	79	117	2,439	2,787	13	10	784	899	7	17
N.C.	752	796	21,213	16,762	56	46	18,457	16,630	20	49
S.C.	719	746	16,770	11,984	17	12	10,728	10,973	11	37
Ga.	1,174	1,600	22,201	15,234	76	-	18,232	17,549	9	-
Fla.	5,046	5,916	24,259	25,285	55	29	18,338	17,989	104	104
E.S. CENTRAL	1,684	1,901	37,268	33,915	118	39	36,418	34,003	192	338
Ky.	263	340	6,083	6,042	33	-	3,577	3,854	20	13
Tenn.	622	738	13,143	12,115	54	33	11,292	10,671	163	227
Ala.	456	511	10,009	8,282	25	2	12,645	11,525	7	11
Miss.	343	312	8,033	7,476	6	4	8,904	7,953	2	87
W.S. CENTRAL	5,140	5,650	75,671	65,319	118	24	46,056	42,619	418	476
Ark.	189	216	3,665	2,562	11	10	3,640	4,362	10	14
La.	878	1,016	14,689	9,738	5	7	12,640	9,562	114	213
Okla.	272	274	8,749	7,114	24	7	4,895	4,581	20	7
Tex.	3,801	4,144	48,568	45,905	78	-	24,881	24,114	274	242
MOUNTAIN	1,479	1,548	31,446	29,005	343	238	8,616	7,949	341	318
Mont.	28	40	1,205	1,131	16	-	44	61	7	21
Idaho	28	50	1,944	1,592	42	24	173	153	86	81
Wyo.	3	14	626	605	53	55	29	51	66	75
Colo.	286	366	8,533	7,228	91	69	2,242	2,171	34	35
N. Mex.	202	164	3,959	3,723	19	20	928	852	95	60
Ariz.	589	375	10,243	10,345	21	26	3,717	3,619	11	25
Utah	128	140	2,050	1,668	79	21	217	264	23	5
Nev.	215	399	2,886	2,713	22	23	1,266	778	19	16
PACIFIC	6,128	7,787	85,857	67,369	473	389	20,302	15,757	2,356	1,013
Wash.	390	608	10,559	8,965	108	127	1,898	1,840	22	28
Oreg.	166	284	5,762	4,827	104	99	842	707	6	3
Calif.	5,396	6,757	65,469	50,336	254	147	16,801	12,360	2,273	817
Alaska	17	46	1,815	1,513	7	-	315	366	1	-
Hawaii	159	92	2,252	1,728	N	16	446	484	54	165
Guam	1	2	201	193	N	-	24	27	-	-
P.R.	1,602	1,974	U	U	6	U	356	524	-	-
V.I.	31	94	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	28	23	-	2

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 November 29, 1998.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending December 19, 1998, and December 13, 1997 (50th 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	1,249	1,031	12,471	11,664	1,314	1,783	6,806	8,056	14,201	17,036	6,921
NEW ENGLAND	83	81	2,636	2,928	59	97	71	131	434	431	1,385
Maine	1	3	12	8	5	1	1	2	11	20	216
N.H.	7	7	45	37	5	10	2	-	13	15	77
Vt.	7	13	11	8	1	2	4	-	4	6	67
Mass.	32	28	749	288	16	31	44	66	248	246	489
R.I.	21	13	654	400	14	11	1	2	52	33	99
Conn.	15	17	1,165	2,187	18	42	19	61	106	111	437
MID. ATLANTIC	289	231	8,253	6,870	325	503	291	382	2,895	3,014	1,519
Upstate N.Y.	101	73	4,106	2,883	90	77	35	41	369	430	1,048
N.Y. City	28	24	37	174	153	305	81	83	1,447	1,525	U
N.J.	15	30	1,723	1,862	52	84	78	150	583	656	210
Pa.	145	104	2,387	1,951	30	37	97	108	496	403	261
E.N. CENTRAL	402	335	167	581	124	164	1,088	621	1,231	1,724	130
Ohio	126	117	84	37	15	19	125	211	88	244	57
Ind.	118	56	62	33	11	18	244	169	139	147	12
Ill.	37	34	9	13	41	67	467	U	629	899	16
Mich.	80	88	12	27	48	44	194	141	357	316	35
Wis.	41	40	U	471	9	16	58	100	18	118	10
W.N. CENTRAL	76	57	217	153	99	66	123	174	396	561	682
Minn.	8	3	174	111	63	36	9	16	149	142	121
Iowa	13	9	25	7	7	10	-	7	51	67	147
Mo.	24	21	2	28	15	11	93	115	95	226	27
N. Dak.	-	2	-	-	2	3	-	-	10	12	138
S. Dak.	3	2	-	1	1	1	1	1	17	19	151
Nebr.	20	15	5	2	1	1	7	3	30	20	7
Kans.	8	5	11	4	10	4	13	32	44	75	91
S. ATLANTIC	145	120	880	743	318	316	2,492	3,345	1,999	3,221	2,274
Del.	13	12	45	109	3	5	21	22	18	32	49
Md.	31	22	610	475	88	83	644	885	269	299	433
D.C.	8	4	4	9	19	20	73	106	98	97	-
Va.	22	27	68	62	58	66	146	226	280	305	538
W. Va.	N	N	13	10	2	1	3	3	41	51	76
N.C.	14	14	57	34	29	20	706	967	493	428	537
S.C.	11	8	7	2	6	17	309	348	234	320	143
Ga.	8	1	5	7	38	50	278	505	496	593	288
Fla.	36	32	71	35	75	54	312	283	70	1,096	210
E.S. CENTRAL	70	55	97	92	31	39	1,144	1,636	1,108	1,246	268
Ky.	30	11	25	17	7	12	103	128	158	183	31
Tenn.	24	33	44	43	16	11	541	719	450	436	138
Ala.	9	4	24	11	6	10	271	398	316	395	97
Miss.	7	7	4	21	2	6	229	391	184	232	2
W.S. CENTRAL	45	33	36	108	47	57	1,010	1,266	2,108	2,432	136
Ark.	-	2	7	25	1	5	103	157	143	171	31
La.	4	6	7	5	15	16	419	351	274	265	-
Okla.	12	2	2	29	4	8	121	116	155	193	105
Tex.	29	23	20	49	27	28	367	642	1,536	1,803	-
MOUNTAIN	75	62	23	15	62	65	211	170	444	533	213
Mont.	2	1	-	-	1	2	-	-	19	16	53
Idaho	3	2	6	4	8	-	2	1	13	11	-
Wyo.	1	1	1	3	-	2	1	-	4	2	63
Colo.	19	18	5	-	19	30	11	15	U	78	39
N. Mex.	2	3	4	1	12	8	22	8	65	67	6
Ariz.	19	12	1	4	9	11	160	130	198	223	19
Utah	22	18	-	1	1	3	4	5	49	32	27
Nev.	7	7	6	2	12	9	11	11	77	104	6
PACIFIC	64	57	162	174	249	476	376	331	3,586	3,874	314
Wash.	12	9	7	10	20	49	27	10	204	283	-
Oreg.	1	-	21	20	17	25	6	9	129	136	7
Calif.	49	47	133	142	203	386	341	310	3,046	3,225	284
Alaska	1	-	1	2	4	5	1	1	53	69	23
Hawaii	1	1	-	-	5	11	1	1	154	161	-
Guam	2	-	-	-	1	-	1	3	36	13	-
P.R.	-	-	-	-	-	6	172	243	68	212	51
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.	-	-	-	-	-	-	164	12	77	22	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending December 19, 1998, and December 13, 1997 (50th 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	982	1,038	21,068	27,137	8,283	9,095	-	66	-	26	92	134
NEW ENGLAND	66	60	264	623	179	176	-	1	-	2	3	19
Maine	4	5	20	59	5	6	-	-	-	-	-	1
N.H.	9	11	14	34	19	17	-	-	-	-	-	1
Vt.	9	3	16	15	6	11	-	-	-	1	1	-
Mass.	37	36	106	249	56	73	U	1	U	1	2	16
R.I.	6	3	17	129	68	16	-	-	-	-	-	-
Conn.	1	2	91	137	25	53	U	-	U	-	-	1
MID. ATLANTIC	143	160	1,422	2,028	1,056	1,314	-	8	-	6	14	27
Upstate N.Y.	64	52	353	356	282	304	-	1	-	1	2	5
N.Y. City	27	42	368	886	270	444	-	-	-	-	-	11
N.J.	46	47	331	302	188	237	U	7	U	1	8	3
Pa.	6	19	370	484	316	329	-	-	-	4	4	8
E.N. CENTRAL	156	160	3,537	2,911	1,515	1,448	-	12	-	3	15	10
Ohio	46	83	312	304	74	88	U	-	U	1	1	-
Ind.	40	19	326	315	744	95	U	2	U	1	3	-
Ill.	55	39	668	814	187	270	-	1	-	-	1	7
Mich.	8	18	2,064	1,300	467	446	-	9	-	1	10	2
Wis.	7	1	167	178	43	549	U	-	U	-	-	1
W.N. CENTRAL	89	58	1,285	2,108	402	464	-	1	-	-	1	17
Minn.	66	44	130	192	49	41	-	-	-	-	-	8
Iowa	3	6	399	455	56	40	-	1	-	-	1	-
Mo.	12	5	575	1,082	242	328	U	-	U	-	-	1
N. Dak.	-	-	3	10	4	5	U	-	U	-	-	-
S. Dak.	1	2	32	23	2	1	U	-	U	-	-	8
Nebr.	1	1	41	89	22	19	-	-	-	-	-	-
Kans.	6	-	105	257	27	30	-	-	-	-	-	-
S. ATLANTIC	193	162	1,962	2,035	1,151	1,182	-	3	-	5	8	15
Del.	-	-	6	30	4	6	U	-	U	1	1	-
Md.	54	57	325	180	152	162	-	-	-	1	1	2
D.C.	-	-	62	36	18	30	-	-	-	-	-	1
Va.	19	13	215	221	99	124	-	-	-	2	2	1
W. Va.	5	4	7	12	10	16	U	-	U	-	-	-
N.C.	24	21	123	200	244	251	-	-	-	-	-	2
S.C.	3	4	38	107	46	96	U	-	U	-	-	1
Ga.	52	37	659	650	146	139	-	1	-	1	2	1
Fla.	36	26	527	599	432	358	-	2	-	-	2	7
E.S. CENTRAL	59	55	372	620	391	691	-	-	-	2	2	1
Ky.	8	8	26	72	46	38	U	-	U	-	-	-
Tenn.	34	31	221	391	268	436	-	-	-	1	1	-
Ala.	15	14	82	79	75	74	-	-	-	1	1	1
Miss.	2	2	43	78	2	143	-	-	-	-	-	-
W.S. CENTRAL	56	48	3,988	5,485	1,175	1,235	-	1	-	-	1	8
Ark.	-	2	87	207	88	83	U	-	U	-	-	-
La.	23	12	124	223	164	161	-	1	-	-	1	-
Okla.	30	31	611	1,389	121	51	-	-	-	-	-	1
Tex.	3	3	3,166	3,666	802	940	-	-	-	-	-	7
MOUNTAIN	115	86	3,098	4,058	799	825	-	7	-	3	10	8
Mont.	-	1	94	70	5	12	U	-	U	-	-	-
Idaho	2	1	233	137	48	53	-	-	-	-	-	-
Wyo.	1	4	36	33	8	24	U	-	U	-	-	-
Colo.	20	21	341	391	107	144	-	-	-	-	-	-
N. Mex.	9	9	145	339	314	241	-	-	-	-	-	-
Ariz.	58	31	1,852	2,142	173	188	-	7	-	3	10	5
Utah	6	3	188	527	66	89	U	-	U	-	-	1
Nev.	19	16	209	419	78	74	U	-	U	-	-	2
PACIFIC	105	249	5,140	7,269	1,615	1,760	-	33	-	5	38	29
Wash.	10	5	901	623	116	77	-	-	-	1	1	2
Oreg.	40	38	367	362	124	117	-	-	-	-	-	-
Calif.	46	190	3,816	6,105	1,355	1,541	U	5	U	3	8	23
Alaska	1	8	17	34	12	14	-	28	-	1	29	-
Hawaii	8	8	39	145	8	11	U	-	U	-	-	4
Guam	-	-	-	-	2	3	U	-	U	-	-	-
P.R.	2	-	49	265	335	771	U	-	U	-	-	-
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	3	1	53	47	U	-	U	-	-	1

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

*Of 224 cases among children aged <5 years, serotype was reported for 125 and of those, 48 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 December 19, 1998, and December 13, 1997 (50th 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	2,538	3,018	6	589	622	73	5,829	5,573	1	335	159
NEW ENGLAND	105	190	-	7	12	1	911	1,003	-	38	1
Maine	7	18	-	-	-	-	5	22	-	-	-
N.H.	4	15	-	-	1	-	121	131	-	-	-
Vt.	5	4	-	-	-	1	75	253	-	-	-
Mass.	56	94	U	4	4	U	651	551	U	8	1
R.I.	8	22	-	1	6	-	13	17	-	1	-
Conn.	25	37	U	2	1	U	46	29	U	29	-
MID. ATLANTIC	239	330	1	171	60	13	585	404	-	135	35
Upstate N.Y.	71	87	1	12	14	13	313	164	-	111	6
N.Y. City	25	52	-	139	3	-	39	67	-	18	29
N.J.	56	71	U	2	8	U	5	14	U	4	-
Pa.	87	120	-	18	35	-	228	159	-	2	-
E.N. CENTRAL	370	470	1	74	92	1	625	625	-	-	6
Ohio	133	157	U	28	35	U	279	159	U	-	-
Ind.	70	54	U	6	14	U	145	76	U	-	-
Ill.	91	150	-	11	12	-	113	112	-	-	2
Mich.	42	66	1	29	27	1	71	67	-	-	-
Wis.	34	43	U	-	4	U	17	211	U	-	4
W.N. CENTRAL	222	222	-	30	18	7	547	538	-	33	-
Minn.	35	34	-	13	6	5	342	307	-	-	-
Iowa	48	46	-	11	10	2	77	111	-	-	-
Mo.	79	95	U	3	-	U	32	70	U	2	-
N. Dak.	5	2	U	2	-	U	3	1	U	-	-
S. Dak.	8	5	U	-	-	U	8	5	U	-	-
Nebr.	15	18	-	-	1	-	19	13	-	-	-
Kans.	32	22	-	1	1	-	66	31	-	31	-
S. ATLANTIC	444	515	2	50	74	16	338	417	-	19	78
Del.	2	5	U	-	-	U	5	1	U	-	-
Md.	33	42	-	-	1	1	59	113	-	1	-
D.C.	3	12	-	-	-	-	1	3	-	-	1
Va.	48	58	2	10	19	9	50	56	-	1	1
W. Va.	16	19	U	-	-	U	4	6	U	-	-
N.C.	57	88	-	11	12	5	103	118	-	13	59
S.C.	55	56	U	7	11	U	27	30	U	-	15
Ga.	97	100	-	1	10	-	27	13	-	-	-
Fla.	133	135	-	21	21	1	62	77	-	4	2
E.S. CENTRAL	256	226	1	18	31	2	122	146	-	2	1
Ky.	38	48	U	1	3	U	50	66	U	-	-
Tenn.	71	76	-	2	6	-	37	37	-	2	-
Ala.	108	77	1	9	9	2	32	32	-	-	1
Miss.	39	25	-	6	13	-	3	11	-	-	-
W.S. CENTRAL	295	282	1	61	86	2	366	293	1	89	4
Ark.	30	36	U	12	1	U	91	53	U	-	-
La.	61	48	-	10	16	-	9	20	-	-	-
Okla.	42	43	-	-	-	1	31	51	-	-	-
Tex.	162	155	1	39	69	1	235	169	1	89	4
MOUNTAIN	146	172	-	39	55	30	1,079	1,225	-	5	7
Mont.	4	8	U	-	-	U	13	18	U	-	-
Idaho	13	11	-	7	3	6	218	531	-	-	2
Wyo.	7	3	U	1	1	U	8	7	U	-	-
Colo.	28	46	-	6	3	13	242	390	-	-	-
N. Mex.	26	29	N	N	N	-	97	182	-	1	-
Ariz.	45	42	-	6	33	11	211	36	-	1	5
Utah	14	15	U	5	8	U	249	26	U	2	-
Nev.	9	18	U	14	7	U	41	35	U	1	-
PACIFIC	461	611	-	139	194	1	1,256	922	-	14	27
Wash.	63	90	-	11	19	1	329	404	-	9	5
Oreg.	90	122	N	N	N	-	90	47	-	-	-
Calif.	300	389	U	103	142	U	803	436	U	3	14
Alaska	3	3	-	2	8	-	15	16	-	-	-
Hawaii	5	7	U	23	25	U	19	19	U	2	8
Guam	1	1	U	2	1	U	-	-	U	-	-
P.R.	7	8	U	1	7	U	6	-	U	-	-
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 December 19, 1998 (50th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	403	294	70	19	10	10	24
Boston, Mass.	U	U	U	U	U	U	U
Bridgeport, Conn.	32	21	6	2	2	1	1
Cambridge, Mass.	19	16	2	1	-	-	1
Fall River, Mass.	30	20	7	1	1	1	4
Hartford, Conn.	71	52	13	3	3	-	1
Lowell, Mass.	21	19	2	-	-	-	2
Lynn, Mass.	14	10	4	-	-	-	1
New Bedford, Mass.	27	21	5	-	1	-	1
New Haven, Conn.	33	20	8	2	-	3	4
Providence, R.I.	U	U	U	U	U	U	U
Somerville, Mass.	6	3	1	1	1	-	-
Springfield, Mass.	49	34	11	2	1	1	3
Waterbury, Conn.	29	24	3	2	-	-	-
Worcester, Mass.	72	54	8	5	1	4	6
MID. ATLANTIC	2,222	1,577	431	147	34	33	112
Albany, N.Y.	63	50	7	3	2	1	3
Allentown, Pa.	24	23	1	-	-	-	-
Buffalo, N.Y.	88	68	12	6	-	2	4
Camden, N.J.	36	27	6	2	1	-	3
Elizabeth, N.J.	U	U	U	U	U	U	U
Erie, Pa.	47	36	6	5	-	-	7
Jersey City, N.J.	48	33	11	2	-	2	-
New York City, N.Y.	1,206	835	249	88	14	20	48
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	U	U	U	U	U	U	U
Philadelphia, Pa.	298	193	67	21	12	5	17
Pittsburgh, Pa.§	61	43	13	3	2	-	7
Reading, Pa.	40	29	9	2	-	-	3
Rochester, N.Y.	113	89	17	4	2	1	8
Schenectady, N.Y.	21	17	3	1	-	-	-
Scranton, Pa.	38	31	4	3	-	-	2
Syracuse, N.Y.	76	61	11	3	1	-	4
Trenton, N.J.	44	27	11	4	-	2	5
Utica, N.Y.	19	15	4	-	-	-	1
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,998	1,366	392	139	51	46	132
Akron, Ohio	40	37	2	1	-	-	1
Canton, Ohio	33	26	6	1	-	-	4
Chicago, Ill.	414	243	95	41	17	16	33
Cincinnati, Ohio	140	102	20	8	4	6	6
Cleveland, Ohio	154	107	33	7	3	4	1
Columbus, Ohio	176	124	28	14	3	7	16
Dayton, Ohio	148	111	28	7	2	-	8
Detroit, Mich.	229	134	62	18	8	7	10
Evansville, Ind.	50	41	9	-	-	-	1
Fort Wayne, Ind.	65	46	10	8	1	-	6
Gary, Ind.	6	3	3	-	-	-	-
Grand Rapids, Mich.	48	37	7	2	2	-	5
Indianapolis, Ind.	207	142	43	16	4	2	14
Lansing, Mich.	33	24	2	3	2	2	5
Milwaukee, Wis.	U	U	U	U	U	U	U
Peoria, Ill.	49	36	8	1	1	1	7
Rockford, Ill.	59	48	8	3	-	-	5
South Bend, Ind.	42	27	9	4	1	1	5
Toledo, Ohio	105	78	19	5	3	-	5
Youngstown, Ohio	U	U	U	U	U	U	U
W.N. CENTRAL	635	440	110	42	15	21	37
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	25	21	1	2	-	1	4
Kansas City, Kans.	U	U	U	U	U	U	U
Kansas City, Mo.	120	70	24	10	5	4	9
Lincoln, Nebr.	33	25	5	1	1	1	3
Minneapolis, Minn.	186	137	28	16	4	1	14
Omaha, Nebr.	79	54	11	5	2	7	5
St. Louis, Mo.	86	48	21	7	3	7	2
St. Paul, Minn.	105	84	20	1	-	-	-
Wichita, Kans.	-	-	-	-	-	-	-
S. ATLANTIC	953	656	174	85	25	11	69
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	272	176	57	32	5	1	20
Charlotte, N.C.	114	81	19	8	5	1	16
Jacksonville, Fla.	127	88	23	10	5	1	5
Miami, Fla.	U	U	U	U	U	U	U
Norfolk, Va.	49	35	5	6	2	1	3
Richmond, Va.	58	42	9	6	1	-	3
Savannah, Ga.	45	26	11	5	1	2	6
St. Petersburg, Fla.	50	42	6	2	-	-	2
Tampa, Fla.	151	112	28	5	3	2	12
Washington, D.C.	80	48	15	11	3	3	2
Wilmington, Del.	7	6	1	-	-	-	-
E.S. CENTRAL	922	624	174	71	31	21	51
Birmingham, Ala.	207	128	41	17	11	9	19
Chattanooga, Tenn.	79	61	15	1	2	-	2
Knoxville, Tenn.	U	U	U	U	U	U	U
Lexington, Ky.	72	50	12	8	1	1	3
Memphis, Tenn.	243	172	44	16	9	2	20
Mobile, Ala.	140	96	26	13	3	2	-
Montgomery, Ala.	54	38	7	5	1	3	4
Nashville, Tenn.	127	79	29	11	4	4	3
W.S. CENTRAL	958	681	176	59	24	18	50
Austin, Tex.	67	43	14	4	5	1	5
Baton Rouge, La.	30	21	7	1	1	-	2
Corpus Christi, Tex.	61	51	7	2	-	1	3
Dallas, Tex.	214	139	50	18	6	1	6
El Paso, Tex.	75	53	16	5	1	-	1
Ft. Worth, Tex.	104	71	19	11	2	1	9
Houston, Tex.	U	U	U	U	U	U	U
Little Rock, Ark.	86	64	12	2	3	5	4
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	213	162	37	7	5	2	9
Shreveport, La.	U	U	U	U	U	U	U
Tulsa, Okla.	108	77	14	9	1	7	11
MOUNTAIN	934	634	175	79	24	18	66
Albuquerque, N.M.	123	87	23	7	4	2	5
Boise, Idaho	33	23	8	1	1	-	3
Colo. Springs, Colo.	47	37	9	1	-	-	2
Denver, Colo.	155	95	22	24	6	8	6
Las Vegas, Nev.	197	137	41	17	1	1	13
Ogden, Utah	19	13	6	-	-	-	2
Phoenix, Ariz.	63	42	12	1	3	1	10
Pueblo, Colo.	43	30	8	3	2	-	3
Salt Lake City, Utah	104	60	23	12	4	5	9
Tucson, Ariz.	150	110	23	13	3	1	13
PACIFIC	995	754	152	52	21	16	80
Berkeley, Calif.	U	U	U	U	U	U	U
Fresno, Calif.	U	U	U	U	U	U	U
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	68	52	11	2	3	-	5
Long Beach, Calif.	87	58	19	6	1	3	9
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	23	17	2	1	2	1	-
Portland, Oreg.	97	70	13	8	4	2	6
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	129	97	21	5	3	3	20
San Francisco, Calif.	136	99	24	10	1	2	16
San Jose, Calif.	149	106	28	9	4	2	9
Santa Cruz, Calif.	40	33	5	2	-	-	2
Seattle, Wash.	121	121	-	-	-	-	6
Spokane, Wash.	52	38	11	2	-	1	1
Tacoma, Wash.	93	63	18	7	3	2	6
TOTAL	10,020¶	7,026	1,854	693	235	194	621

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

Notices to Readers — Continued

scientific data from the diverse disciplines involved in the research and development of vaccines and associated technologies for disease control through vaccination.

Additional information about program announcements, registration, and abstract submission is available from NFID, Attention: Mr. Kip Kantelo, Suite 750, 4733 Bethesda Ave., Bethesda, MD 20814-5228; telephone: (301) 656-0003; fax: (301) 907-0878; e-mail: kkantelo@aol.com; and from the World-Wide Web site, http://www.nfid.org/conferences/.

Notice to Readers

Combined Issues of *MMWR*

A January 1, 1999, issue of *MMWR* will not be published. The next issue will be Volume 47, Numbers 51 and 52, dated January 8, 1999. It will include the figures and tables of notifiable diseases and deaths for the weeks ending December 26, 1998, and January 2, 1999.

Erratum: Vol. 47, No. 45

In the report, "Risks for HIV Infection Among Persons Residing in Rural Areas and Small Cities—Selected Sites, Southern United States, 1995–1996," the first sentence (page 974) gave an incorrect proportion for cases among persons residing in rural areas. The sentence should read: The southern region of the United States* accounts for the largest proportion (35%) of the 641,086 acquired immunodeficiency syndrome (AIDS) cases reported through 1997 and for *54% of 36,436 AIDS cases among persons residing in rural areas and 51% of 22,253 AIDS cases among persons residing in small cities* (CDC, unpublished data, 1998).

Erratum: Vol. 47, No. 44

In the Notice to Readers, "Epidemiology in Action: Intermediate Methods Course," on page 960, the room number in the second paragraph was incorrect. The correct location is room *746*.

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The *Morbidity and Mortality Weekly Report (MMWR)* Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format and on a paid subscription basis for paper copy. To receive an electronic copy on Friday of each week, send an e-mail message to *listserv@listserv.cdc.gov*. The body content should read *SUBscribe mmwr-toc*. Electronic copy also is available from CDC's World-Wide Web server at *http://www.cdc.gov/* or from CDC's file transfer protocol server at *ftp.cdc.gov*. To subscribe for paper copy, contact Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 512-1800.

Data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the following Friday. Address inquiries about the *MMWR* Series, including material to be considered for publication, to: Editor, *MMWR* Series, Mailstop C-08, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333; telephone (888) 232-3228.

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