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Lifetime and Annual Incidence of Intimate Partner Violence and Resulting Injuries — Georgia, 1995

Incidence data for intimate partner violence (IPV) at the national and state levels are limited. CDC and the Division of Public Health, Georgia Department of Human Resources (GDHR), analyzed data from the 1995 Georgia Women's Health Survey (GWHS) (*1*) to 1) estimate the lifetime and annual incidence of physical IPV in Georgia among women aged 15–44 years, 2) examine sociodemographic risk factors for abuse committed during the previous year, and 3) determine the likelihood of injury resulting from IPV. This report summarizes the results of this survey, which indicate that 1) 6% of reproductive-aged women in Georgia had experienced IPV during the previous year, 2) low socioeconomic status was a risk factor for IPV during the previous year, and 3) 63% of women who experienced abuse during the previous year suffered physical injuries.

GWHS was a state-based, random-digit–dialed telephone survey of noninstitutionalized women aged 15–44 years residing in households. During January–July 1995, GDHR conducted the survey on women's health that included questions about IPV. Of 4005 women contacted, 3130 (78%) agreed to participate. One eligible woman per household was selected randomly for survey participation. Data from households with more than one eligible woman or multiple residential telephone numbers were weighted to adjust for unequal probability of selection. In addition, two post-survey adjustment factors* were applied to account for bias caused by nonresponse and exclusion of households without telephones (*2*). Crude odds ratios were used to test for sociodemographic differences in the proportion of women who experienced IPV during the previous year compared with the proportion of women who did not.

Survey respondents were asked, "Have you ever been physically abused by a partner or ex-partner?" If the respondent answered "yes," she was asked, "In the past 12 months, did a partner or ex-partner abuse you? That is, did he push, shove, hit,

*These adjustment factors were calculated by comparing the GWHS sample distribution to the 1990 census distribution of reproductive-aged women with and without residential telephone numbers listed by race, 5-year age groups, and education (subclasses). For each adjustment subclass, the post-survey nonresponse adjustment factor was the ratio of known state value for each subclass among women residing in households with telephones to the sample estimate of that value. The subclass adjustment factor for nontelephone coverage was the ratio of census counts of all women in each adjustment subclass over women residing in households with telephones for the same subclass.

slap, kick, or otherwise physically hurt you?" Women who answered "yes" to both questions were asked to report whether they had been injured and whether they had sought medical care for their injuries. Partner or ex-partner was defined as a husband, boyfriend, ex-husband, ex-boyfriend, or any other person that the respondent had dated.[†]

On the basis of the weighting factors, 30% (95% confidence interval [CI]=28%–31%) of women reported they had experienced IPV during their lifetimes, and 6% (95% CI=5%–7%) reported they had experienced IPV during the previous year. Most (83%) women had been physically abused during the previous year by a current partner (80% by a current partner only; 3% by both a current and a former partner); 17% had been physically abused during the previous year by a former partner only.

Compared with women with household incomes ≥$50,000, women with household incomes ≤$19,999 were approximately nine times more likely and women with household incomes of $20,000–$49,999 were three times more likely to have experienced IPV during the previous year (Table 1). Other significant risk factors for IPV included being aged 15–34 years, having less than a college degree, being unemployed, having nonprivate or no health insurance, and having a current marital status/living arrangement of never married, separated, divorced, or cohabiting.

Of the women who reported IPV during the previous year, 63% (95% CI=55%–70%) suffered physical injuries; of these, 34% (95% CI=24%–43%) sought medical care. The most frequent types of injuries reported were swellings, cuts, scratches, bruises, strains, or sprains (92%), followed by black eyes (25%), broken bones (16%), knife wounds (12%), broken teeth (8%), burns or scaldings (6%), bites (5%), and broken eardrums (4%). In 1995, the rate for women aged 15–44 years who had experienced IPV-related injuries during the previous year was 38 per 1000 (Table 2).

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Editorial Note: This study, the first to generate population-based estimates of IPV in Georgia, shows that in 1995, of the estimated 1,691,600 women aged 15–44 years who resided in Georgia, approximately 507,500 (30%) had experienced IPV during their lifetimes. Of these, approximately 101,500 (20%) had experienced IPV during the previous year. The findings in this report that variables indicative of low socioeconomic status are associated with IPV during the previous year are consistent with prior research (*3*). The findings that 63% of women in the Georgia survey who experienced IPV during the previous year were injured is slightly higher than the national estimate of 52% (*4*).

The findings in this report are subject to at least three limitations. First, women who were contacted but did not participate in the survey may differ significantly on key variables from those who did participate. For example, nonparticipants may be more likely to have been abused than participants. Second, because only women residing in households with telephones were included, the incidence of IPV among noninstitutionalized women in Georgia was probably underestimated. IPV is associated with low socioeconomic status, which may be related to having no telephone. Third, because

[†]A partner could be of the opposite or same sex. However, information about the sex of a partner was not collected.

Intimate Partner Violence — Continued

TABLE 1. Number and percentage of women aged 15–44 years who reported experiencing intimate partner violence (IPV) during the previous year and crude odds ratios (COR), by age group, education, insurance type, location of residence, income level, employment status, and marital status/living arrangement — Georgia, Georgia Women's Health Survey, 1995*

	IPV†					
	Yes		No.			
Category	No.	(%)	No.	(%)	COR	(95% CI§)
Age group (yrs)						
15–24	59	(7)	731	(93)	2.6	(1.7– 4.0¶)
25–34	71	(6)	1119	(94)	2.1	(1.4– 3.1¶)
35–44	34	(3)	1097	(97)	1.0	
Education						
Less than high school	54	(11)	454	(89)	4.6	(2.7– 7.8¶)
High school graduate	49	(5)	866	(95)	2.2	(1.3– 3.7¶)
Some college	42	(4)	898	(96)	1.8	(1.0– 3.1¶)
College graduate/ Postgraduate	19	(2)	726	(98)	1.0	
Type of insurance						
None	58	(10)	500	(90)	3.8	(2.6– 5.5¶)
Medicaid	37	(16)	188	(84)	6.4	(4.2– 9.9¶)
Private	69	(3)	2259	(97)	1.0	
Location of residence						
Atlanta MSA**	66	(4)	1442	(96)	0.6	(0.5– 1.1)
Other MSA	45	(7)	642	(93)	1.1	(0.8– 1.7)
Rural (non-MSA)	53	(6)	863	(94)	1.0	
Income level						
≤19,999	67	(12)	472	(88)	8.7	(5.0–15.2¶)
20,000–49,999	81	(5)	1496	(95)	3.3	(1.9– 5.7¶)
≥50,000	16	(2)	979	(98)	1.0	
Employed						
No	69	(7)	868	(93)	1.7	(1.3– 2.4¶)
Yes	95	(4)	2079	(96)	1.0	
Marital status/ Living arrangement††						
Married	50	(3)	1727	(97)	1.0	
Separated	18	(21)	66	(79)	9.4	(5.2– 17.0)¶
Divorced	28	(12)	212	(88)	4.6	(2.8– 7.4)¶
Widowed	0	(0)	17	(100)	0.0	(0.0–999.0)
Cohabiting	16	(9)	167	(91)	3.3	(1.8– 5.9)¶
Never married	51	(6)	750	(94)	2.4	(1.6– 3.5)¶
Total§§	**164**	**(6)**	**2966**	**(94)**		

*n=3130.
†Unweighted data.
§Confidence interval.
¶$p<0.05$.
**Metropolitan statistical area.
††Categories for marital status/living arrangement variables are mutually exclusive. Women who lived with a partner but were not married were categorized as "cohabiting." Current marital status or living arrangement takes precedence over former marital status or living arrangement (e.g., women who were remarried were categorized as "married;" women who were widowed or separated but were currently cohabiting were categorized as "cohabiting").
§§Does not equal the total for each category because of nonresponse to some questions.

Intimate Partner Violence — Continued

TABLE 2. Population estimates* and rates† of women aged 15–44 years who reported experiencing intimate partner violence (IPV)-related physical injuries during the previous year, by type of injury — Georgia, Georgia Women's Health Survey, 1995

Type of injury	Population estimate	Rate
Swellings, cuts, scratches, bruises, strains, or sprains	58,800	35
Black eyes	16,000	9
Broken bones	10,200	6
Knife wounds	7,700	5
Broken teeth	5,100	3
Burns or scalds	3,800	2
Bites	3,200	2
Broken eardrums	2,600	2
All women reporting	63,900	38

*Estimates are rounded to the nearest hundred.
†Per 1000 women.

this survey focused only on physical violence, IPV incidence is underestimated because IPV can include sexual violence or emotional abuse.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and the American Medical Association (AMA) have recommended that health-care providers routinely screen patients to identify women experiencing IPV (*5,6*). The identification and referral for services will reduce the frequency and severity of IPV before injuries and other negative consequences (e.g., homicide, suicide attempts, and depression) occur (*7*). The lifetime incidence of IPV found in this study suggests that if the recommendations by JCAHO and AMA were implemented, more women experiencing IPV would be identified and receive appropriate health-care services and other services. Because 34% of women injured during IPV during the previous year sought medical care for their injuries, medical settings may represent promising sites for IPV screening and early interventions. Women experiencing IPV have numerous contacts with health-care providers, regardless of the immediate reason for their visit (*7*).

On the basis of the results from the GWHS, Georgia's Council on Maternal and Infant Health recommends that all women be screened for IPV and that health-care and social-service providers be trained to conduct IPV screenings (*8*). The Georgia Commission on Family Violence has developed the "Model Medical Protocol for Domestic Violence Incidents." This protocol, which has been distributed to family violence task forces, shelters, and physician organizations throughout the state, provides information about IPV to sensitize health-care providers regarding the needs of IPV victims and includes a screening tool to help identify them.

Many protocols have been developed to train health-care providers (*9*) in Georgia and across the country in screening and documenting IPV and IPV-related injuries and appropriately referring women who need follow-up services (e.g., shelters and legal aid). CDC is developing a manual to assist in evaluating programs designed to improve health-care providers' response to women experiencing IPV.

References

1. Serbanescu F, Rochat R. Georgia Women's Health Survey, 1995: preliminary report. Atlanta, Georgia: Georgia Department of Human Resources, Division of Public Health, Epidemiology and Prevention Branch, Office of Perinatal Epidemiology, 1996.

Intimate Partner Violence — Continued

2. CDC. Knowledge about folic acid and use of multivitamins containing folic acid among reproductive-aged women—Georgia, 1995. MMWR 1996;45:793–5.
3. Straus M, Gelles R. Physical violence in American families: risk factors and adaptation to violence in 8,145 families. New Brunswick, New Jersey: Transaction, 1990.
4. Bachman R, Saltzman LE. Violence against women: estimates from the redesigned survey, Bureau of Justice Statistics Special Report. Washington, DC: US Department of Justice, August 1995.
5. Joint Commission on Accreditation of Healthcare Organizations. 1995 Comprehensive accreditation manual for hospitals Vol 1. Oakbrook Terrace, Illinois: Joint Commission on Accreditation of Healthcare Organizations, 1994.
6. American Medical Association. Diagnostic and treatment guidelines on domestic violence. Chicago, Illinois: American Medical Association, 1992.
7. Saltzman LE, Salmi LR, Branche CM, Bolen JC. Public health screening for intimate violence. Violence Against Women 1997;3:319–31.
8. Council on Maternal and Child Health. Domestic violence and pregnancy. Georgia Epidemiology Report 1996;12:3.
9. Osattin A, Short LM. Intimate partner violence and sexual assault: a guide to training materials and programs for health care providers. Atlanta, Georgia: US Department of Health and Human Services, CDC, National Center for Injury Prevention and Control, 1998.

Use of Cervical and Breast Cancer Screening Among Women With and Without Functional Limitations — United States, 1994–1995

The national health objectives for 2000 include increasing to at least 85% the proportion of all women aged ≥18 years who have received a Papanicolaou test within the preceding 3 years and increasing to at least 80% the proportion of women aged ≥40 years who have ever had a mammogram (*1*). However, national data on breast and cervical cancer screening specifically for women with disabilities is limited. During 1994–1995, CDC, 12 other federal agencies, and one foundation sponsored a disability survey as a special supplement to the National Health Interview Survey (NHIS). In 1994, questions on breast and cervical cancer screening were included in the NHIS Health Promotion/Disease Prevention Year 2000 Objectives Supplement. This report provides the findings of an analysis of these linked data, which indicate that women with functional limitations (FLs) were less likely than women without FLs to have had a Pap test within the previous 3 years, and women aged ≥65 years with three or more FLs were less likely to have ever had a mammogram compared with similarly aged women with no limitations.

The combination of the 1994 disability survey and the Health Promotion/Disease Prevention supplement provided a sample size of 11,399 women aged ≥18 years. Participants in the 1994 Health Promotion/Disease Prevention supplement were asked whether their last Pap test was within the previous year, between 1 and 3 years ago, or >3 years ago, and women aged ≥30 years were asked how long it had been since they had had a mammogram. Disability was defined as having one or more FLs (unable to do any of the following: lift 10 pounds; walk up 10 steps without resting; walk a quarter of a mile; stand for approximately 20 minutes; bend down from a standing position; reach up over the head or reach out; use fingers to grasp or handle

Cervical and Breast Cancer Screening — Continued

something; and hold a pen or pencil). SUDAAN®* was used to compute 95% confidence intervals (CIs). In the tables, nonresponses to the Pap and mammogram examination questions were included in the denominator for calculating the percentages. If they had not been included in the denominator, the percentages of those screened would have been higher.

In 1994, approximately 16% of women aged ≥18 years surveyed had at least one FL (n=2119). The prevalence of having at least one FL increased with age, from 6.4% of women aged 18–44 years to 39.5% of women aged ≥65 years.

Approximately 91% of women aged ≥18 years surveyed had received at least one Pap test. Among women with FLs, women aged ≥65 years were significantly less likely to have ever had a Pap test than women aged 18–44 years; there was no difference by age among women with no FLs (Table 1). Women with FLs were as likely as women without FLs to have ever had a Pap test (one to two FLs, 92.3%; three or more FLs, 90.0%; and none, 90.8%). Within the preceding 3 years, an estimated 76.1%, 64.8%, and 60.6% of women aged ≥18 years with no FLs, with one or two FLs, and with three or more FLs, respectively, had received a Pap test (Table 1). Women aged ≥65 years were significantly less likely to have received Pap tests within the preceding 3 years than were younger women. Women with FLs were less likely than women without FLs to have received a recent Pap test (one to two FLs, 64.8%; three or more FLs, 60.6%; and none, 76.1%).

Among women aged ≥40 years, 76.2% had had at least one mammogram. An estimated 77.5%, 73.9%, and 70.9% of women aged ≥40 years with no FLs, with one or two FLs, and with three or more FLs, respectively, had ever had a mammogram (Table 2). Among women with no FLs and among women with three or more FLs, those aged ≥65 years were significantly less likely to have had a mammogram (none,

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

TABLE 1. Percentage of women who had had a Papanicolaou test, by age and number of functional limitations (FLs) — United States, 1994

Age group (yrs)/	Ever		≤3 years		
No. of FLs	%	(95% CI*)	%	(95% CI)	NR†
18–44					
None	89.8	(88.7%–90.9%)	80.2	(78.8%–81.6%)	3.3
1–2	95.9	(92.8%–99.0%)	77.8	(71.4%–84.2%)	2.7
≥3	95.8	(91.0%–100%)	79.4	(72.0%–86.8%)	2.6
45–64					
None	94.6	(93.5%–95.7%)	75.7	(73.5%–77.9%)	3.4
1–2	96.8	(94.7%–98.9%)	70.2	(63.3%–77.1%)	2.2
≥3	94.8	(92.0%–97.6%)	74.4	(68.7%–80.1%)	2.0
≥65					
None	87.9	(86.0%–89.8%)	58.1	(55.4%–60.8%)	4.8
1–2	86.5	(82.7%–90.3%)	51.6	(46.4%–56.8%)	4.2
≥3	85.1	(81.7%–88.5%)	46.0	(41.5%–50.5%)	7.1
≥18					
None	90.8	(90.1%–91.5%)	76.1	(74.9%–77.3%)	3.5
1–2	92.3	(90.3%–94.3%)	64.8	(61.4%–68.2%)	3.2
≥3	90.0	(87.8%–92.2%)	60.6	(57.5%–63.7%)	4.7

*Confidence interval.
†Nonresponse rate.

Cervical and Breast Cancer Screening — Continued

TABLE 2. Percentage of women who had had a mammogram, by age and number of functional limitations (FLs) — United States, 1994

Age group (yrs)/ No. of FLs	Ever		≤2 years		
	%	(95% CI*)	%	(95% CI)	NR†
40–49					
None	77.6	(75.1%–80.1%)	60.6	(58.0%–63.2%)	2.4
1–2	75.7	(67.3%–84.1%)	53.3	(44.2%–62.4%)	2.9
≥3	77.2	(68.8%–85.6%)	58.5	(48.1%–68.9%)	2.5
50–64					
None	80.6	(78.0%–83.2%)	64.8	(62.1%–67.5%)	4.1
1–2	79.7	(73.3%–86.1%)	60.9	(53.6%–68.3%)	2.1
≥3	80.9	(75.2%–86.6%)	60.9	(53.7%–68.1%)	3.3
≥65					
None	73.3	(70.7%–75.9%)	56.5	(53.8%–59.2%)	3.6
1–2	70.1	(65.0%–75.2%)	52.0	(47.0%–57.0%)	3.5
≥3	64.7	(60.4%–69.0%)	42.5	(37.7%–47.3%)	6.5
≥40					
None	77.5	(75.9%–79.1%)	61.0	(59.4%–62.6%)	3.3
1–2	73.9	(70.3%–77.5%)	54.8	(50.9%–58.7%)	3.0
≥3	70.9	(67.7%–74.1%)	49.8	(46.1%–53.5%)	5.0

*Confidence interval.
†Nonresponse rate.

73.3% [95% CI=70.7%–75.9%]; and three or more, 64.7% [95% CI=60.4%–69.0%]) than women aged 50–64 years (none, 80.6% [95% CI=78.0%–83.2%]; and three or more, 80.9% [95% CI=75.2%–86.6%]) and were significantly less likely to have had a mammogram within the previous 2 years. For women with one or two FLs, there was no statistically significant difference by age in ever having had a mammogram and in having a recent mammogram. Among women aged ≥65 years, women with three or more FLs were less likely to have ever had a mammogram and were less likely to have recent mammograms than women with no limitations. The differences in having ever had and in having had a recent mammogram by FL status for the younger age groups were not statistically significant.

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Editorial Note: The findings in this report indicate that although the percentages of women who had had Pap tests and mammograms are below the national health objectives, the gaps are larger for women with FLs than for other women. Older age and degree of FL combine to increase the probability of not having had recommended screenings.

Several barriers reduce the likelihood that women with physical limitations will receive pelvic examinations. Women with physical disabilities have been refused care by a physician because of their disability (*2*). Clinicians may forego Pap tests altogether under the assumption that the severity of the woman's disability precludes sexual activity, putting her at little risk for cervical cancer. They may end an examination early if symptoms such as pain, spasticity, or autonomic hyperreflexia become problematic. The reason most frequently cited by women with physical disabilities for not going for pelvic examinations was difficulty mounting standard examination tables

(*3*). Adjustable-height examination tables are available to accommodate most physical limitations; however, few medical offices use them (*4*).

The lack of statistical significance in the differences in having had mammograms between younger and middle-aged women with FLs may be due to relatively small sample sizes for women in these categories. Almost all mobile mammography trailers are inaccessible to women who use wheelchairs and are very difficult to access by women who have an impaired ability to ambulate. The evidence that younger and middle-aged women with disabilities are receiving mammograms despite these barriers may be explained in part by their high rate of use of medical services overall (*2–4*), implying a greater likelihood of receiving mammograms as part of an array of services.

The findings in this report are subject to at least four limitations. First, the sample includes only noninstitutionalized persons; thus, nursing home residents, who have high levels of FLs, are not represented. Second, the estimates have sampling errors that are relatively large for estimates based on small populations, such as persons with three or more FLs (*2,3*). Third, a few of the reported FLs (<1%) were not associated with chronic conditions and may have been temporary. Finally, proxy responses were allowed for questions on FL, and proxy respondents are known to report limitations differently from self-respondents (*5*).

Future research should examine barriers to these preventive services for women with FLs, including physical and social barriers in the health-care delivery system. Research on screening behaviors of women routinely should include measures of disability. Providers of screening services should be informed about the health-care needs of women with disabilities, offered techniques for conducting pelvic examinations and mammograms that accommodate such women, and provided information on managing disability-related symptoms that may interfere with examinations.

References

1. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives—full report, with commentary. Washington, DC: US Department of Health and Human Services, Public Health Service, 1991; DHHS publication no. (PHS)91-50212.
2. Nosek MA, Howland CA, Rintala DH, Young ME, Chanpong GF. National study of women with physical disabilities, final report. Houston, Texas: Center for Research on Women with Physical Disabilities, Baylor College of Medicine, 1997.
3. Nosek MA, Howland CA. Breast and cervical cancer screening among women with physical disabilities. Arch Phys Med Rehabil 1997;78:S39–S44.
4. Krotoski D. Nosek MA. Turk MA, eds. Women with physical disabilities: achieving and maintaining health and well being. Baltimore, Maryland: Paul H. Brookes Publishers, 1996.
5. Magaziner J, Simonsick EM, Kashner TM, Hebel JR. Patient-proxy response comparability on measures of patient health and functional status. J Clin Epidemiol 1988;41:1065–74.

Outbreak of Cryptosporidiosis Associated with a Water Sprinkler Fountain — Minnesota, 1997

Cryptosporidiosis associated with recreational water exposure is becoming recognized more frequently (*1*). This report summarizes the investigation of a large outbreak of cryptosporidiosis associated with exposure to a water sprinkler fountain at the Minnesota Zoo. The initial cases were not diagnosed as cryptosporidiosis by the health-care system despite patients seeking care, underscoring the need for increased awareness of cryptosporidiosis and routine laboratory diagnostic practices among health-care providers.

On July 10, 1997, the Minnesota Department of Health (MDH) was notified by a parent about four cases of gastroenteritis among a group of 10 children whose only common exposure was a birthday party at the Minnesota Zoo on June 29. The zoo provided MDH with a list of registered groups that had visited the zoo during June 28–30; group members were contacted and interviewed about illness and zoo exposures. Initially, cases were defined as vomiting or diarrhea (defined as three or more loose stools during a 24-hour period) in persons who visited the zoo. Of 120 zoo visitors identified through the registered groups, 11 (9%) had illnesses that met the case definition. All had played in a water sprinkler fountain at the zoo, compared with seven (6%) of 109 controls (relative risk=undefined; $p<0.001$). *Cryptosporidium* oocysts were identified in nine of 10 stool specimens of case-patients tested at MDH. Two of the laboratory-confirmed case-patients had submitted stool samples previously for ova and parasite examination to their health-care providers; both samples were reported as negative for parasites.

The fountain was closed on July 11, and MDH issued a public statement advising persons who had visited the zoo and subsequently developed diarrheal illness to contact their physician and MDH. The public statement also stated that children who developed diarrhea after exposure to the fountain should not visit swimming beaches, swimming and wading pools, and other recreational water facilities until at least 2 weeks after recovery from diarrheal symptoms. MDH requested that all clinical laboratories in Minnesota specifically test all stools submitted for ova and parasite examination for *Cryptosporidium,* particularly during the outbreak.

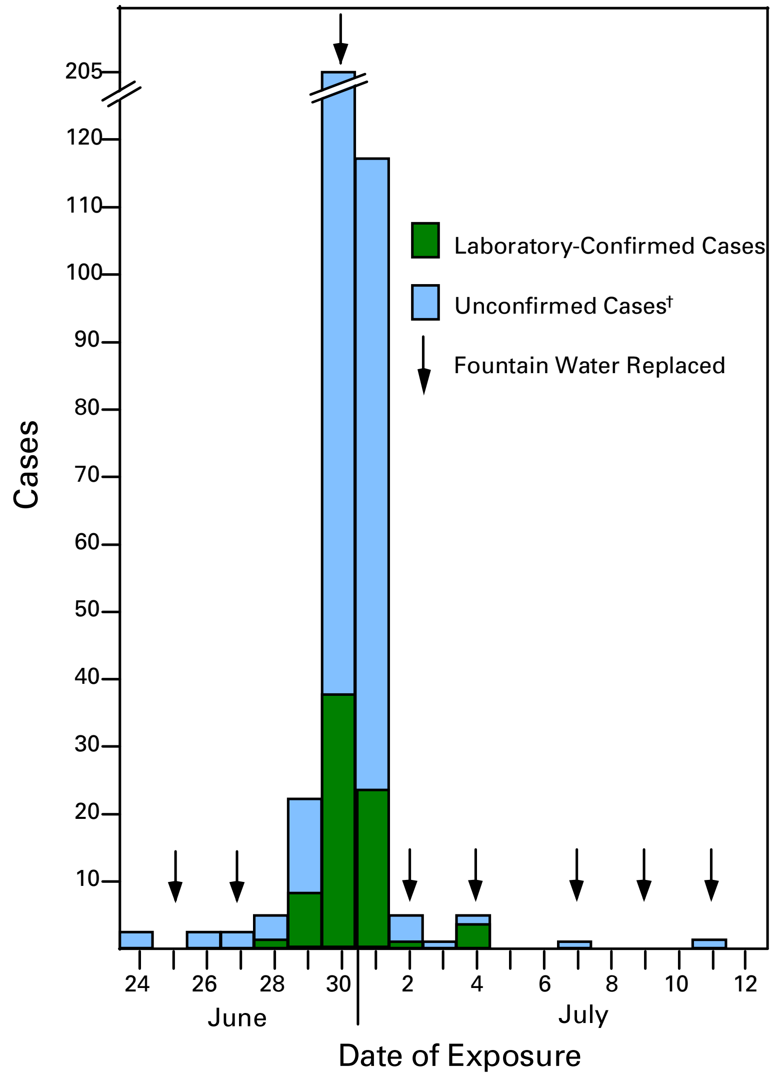
A standard questionnaire was used to document illness history and zoo exposures in persons responding to the public statement. A revised case definition included persons with vomiting or diarrhea persisting at least 3 days, with onset 3–15 days after exposure to the zoo fountain. A total of 369 cases were identified, including the initial 11 cases; 73 (20%) were laboratory confirmed. Petting zoo exposure was reported by 191 (58%) of 332 case-patients, including 37 (55%) of 67 laboratory-confirmed cases. Age data were available for 351 case-patients; the median age was 6 years (range: 0–65 years), and 333 (95%) case-patients were aged ≤10 years. All but one of the 369 patients reported diarrhea; 317 (86%), abdominal cramps; 287 (78%), vomiting; 233 (63%), fever; and 11 (3%), bloody stools. The median duration of illness was 7 days. Six (2%) patients were hospitalized.

Reported dates of fountain exposure for case-patients were from June 24 through July 11 (Figure 1). Exposure dates for confirmed case-patients were from June 28 through July 1, with 68 (93%) exposures occurring from June 29 through July 1 (Figure 1). The median incubation period after fountain exposure was 6 days. In addition to case-patients with fountain exposure, nine laboratory-confirmed cases of cryptosporidiosis were identified among household contacts of case-patients with fountain exposure.

The implicated water sprinkler fountain was designed and built as a decorative display in 1994. The fountain is comprised of 14 nozzles arranged in five rows and submerged beneath metal grates. The nozzles sprayed jets of water vertically approximately one to six feet. The water drained through the grates, collected in trenches,

Cryptosporidiosis — Continued

FIGURE 1. Reported cases of cryptosporidiosis associated with a water sprinkler fountain, by date of exposure — Minnesota, 1997*



*n=369.
†Defined as vomiting or three or more loose stools within a 24-hour period, with onset 3–15 days after fountain exposure and duration of at least 3 days.

passed through a sand filter, was chlorinated, and then recirculated. The zoo routinely replaced the water every Monday, Wednesday, and Friday, but the filter was not flushed. Environmental health inspectors from MDH recommended the fountain not be used as an interactive play area. The zoo subsequently erected a fence around the fountain plaza and reopened it as a decorative display only. Water samples collected on July 14 were negative for *Cryptosporidium* oocysts.

The source of contamination of the fountain was not established, but contamination by a child wearing a diaper and playing in the fountain was suspected. Animals (including ruminants) in a petting zoo approximately 50 yards from the fountain tested

Cryptosporidiosis — Continued

negative for *Cryptosporidium* before being placed in the petting area and again during the outbreak investigation.

A 1997 survey of all clinical laboratories serving Minnesota residents indicated that 13 (22%) of 59 laboratories that perform ova and parasite examinations on site routinely test for *Cryptosporidium* as part of ova and parasite examinations (i.e., without a specific request from a physician). In a 1997 survey of physicians in Minnesota, 44 (79%) of 56 physicians who thought that their laboratory always tested for *Cryptosporidium* as part of an ova and parasite examination were incorrect.

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Editorial Note: The findings in this report document a novel recreational water source for cryptosporidiosis. Outbreaks of cryptosporidiosis have been documented in a variety of other recreational water settings in the United States since 1988, including a lake, community and hotel pools, a large recreational water park, a wave pool, and a water slide (*1*). As in several other outbreaks, there was no evidence in this outbreak that inadequate chlorination or filter malfunction contributed to transmission of *Cryptosporidium.* However, *Cryptosporidium* oocysts are resistant to disinfection by chlorine at levels generally used in recreational water, and recreational water filtration units that use sand filter media are not effective in removing the 4–6-micron oocysts (*1*). The zoo fountain in this outbreak was designed as a decorative display and not an interactive play area. However, the fountain was a popular attraction for children on hot summer days. Children would commonly stand directly over the jets and soak their entire bodies, a practice which could explain contamination of the fountain and subsequent transmission associated with ingestion of water. Consumption of foods while walking in the fountain plaza was also a common practice.

Measures that might have reduced the risk for *Cryptosporidium* contamination of the fountain (e.g., showering before entering the fountain, excluding persons with diarrhea or incontinence, excluding children wearing diapers, and restricting food consumption in the fountain area) were not required or encouraged. Exclusion of persons from decorative water displays not designed for interactive use should be instituted and enforced. For recreational water facilities designed for human use, improved filtration may reduce risk.

Waterborne cryptosporidiosis is probably underrecognized and underreported (*1*). Laboratory and physician surveys conducted in Minnesota indicate that most laboratories do not routinely test specifically for *Cryptosporidium* as part of ova and parasite examinations, even though many physicians assumed that they did. Even though cryptosporidiosis is reportable in Minnesota, this large outbreak probably would have remained undetected if not for the parent reporting the cases to the health department. Two of the original ill children had seen physicians, who ordered ova and parasite examinations; however, cryptosporidiosis remained undiagnosed until stool samples were examined specifically for *Cryptosporidium* at MDH. Because of their small size, *Cryptosporidium* oocysts can be difficult to detect by routine ova and parasite examination. The magnitude of this outbreak was probably determined only because of the public statement and the request that laboratories test all stools submitted for ova and parasite examination specifically for *Cryptosporidium*.

Cryptosporidiosis — Continued

To better understand the magnitude of cryptosporidiosis, health-care providers should specifically request testing for suspected cryptosporidiosis. Laboratories should consider routinely testing for *Cryptosporidium* as part of their ova and parasite examination protocol. Alternatively, when reporting test results back to health-care providers, laboratories should specifically indicate when *Cryptosporidium* is not tested for as part of a requested ova and parasite examination. Cryptosporidiosis is reportable in 41 states; interpretation of national data would be facilitated by mandatory reporting in all states.

Reference

1. Anonymous. *Cryptosporidium* and water: a public health handbook. Atlanta, Georgia: Working Group on Waterborne Cryptosporidiosis, 1997.

Child Health Month — October 1998

The American Academy of Pediatrics (AAP) has designated October as Child Health Month. This year, the AAP is focusing on the prevention of alcohol use and abuse that affects children and youth. Specific priorities include fetal alcohol syndrome (FAS), underage drinking, children of alcoholics, drinking and driving, and binge drinking.

Alcohol use during pregnancy has been cited as the most common known nongenetic cause of mental retardation among children and youth (*1*). Approximately 700 children aged 0–15 years die each year in alcohol-involved motor vehicle crashes; many of these children were being transported by a drunk driver (*2*). Approximately 80% of high school students have had at least one drink of alcohol, and one third have had five or more drinks on one or more occasions in any given month (*3*). During October, CDC, in collaboration with AAP and other organizations, will highlight the consequences of alcohol use as it relates to children and youth.

Additional information about Child Health Month is available from AAP, telephone (847) 981-7871, or the World-Wide Web, http://www.aap.org; and from the Health Resources and Services Administration, Maternal and Child Health Bureau, World-Wide Web, http://www.hhs.gov/hrsa/mchb. Information about FAS and other alcohol-related birth defects and developmental disabilities is available from CDC's Fetal Alcohol Syndrome Prevention Section, telephone (770) 488-7268, or the World-Wide Web, http://www.cdc.gov/nceh/programs/programs.htm. Information on the role of alcohol in traffic deaths among children and youth is available from CDC's National Center for Injury Prevention and Control, Division of Unintentional Injury Prevention, telephone (770) 488-4652, World-Wide Web, http://www.cdc.gov/ncipc/cmprfact.htm. Information on alcohol-related behaviors among youth is available from CDC's Division of Adolescent and School Health, telephone (770) 488-3168, World-Wide Web, http://www.cdc.gov/nccdphp/dash.

References

1. Institute of Medicine. Fetal alcohol syndrome: diagnosis, epidemiology, prevention, and treatment. Washington, DC: National Academy Press, 1996.
2. National Highway Traffic Safety Administration. Traffic safety facts 1996: children. Washington, DC: National Highway Traffic Safety Administration, 1997.
3. CDC. Youth risk behavior surveillance—United States, 1997. In: CDC surveillance summaries. MMWR 1998;47(no. SS-3).

Identification of Children with Fetal Alcohol Syndrome and Opportunity for Referral of their Mothers for Primary Prevention — Washington, 1993–1997

Heavy maternal use of alcohol during pregnancy can cause permanent birth defects, including fetal alcohol syndrome (FAS). Although these alcohol-related defects are entirely preventable, the factors associated with maternal use of alcohol during pregnancy are complex and often resistant to change. In addition, not all women who drink heavily will produce children with FAS (*1*). Although targeting primary prevention efforts to all women at risk for drinking during pregnancy is ideal, limited resources require targeting women at the highest risk for producing children affected by prenatal alcohol exposure. One such population is women who have already given birth to an alcohol-affected child (*2*). This high-risk population is not easily identified because not all children with FAS have their condition diagnosed, and these birth mothers are often separated from their children during the first few years of the child's life, often before a diagnosis of FAS has been considered. However, once identified, these women are receptive to intervention (*3*). To identify a population of women at highest risk for a future alcohol-exposed pregnancy through diagnosing a previously affected birth child, researchers at the University of Washington developed the Fetal Alcohol Syndrome Diagnostic and Prevention Network (FAS DPN). This report summarizes the results of this program and documents the feasibility of identifying persons who may have FAS so their condition can be diagnosed and their birth mothers can be identified and referred to prevention services.

FAS DPN opened its first clinical site at the Center for Human Development and Disability (University of Washington Medical Center, Seattle, Washington) in January 1993. Persons suspected of having FAS were identified through referral by various community sources and by directed screening of high-risk populations (*4*) (Table 1). Patients were then evaluated and their condition diagnosed in a multidisciplinary clinical setting (*5*), and birth mothers who were still at risk for producing additional affected children were identified, enabling referral to community alcohol treatment, family planning, and maternal advocacy programs (*6*).

During 1993–1997, there were 3002 requests for appointments for diagnostic evaluations at FAS DPN. To determine the appropriateness of referrals, parents and other caregivers were given a questionnaire (*7*) asking about the child's developmental and exposure history; 1374 completed the questionnaire. Persons referred for evaluation

TABLE 1. Number and percentage of patients referred to the Fetal Alcohol Syndrome (FAS) Diagnostic and Prevention Network, by referral source — Washington, 1993–1997*

Referral source	No.	(%)
Social services agencies†	334	(28.0)
Medical-care providers	267	(22.4)
Mental-health providers	184	(15.4)
FAS support organizations	147	(12.3)
Self referrals	124	(10.4)
School personnel	64	(5.4)
Lawyer or judge	23	(1.9)
Other	49	(4.1)

*Among the 1192 (87%) caregivers who responded to this question.
†Includes persons identified through photographic screening of high-risk populations.

Fetal Alcohol Syndrome — Continued

ranged from birth to middle age; the racial distribution was comparable to the general population in Washington, with a slight overrepresentation of American Indians. Approximately 20% lived with their birth mothers, 20% with other biological family members, and more than 50% with foster or adoptive parents. Although all patients had been seen in the health-care system before referral, only 56 of the 1374 caregivers completing the questionnaire reported that a diagnosis of FAS or related conditions had ever been considered and/or previously recorded in the medical or mental health records of the patient. Most diagnostic requests arose from concerns relating to issues of education and social skills (Table 2).

Because of limited capacity at the FAS DPN clinic, priority for diagnostic evaluation was based on responses to questions regarding in utero alcohol exposure and evidence of organic brain damage (based on previous medical and psychologic test results). Of the 1374 patients whose caregivers responded to the questionnaire, 811 were selected to receive diagnostic evaluations. Patients ranged in age from 0–51 years (mean: 10 years). Of these, 573 (71%) were found to have either documentation of in utero alcohol exposure or signs of organic brain damage; the remaining 238 had both. A total of 39 met the clinical criteria for an FAS diagnosis*, which includes elements of the FAS facial phenotype and growth deficiency in addition to in utero

*The FAS DPN uses a 4-Digit Diagnostic Code (*7*) that is consistent with the Institute of Medicine guidelines (*8*), but is a more detailed case definition.

TABLE 2. Number and percentage of reasons for referral to a fetal alcohol syndome (FAS) diagnostic and prevention clinic* — Washington, 1993–1997

Reason	No.	(%)
Problem with adaptation		
Conduct disorders, extreme anger	579	(45.8)
Poor judgement, cannot function independently	241	(19.1)
Poor self control, disorganized, unpredictable	238	(18.8)
Poor social skills	147	(11.6)
Poor parenting skills by patient	9	(0.7)
Problem with learning in school		
Learning disabilities, cognitive delays	400	(31.7)
Poor memory, does not learn from experience	117	(9.3)
Speech and language problems	99	(7.8)
Short attention span	360	(28.5)
Mental health concerns		
Depression, low self esteem	91	(7.2)
Medical concerns		
Face suggests a syndrome	138	(10.9)
Poor growth	40	(3.2)
Minor neurologic concerns	80	(6.3)
Physical or health concerns	122	(9.7)
Concerns about exposure		
Knowledge of alcohol exposure in utero	164	(13.0)
Ongoing drug/alcohol abuse by patient	31	(2.5)
Other		
Relation of possible FAS to a legal matter	32	(2.5)
Relation of possible FAS to placement	24	(1.9)
Patient with possible FAS is pregnant	1	(0.1)

*Among the 1260 (92%) caregivers who responded to this question. The caregiver could list more than one concern.

Fetal Alcohol Syndrome — Continued

alcohol exposure and organic brain damage. Only one of these 39 had FAS previously diagnosed.

The mothers of the 238 persons with both in utero alcohol exposure and signs of organic brain damage constitute a high-risk population for intervention to prevent subsequent affected offspring. Most (88%) of these women were aged ≤45 years (i.e., reproductive aged). Although only 51 (21%) birth mothers were living with the affected persons at the time of the diagnostic evaluation, the questionnaire provided sufficient information (i.e., name and location) for FAS DPN to identify 219 (92%) birth mothers.

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Editorial Note: This report documents one program's efforts to identify a population likely to have undiagnosed effects of in utero alcohol exposure. The birth mothers of these persons are a high-risk target population for primary prevention, although neither the mothers nor their health-care providers may realize their potential for producing subsequent affected children. The University of Washington is implementing a primary prevention intervention for these women that will rely on identification through early diagnosis of FAS in their children. For most patients in this study, an alcohol-related diagnosis had never been considered in any other medical or mental health setting, and only 22% were referred by a health-care care provider for further diagnostic services. This may be because the syndrome manifests itself in ways that may not be recognized in the traditional medical setting (*9*). As a result, multidisciplinary diagnostic clinics staffed by a physician, psychologist, language pathologist, occupational therapist, and social worker may facilitate the proper diagnosis of conditions in patients who have not been appropriately identified in other clinical settings.

The effectiveness of this approach relies on primary health-care providers being aware of the importance of diagnostic referral and on the availability of diagnostic resources. In 1993, the American Academy of Pediatrics (AAP) recommended increased awareness among pediatricians and health-care providers of FAS and other alcohol-related effects and the evaluation of children thought to have such conditions by a pediatrician skilled in the evaluation of neurodevelopmental and psychosocial problems (*10*). This report documents the need for continued efforts to implement these AAP recommendations, including forging stronger communication among parents and health-care providers about prenatal alcohol effects and providing or arranging access to skilled diagnostic assessment. This approach will increase the potential for primary prevention in avoiding subsequent exposures and will be a major protective factor in preventing secondary conditions among affected children (*9*).

References

1. Abel EL. An update on incidence of FAS: FAS is not an equal opportunity birth defect. Neurotoxicology and Teratology (in press).
2. Abel EL, Sokol RJ. Maternal and fetal characteristics affecting alcohol's teratogenicity. Neurobehavioral Toxicology and Teratology 1986;8:329–34.
3. Astley SJ, Bailey D, Talbot T, Clarren SK. Primary prevention of FAS: targeting women at high risk through the FAS Diagnostic and Prevention Network [Abstract]. Alcoholism Clinical and Experimental Research 1998;22:104A.

Fetal Alcohol Syndrome — Continued

4. Astley SJ, Clarren SK. A case definition and photographic screening tool for the facial phenotype of fetal alcohol syndrome. J Pediatr 1996;129:33–41.
5. Clarren SK, Astley SJ. The development of the fetal alcohol syndrome diagnostic and prevention network in Washington state. In: Streissguth A, Kanter J, eds. The challenge of fetal alcohol syndrome: overcoming secondary disabilities. Seattle, Washington: University of Washington Press 1997:40–51.
6. Grant TM, Earnst CC, Streissguth AP, Phipps P, Gendler B. When case management isn't enough: a model of paraprofessional advocacy for drug- and alcohol-abusing mothers. J Case Management 1996;5:3–11.
7. Astley SJ, Clarren SK. Diagnostic guide for fetal alcohol syndrome and related conditions. Seattle, Washington: University of Washington Publication Services, 1997:93.
8. Institute of Medicine. Fetal alcohol syndrome, diagnosis, epidemiology, prevention and treatment. Washington, DC: Institute of Medicine, National Academy Press, 1996.
9. Streissguth AP, Barr HM, Kogan J, Bookstein FL. Understanding the occurrence of secondary disabilities in clients with fetal alcohol syndrome (FAS) and fetal alcohol effects (FAE). Seattle, Washington: University of Washington Publication Services, 1996.
10. American Academy of Pediatrics. Fetal alcohol syndrome and fetal alcohol effects. Pediatrics 1993;91:1004–6.

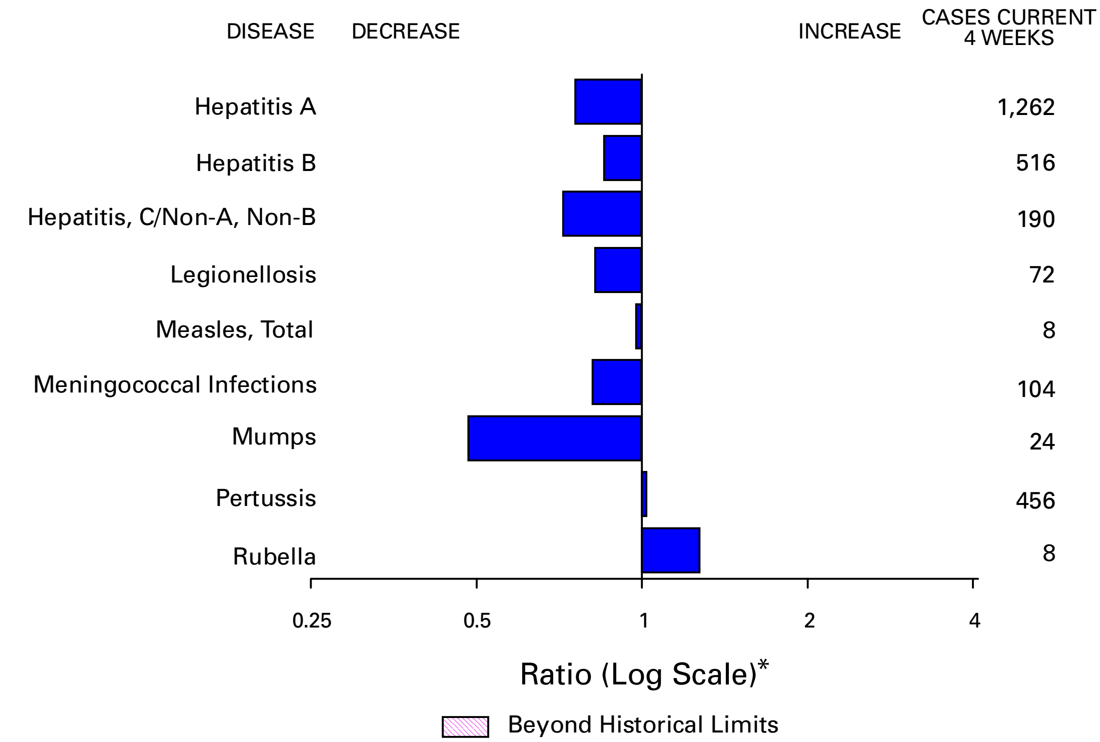
Notice to Readers

Availability of Continuing Medical Education Component in the *MMWR Recommendations and Reports* series, Vol. 47, No. RR-19

A Continuing Medical Education (CME) component is available in the paper and electronic versions of the October 16, 1998, *MMWR Recommendations and Reports* (Vol. 47, no. RR-19), *Recommendations for Prevention and Control of Hepatitis C Virus (HCV) Infection and HCV-Related Disease*. This component has been planned and implemented by CDC according to the Essentials and Standards of the Accreditation Council for Continuing Medical Education. CDC is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

CDC designates this educational activity for a maximum of 2.0 hours in category 1 credit toward the American Medical Association's Physician's Recognition Award. To register and to receive credit, physicians must return their responses either electronically to the World-Wide Web site http://www.cdc.gov/epo/mmwr/mmwr.html, then go to Continuing Education Program for Physicians and Nurses, or by a card or letter postmarked by October 16, 1999. There is no fee for participating in this CME activity. A CME component is planned for future *MMWR Recommendations and Reports*.

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending October 10, 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 October 10, 1998 (40th Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	6
Brucellosis	42	Poliomyelitis, paralytic¶	1
Cholera	7	Psittacosis	31
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	2,614	Rocky Mountain spotted fever (RMSF)	258
Diphtheria	1	Streptococcal disease, invasive Group A	1,702
Encephalitis: California*	77	Streptococcal toxic-shock syndrome*	41
eastern equine*	4	Syphilis, congenital**	307
St. Louis*	5	Tetanus	32
western equine*	-	Toxic-shock syndrome	101
Hansen Disease	90	Trichinosis	9
Hantavirus pulmonary syndrome*†	15	Typhoid fever	259
Hemolytic uremic syndrome, post-diarrheal*	59	Yellow fever	-
HIV infection, pediatric*§	178		

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

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending October 10, 1998, and October 4, 1997 (40th 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	35,486	45,134	413,063	355,206	2,312	1,325	247,838	225,294	3,023	2,724
NEW ENGLAND	1,381	1,895	14,595	13,631	279	220	4,204	4,547	51	47
Maine	24	46	770	796	33	-	55	54	-	-
N.H.	28	29	673	618	39	40	71	75	-	-
Vt.	17	31	324	315	18	10	33	44	-	3
Mass.	712	640	6,491	5,537	130	131	1,707	1,629	48	37
R.I.	94	119	1,757	1,547	11	1	291	349	3	7
Conn.	506	1,030	4,580	4,818	48	38	2,047	2,396	-	-
MID. ATLANTIC	9,642	13,768	47,329	44,057	242	63	27,515	29,123	294	252
Upstate N.Y.	1,102	2,133	N	N	184	-	4,405	5,070	230	182
N.Y. City	5,457	7,287	26,156	20,907	6	12	11,673	10,622	-	-
N.J.	1,765	2,742	8,087	7,635	52	41	5,193	5,906	-	-
Pa.	1,318	1,606	13,086	15,515	N	10	6,244	7,525	64	70
E.N. CENTRAL	2,567	3,369	67,248	46,250	355	255	47,976	30,324	404	452
Ohio	540	722	19,507	16,916	99	53	12,605	11,103	7	15
Ind.	414	444	4,656	6,873	80	40	3,503	4,603	5	12
Ill.	993	1,346	19,286	U	86	39	16,149	U	28	75
Mich.	468	648	16,069	14,047	90	54	12,419	10,960	364	325
Wis.	152	209	7,730	8,414	N	69	3,300	3,658	-	25
W.N. CENTRAL	664	902	23,110	24,863	415	234	11,634	10,921	261	50
Minn.	136	156	4,696	5,070	200	98	1,788	1,761	9	3
Iowa	58	85	2,063	3,407	79	46	660	893	8	25
Mo.	312	446	9,246	9,205	37	47	6,660	5,641	236	9
N. Dak.	4	10	616	655	10	13	51	52	-	2
S. Dak.	13	8	1,156	1,025	22	21	181	112	-	-
Nebr.	59	83	1,484	1,996	42	-	509	865	3	2
Kans.	82	114	3,849	3,505	25	9	1,785	1,597	5	9
S. ATLANTIC	9,235	11,113	82,945	71,699	190	119	68,638	70,714	141	183
Del.	112	183	1,974	2	-	2	1,141	942	-	-
Md.	1,304	1,682	5,723	5,429	27	12	6,927	8,792	8	4
D.C.	691	828	N	N	1	-	2,776	3,361	-	-
Va.	688	880	10,559	9,007	N	38	7,036	6,443	11	23
W. Va.	70	88	1,982	2,255	8	6	627	704	6	15
N.C.	638	680	16,880	13,259	45	37	14,771	13,147	19	41
S.C.	604	621	13,505	9,686	10	8	8,579	9,006	5	34
Ga.	972	1,265	17,764	12,149	61	-	15,175	14,254	9	-
Fla.	4,156	4,886	14,558	19,912	38	16	11,606	14,065	83	66
E.S. CENTRAL	1,444	1,554	29,895	26,866	94	33	29,475	27,077	169	287
Ky.	222	292	4,859	4,947	25	-	2,804	3,188	18	11
Tenn.	522	631	10,239	9,717	45	29	8,958	8,442	144	192
Ala.	395	384	7,724	6,648	21	2	9,992	9,271	5	10
Miss.	305	247	7,073	5,554	3	2	7,721	6,176	2	74
W.S. CENTRAL	4,202	4,686	64,462	52,707	107	14	38,035	33,982	549	371
Ark.	159	180	2,877	2,292	9	6	2,144	3,818	13	11
La.	708	813	11,654	7,258	5	2	9,919	7,007	69	166
Okla.	238	240	7,721	5,780	13	6	4,223	3,787	12	7
Tex.	3,097	3,453	42,210	37,377	80	-	21,749	19,370	455	187
MOUNTAIN	1,230	1,290	23,320	22,601	280	194	6,519	6,234	287	248
Mont.	23	35	1,009	812	15	-	32	48	7	20
Idaho	19	41	1,536	1,237	34	19	138	107	87	51
Wyo.	1	13	419	446	52	54	19	43	52	63
Colo.	230	313	6,295	5,416	65	48	1,780	1,744	26	27
N. Mex.	179	141	2,613	2,900	17	13	648	678	77	46
Ariz.	499	317	7,537	8,207	21	25	2,724	2,741	5	24
Utah	101	110	1,616	1,317	65	21	178	208	21	4
Nev.	178	320	2,295	2,266	11	14	1,000	665	12	13
PACIFIC	5,121	6,557	60,159	52,532	350	193	13,842	12,372	867	834
Wash.	335	527	8,359	6,938	71	56	1,470	1,482	17	22
Oreg.	138	249	4,463	3,754	92	89	644	579	5	3
Calif.	4,500	5,687	44,116	39,295	183	35	11,121	9,613	790	673
Alaska	17	43	1,452	1,169	4	-	248	306	1	-
Hawaii	131	51	1,769	1,376	N	13	359	392	54	136
Guam	-	2	201	193	N	-	24	27	-	-
P.R.	1,246	1,510	U	U	6	U	287	457	-	-
V.I.	24	79	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	18	-	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 September 27, 1998.

[†]National Electronic Telecommunications System for Surveillance.

[§]Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending October 10, 1998, and October 4, 1997 (40th Week)

Reporting Area	Legionellosis Cum. 1998	Legionellosis Cum. 1997	Lyme Disease Cum. 1998	Lyme Disease Cum. 1997	Malaria Cum. 1998	Malaria Cum. 1997	Syphilis (Primary & Secondary) Cum. 1998	Syphilis (Primary & Secondary) Cum. 1997	Tuberculosis Cum. 1998*	Tuberculosis Cum. 1997	Rabies, Animal Cum. 1998
UNITED STATES	919	751	9,471	9,470	1,024	1,420	5,203	6,630	10,988	13,669	5,436
NEW ENGLAND	59	68	2,302	2,528	47	70	59	114	347	334	1,157
Maine	1	2	11	8	4	1	1	-	9	17	182
N.H.	4	7	35	31	5	8	1	-	9	13	68
Vt.	5	11	8	8	1	2	4	-	2	5	53
Mass.	25	25	656	270	15	25	36	57	197	182	401
R.I.	15	6	427	338	4	5	1	2	41	30	77
Conn.	9	17	1,165	1,873	18	29	16	55	89	87	376
MID. ATLANTIC	210	153	5,981	5,441	254	424	204	317	2,188	2,388	1,236
Upstate N.Y.	71	44	3,356	2,242	77	58	28	31	281	325	874
N.Y. City	25	18	19	147	109	265	51	67	1,136	1,205	U
N.J.	11	21	1,227	1,575	44	79	67	131	477	494	162
Pa.	103	70	1,379	1,477	24	22	58	88	294	364	200
E.N. CENTRAL	280	242	101	484	104	134	752	503	906	1,395	116
Ohio	103	89	66	34	14	17	109	174	75	221	51
Ind.	57	39	29	25	10	13	153	135	85	111	10
Ill.	25	24	5	12	33	55	300	U	488	742	14
Mich.	65	56	1	24	40	36	141	102	245	231	31
Wis.	30	34	U	389	7	13	49	92	13	90	10
W.N. CENTRAL	62	39	175	96	76	46	103	147	299	420	573
Minn.	6	1	143	69	42	19	7	16	114	110	99
Iowa	8	9	21	5	8	9	-	7	28	46	127
Mo.	22	7	2	15	15	9	78	95	91	171	23
N. Dak.	-	2	-	-	2	3	-	-	8	9	119
S. Dak.	3	2	-	1	-	1	1	-	16	10	121
Nebr.	16	14	3	2	1	1	4	3	11	15	7
Kans.	7	4	6	4	8	4	13	26	31	59	77
S. ATLANTIC	113	95	680	638	243	255	1,893	2,700	1,584	2,567	1,587
Del.	11	10	21	108	3	5	19	17	18	25	17
Md.	24	16	494	418	66	75	493	737	224	245	380
D.C.	6	4	4	7	15	14	61	90	82	75	-
Va.	16	20	54	46	48	62	120	180	222	254	467
W. Va.	N	N	10	6	2	-	2	3	31	45	63
N.C.	11	12	48	27	23	14	589	711	339	333	136
S.C.	10	6	4	2	5	16	240	305	199	259	117
Ga.	8	-	5	1	32	28	206	419	399	478	245
Fla.	25	27	40	23	49	41	163	238	70	853	162
E.S. CENTRAL	53	43	74	74	24	33	956	1,391	836	1,011	232
Ky.	24	9	16	13	4	12	81	109	133	135	28
Tenn.	17	25	41	35	13	7	449	591	243	356	119
Ala.	5	2	16	7	5	10	222	357	302	327	83
Miss.	7	7	1	19	2	4	204	334	158	193	2
W.S. CENTRAL	37	24	23	62	26	18	841	1,048	1,624	1,967	126
Ark.	-	1	6	18	1	4	86	126	105	151	29
La.	2	2	4	2	13	9	334	283	106	183	-
Okla.	12	1	2	12	4	5	94	102	137	159	97
Tex.	23	20	11	30	8	-	327	537	1,276	1,474	-
MOUNTAIN	52	48	13	10	47	61	166	138	306	447	175
Mont.	2	1	-	-	1	2	-	-	16	6	46
Idaho	2	2	3	3	7	-	2	1	8	7	-
Wyo.	1	1	1	2	-	2	1	-	4	2	55
Colo.	14	17	4	-	17	27	10	11	U	67	29
N. Mex.	2	2	3	1	12	8	22	8	46	51	5
Ariz.	10	9	-	1	8	10	119	104	145	206	12
Utah	18	9	-	1	1	3	3	5	46	26	26
Nev.	3	7	2	2	1	9	9	9	41	82	2
PACIFIC	53	39	122	137	203	379	229	272	2,898	3,140	234
Wash.	9	6	6	8	17	19	27	9	164	236	-
Oreg.	-	-	18	17	15	19	5	9	111	120	7
Calif.	42	32	97	110	166	329	195	252	2,463	2,581	204
Alaska	1	-	1	2	2	3	1	1	35	60	23
Hawaii	1	1	-	-	3	9	1	1	125	143	-
Guam	2	-	-	-	1	-	1	3	36	13	-
P.R.	-	-	-	-	-	5	151	186	68	164	42
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	9	77	4	-

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 October 10, 1998, and October 4, 1997 (40th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type: A		Hepatitis (Viral), by type: B		Measles (Rubeola): Indigenous		Measles (Rubeola): Imported[†]		Measles (Rubeola): 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	818	857	16,713	21,686	6,293	7,264	2	52	-	20	72	119
NEW ENGLAND	56	48	207	528	136	136	-	1	-	2	3	19
Maine	2	5	16	49	2	6	-	-	-	-	-	1
N.H.	8	7	9	23	14	12	-	-	-	-	-	1
Vt.	6	3	14	11	4	7	-	-	-	1	1	-
Mass.	34	29	79	215	39	56	-	1	-	1	2	16
R.I.	5	2	14	123	59	14	-	-	-	-	-	-
Conn.	1	2	75	107	18	41	-	-	-	-	-	1
MID. ATLANTIC	122	133	1,107	1,644	844	1,056	-	8	-	5	13	26
Upstate N.Y.	49	43	280	262	229	225	-	1	-	1	2	5
N.Y. City	26	34	254	733	209	382	-	-	-	-	-	10
N.J.	42	39	278	242	168	198	-	7	-	1	8	3
Pa.	5	17	295	407	238	251	U	-	U	3	3	8
E.N. CENTRAL	135	139	2,575	2,269	728	1,138	-	11	-	3	14	10
Ohio	44	75	256	257	63	60	-	-	-	1	1	-
Ind.	36	14	134	236	139	80	-	2	-	1	3	-
Ill.	45	34	446	614	130	215	-	-	-	-	-	7
Mich.	6	15	1,603	1,001	370	336	-	9	-	1	10	2
Wis.	4	1	136	161	26	447	-	-	-	-	-	1
W.N. CENTRAL	76	39	1,150	1,734	322	369	-	-	-	-	-	17
Minn.	59	27	101	157	36	31	-	-	-	-	-	8
Iowa	2	5	377	363	51	30	U	-	U	-	-	-
Mo.	8	4	527	887	196	265	-	-	-	-	-	1
N. Dak.	-	-	3	10	4	5	U	-	U	-	-	-
S. Dak.	-	2	21	18	2	1	U	-	U	-	-	8
Nebr.	1	1	36	75	11	12	-	-	-	-	-	-
Kans.	6	-	85	224	22	25	-	-	-	-	-	-
S. ATLANTIC	167	130	1,515	1,332	907	963	-	3	-	5	8	11
Del.	-	-	3	24	3	6	-	-	-	1	1	-
Md.	48	47	254	155	128	134	-	-	-	1	1	2
D.C.	-	-	46	17	10	25	-	-	-	-	-	1
Va.	15	12	172	175	84	99	-	-	-	2	2	1
W. Va.	4	3	6	10	8	14	-	-	-	-	-	-
N.C.	23	20	95	156	174	202	-	-	-	-	-	2
S.C.	3	4	34	90	31	85	-	-	-	-	-	1
Ga.	35	25	474	294	129	107	-	1	-	1	2	1
Fla.	39	19	431	411	340	291	-	2	-	-	2	3
E.S. CENTRAL	43	44	307	486	318	541	-	-	-	2	2	1
Ky.	7	6	19	63	33	33	-	-	-	-	-	-
Tenn.	24	26	186	301	221	343	-	-	-	1	1	-
Ala.	10	10	59	68	62	57	-	-	-	1	1	1
Miss.	2	2	43	54	2	108	-	-	-	-	-	-
W.S. CENTRAL	47	40	3,211	4,417	1,057	968	-	1	-	-	1	7
Ark.	-	2	79	182	73	67	-	-	-	-	-	-
La.	22	10	77	178	112	115	-	1	-	-	1	-
Okla.	23	26	472	1,189	71	38	-	-	-	-	-	-
Tex.	2	2	2,583	2,868	801	748	-	-	-	-	-	7
MOUNTAIN	80	73	2,465	3,394	644	691	-	-	-	-	-	8
Mont.	-	-	85	60	5	8	-	-	-	-	-	-
Idaho	-	1	210	112	32	33	-	-	-	-	-	-
Wyo.	1	4	33	28	4	22	-	-	-	-	-	-
Colo.	18	13	254	331	93	126	-	-	-	-	-	-
N. Mex.	6	7	116	279	271	199	-	-	-	-	-	-
Ariz.	43	29	1,509	1,741	143	164	-	-	-	-	-	5
Utah	4	3	165	484	61	75	-	-	-	-	-	1
Nev.	8	16	93	359	35	64	-	-	-	-	-	2
PACIFIC	92	211	4,176	5,882	1,337	1,402	2	28	-	3	31	20
Wash.	7	5	810	448	93	58	-	-	-	1	1	2
Oreg.	36	29	295	296	94	86	-	-	-	-	-	-
Calif.	41	162	3,020	4,988	1,134	1,239	-	5	-	2	7	14
Alaska	1	8	16	26	10	11	2	23	-	-	23	-
Hawaii	7	7	35	124	6	8	U	-	U	-	-	4
Guam	-	-	-	-	2	3	U	-	U	-	-	-
P.R.	2	-	49	232	319	594	-	-	-	-	-	-
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	39	U	-	U	-	-	1

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

*Of 190 cases among children aged <5 years, serotype was reported for 105 and of those, 40 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 October 10, 1998, and October 4, 1997 (40th 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	2,077	2,573	4	374	487	117	4,349	4,177	1	324	153
NEW ENGLAND	81	160	-	6	8	4	693	747	-	39	1
Maine	5	17	-	-	-	-	5	10	-	-	-
N.H.	4	12	-	-	-	3	79	102	-	-	-
Vt.	4	4	-	-	-	-	65	197	-	-	-
Mass.	40	78	-	4	2	1	501	399	-	9	1
R.I.	3	16	-	-	5	-	9	16	-	1	-
Conn.	25	33	-	2	1	-	34	23	-	29	-
MID. ATLANTIC	185	272	-	20	48	11	434	309	-	130	31
Upstate N.Y.	49	71	-	5	10	11	241	124	-	111	4
N.Y. City	20	46	-	4	3	-	23	59	-	14	27
N.J.	50	55	-	2	7	-	5	12	-	4	-
Pa.	66	100	U	9	28	U	165	114	U	1	-
E.N. CENTRAL	306	389	2	63	56	40	463	445	-	-	6
Ohio	116	137	2	25	20	29	220	126	-	-	-
Ind.	51	43	-	6	7	9	106	45	-	-	-
Ill.	77	119	-	10	9	1	66	64	-	-	2
Mich.	36	55	-	22	16	1	54	49	-	-	-
Wis.	26	35	-	-	4	-	17	161	-	-	4
W.N. CENTRAL	177	183	-	26	14	4	395	327	-	27	-
Minn.	29	29	-	12	5	2	214	210	-	-	-
Iowa	32	40	U	9	7	U	61	32	U	-	-
Mo.	67	79	-	3	-	2	30	56	-	2	-
N. Dak.	5	2	U	2	-	U	2	1	U	-	-
S. Dak.	7	5	U	-	-	U	8	4	U	-	-
Nebr.	9	9	-	-	1	-	14	5	-	-	-
Kans.	28	19	-	-	1	-	66	19	-	25	-
S. ATLANTIC	361	436	-	44	57	5	265	363	1	19	76
Del.	2	5	-	-	-	-	5	1	-	-	-
Md.	25	40	-	-	1	1	48	103	-	1	-
D.C.	1	8	-	-	-	-	1	3	-	-	1
Va.	31	43	-	7	10	-	26	42	-	1	1
W. Va.	12	15	-	-	-	-	1	6	-	-	-
N.C.	49	80	-	10	9	1	89	104	-	13	57
S.C.	49	47	-	6	10	-	25	24	-	-	15
Ga.	79	87	-	1	8	-	21	11	-	-	-
Fla.	113	111	-	20	19	3	49	69	1	4	2
E.S. CENTRAL	193	194	-	13	24	1	86	112	-	3	1
Ky.	26	41	-	-	3	-	25	49	-	-	-
Tenn.	63	64	-	1	4	1	33	32	-	2	-
Ala.	80	65	-	7	7	-	25	21	-	1	1
Miss.	24	24	-	5	10	-	3	10	-	-	-
W.S. CENTRAL	260	249	-	52	70	12	299	204	-	87	4
Ark.	27	30	-	7	1	1	61	22	-	-	-
La.	55	47	-	9	12	1	6	17	-	-	-
Okla.	35	33	-	-	-	9	28	31	-	-	-
Tex.	143	139	-	36	57	1	204	134	-	87	4
MOUNTAIN	116	149	1	32	54	20	814	940	-	5	7
Mont.	4	7	-	-	-	-	9	15	-	-	-
Idaho	9	10	-	4	3	6	234	487	-	-	2
Wyo.	5	2	-	1	1	-	8	7	-	-	-
Colo.	24	40	-	7	3	5	157	282	-	-	-
N. Mex.	22	24	N	N	N	2	82	81	-	1	-
Ariz.	35	39	-	5	32	2	164	33	-	1	5
Utah	11	12	-	5	8	1	126	16	-	2	-
Nev.	6	15	1	10	7	4	34	19	-	1	-
PACIFIC	398	541	1	118	156	20	900	730	-	14	27
Wash.	54	69	-	7	14	-	255	307	-	9	5
Oreg.	70	101	N	N	N	1	89	37	-	-	-
Calif.	266	362	1	87	111	19	534	353	-	3	14
Alaska	3	2	-	2	8	-	14	16	-	-	-
Hawaii	5	7	U	22	23	U	8	17	U	2	8
Guam	1	1	U	2	1	U	-	-	U	-	-
P.R.	6	8	-	1	7	-	3	-	-	-	-
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 October 10, 1998 (40th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	469	339	86	28	8	8	32
Boston, Mass.	130	85	29	11	2	3	12
Bridgeport, Conn.	29	20	6	2	1	-	-
Cambridge, Mass.	11	10	1	-	-	-	-
Fall River, Mass.	28	24	2	1	1	-	2
Hartford, Conn.	U	U	U	U	U	U	U
Lowell, Mass.	12	10	1	1	-	-	1
Lynn, Mass.	10	7	2	-	1	-	2
New Bedford, Mass.	22	17	2	3	-	-	1
New Haven, Conn.	43	31	8	2	1	1	1
Providence, R.I.	55	33	12	5	2	3	2
Somerville, Mass.	7	6	1	-	-	-	-
Springfield, Mass.	44	32	9	2	-	1	3
Waterbury, Conn.	31	27	4	-	-	-	3
Worcester, Mass.	47	37	9	1	-	-	5
MID. ATLANTIC	2,196	1,544	408	168	45	31	88
Albany, N.Y.	51	40	7	2	1	1	1
Allentown, Pa.	20	15	3	2	-	-	1
Buffalo, N.Y.	101	64	20	12	3	2	4
Camden, N.J.	23	16	2	2	3	-	-
Elizabeth, N.J.	12	10	2	-	-	-	1
Erie, Pa.	40	36	3	1	-	-	2
Jersey City, N.J.	36	25	10	1	-	-	-
New York City, N.Y.	1,178	806	233	101	26	12	39
Newark, N.J.	41	17	13	7	1	3	2
Paterson, N.J.	16	9	5	1	-	1	-
Philadelphia, Pa.	300	214	56	19	7	4	12
Pittsburgh, Pa.§	48	34	6	5	2	1	3
Reading, Pa.	25	20	3	2	-	-	2
Rochester, N.Y.	124	102	15	3	-	4	13
Schenectady, N.Y.	29	20	8	-	-	1	2
Scranton, Pa.	41	36	2	2	1	-	-
Syracuse, N.Y.	70	48	15	4	1	2	4
Trenton, N.J.	27	19	4	4	-	-	2
Utica, N.Y.	14	13	1	-	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,955	1,331	372	142	46	62	114
Akron, Ohio	65	48	11	2	2	2	-
Canton, Ohio	20	17	2	1	-	-	3
Chicago, Ill.	384	233	85	36	15	13	33
Cincinnati, Ohio	89	56	22	6	3	2	8
Cleveland, Ohio	138	88	26	12	1	11	1
Columbus, Ohio	180	123	37	7	3	10	16
Dayton, Ohio	107	82	13	10	1	1	6
Detroit, Mich.	195	118	47	18	6	6	4
Evansville, Ind.	39	24	7	5	2	1	3
Fort Wayne, Ind.	64	51	10	2	-	1	3
Gary, Ind.	16	7	6	2	1	-	-
Grand Rapids, Mich.	75	60	9	3	1	2	4
Indianapolis, Ind.	149	95	30	14	3	7	11
Lansing, Mich.	41	29	8	1	2	1	2
Milwaukee, Wis.	131	94	25	8	-	4	7
Peoria, Ill.	38	31	3	2	1	1	2
Rockford, Ill.	48	34	9	3	2	-	3
South Bend, Ind.	53	48	3	2	-	-	3
Toledo, Ohio	70	51	11	7	1	-	2
Youngstown, Ohio	53	42	8	1	2	-	3
W.N. CENTRAL	736	524	122	41	20	24	38
Des Moines, Iowa	59	44	13	2	-	-	8
Duluth, Minn.	15	10	3	2	-	-	1
Kansas City, Kans.	23	18	3	1	1	-	1
Kansas City, Mo.	94	57	16	6	4	6	3
Lincoln, Nebr.	70	53	12	3	1	1	2
Minneapolis, Minn.	128	91	19	9	6	3	5
Omaha, Nebr.	72	52	14	4	2	-	6
St. Louis, Mo.	104	61	17	13	4	9	5
St. Paul, Minn.	95	80	12	1	-	2	5
Wichita, Kans.	76	58	13	-	2	3	2

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,087	702	224	91	36	31	80
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	203	128	41	18	11	5	19
Charlotte, N.C.	88	60	15	8	3	2	11
Jacksonville, Fla.	119	86	24	7	1	1	4
Miami, Fla.	95	61	19	11	3	1	1
Norfolk, Va.	56	32	11	5	2	6	1
Richmond, Va.	67	34	21	8	1	3	1
Savannah, Ga.	45	31	5	6	2	1	3
St. Petersburg, Fla.	92	71	12	1	4	4	9
Tampa, Fla.	187	121	49	8	2	4	28
Washington, D.C.	126	75	26	14	7	4	3
Wilmington, Del.	9	3	1	5	-	-	-
E.S. CENTRAL	732	462	164	64	15	27	40
Birmingham, Ala.	142	97	26	9	3	7	10
Chattanooga, Tenn.	73	52	17	4	-	-	6
Knoxville, Tenn.	U	U	U	U	U	U	U
Lexington, Ky.	87	54	17	13	1	2	6
Memphis, Tenn.	207	122	53	21	6	5	11
Mobile, Ala.	49	28	8	7	2	4	-
Montgomery, Ala.	39	29	8	-	-	2	4
Nashville, Tenn.	135	80	35	10	3	7	3
W.S. CENTRAL	1,470	910	357	125	36	42	86
Austin, Tex.	61	39	11	5	3	3	4
Baton Rouge, La.	33	22	5	5	-	1	-
Corpus Christi, Tex.	56	32	19	1	1	3	4
Dallas, Tex.	186	121	47	12	3	3	7
El Paso, Tex.	88	62	13	5	4	4	3
Ft. Worth, Tex.	116	72	25	11	3	5	6
Houston, Tex.	317	179	85	45	5	3	26
Little Rock, Ark.	76	48	19	4	3	2	6
New Orleans, La.	140	77	40	13	7	3	-
San Antonio, Tex.	192	123	49	11	1	8	16
Shreveport, La.	101	67	17	9	5	3	8
Tulsa, Okla.	104	68	27	4	1	4	6
MOUNTAIN	810	534	150	73	30	21	60
Albuquerque, N.M.	100	66	16	11	4	3	8
Boise, Idaho	30	21	6	2	1	-	-
Colo. Springs, Colo.	54	42	7	2	1	2	4
Denver, Colo.	106	63	22	12	3	6	8
Las Vegas, Nev.	180	109	44	17	8	2	11
Ogden, Utah	24	17	3	2	2	-	1
Phoenix, Ariz.	65	39	13	7	2	2	9
Pueblo, Colo.	24	19	2	-	1	2	2
Salt Lake City, Utah	111	74	17	10	7	3	5
Tucson, Ariz.	116	84	20	10	1	1	12
PACIFIC	1,551	1,136	200	120	43	52	104
Berkeley, Calif.	27	15	4	7	-	1	-
Fresno, Calif.	77	52	16	6	1	2	10
Glendale, Calif.	26	22	3	-	1	-	1
Honolulu, Hawaii	75	60	8	4	-	3	2
Long Beach, Calif.	87	58	15	11	1	2	10
Los Angeles, Calif.	534	423	46	39	17	9	17
Pasadena, Calif.	19	17	1	1	-	-	-
Portland, Oreg.	124	93	15	3	7	6	11
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	148	98	20	18	5	7	21
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	169	125	28	10	4	2	14
Santa Cruz, Calif.	29	21	4	3	1	-	3
Seattle, Wash.	92	57	20	10	4	1	5
Spokane, Wash.	59	51	6	2	-	-	4
Tacoma, Wash.	85	44	14	6	2	19	6
TOTAL	11,006¶	7,482	2,083	852	279	298	642

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.

Quarterly Immunization Table

To track progress toward achieving the goals of the Childhood Immunization Initiative (CII), CDC publishes quarterly a tabular summary of the number of cases of nationally notifiable diseases preventable by routine childhood vaccination reported during the previous quarter and year-to-date (provisional data). In addition, the table compares provisional data with data for the previous year and highlights the number of reported cases among children aged <5 years, who are the primary focus of CII. Data in the table are reported through the National Electronic Telecommunications System for Surveillance (NETSS).

Number of reported cases of diseases preventable by routine childhood vaccination — United States, July–September 1998 and January–September 1997–1998*

Disease	No. cases, July–September 1998	Total cases January–September 1997	Total cases January–September 1998	No. cases among children aged <5 years† January–September 1997	No. cases among children aged <5 years† January–September 1998
Congenital rubella syndrome	0	**4**	**3**	4	3
Diphtheria	0	**4**	**1**	1	0
Haemophilus influenzae§	219	**821**	**791**	168	186
Hepatitis B¶	1994	**6900**	**5952**	70	58
Measles	23	**132**	**62**	49	22
Mumps	119	**454**	**364**	93	67
Pertussis	1822	**3934**	**4099**	1761	1735
Poliomyelitis, paralytic**	0	**2**	**1**	1	1
Rubella	45	**140**	**320**	11	24
Tetanus	16	**33**	**32**	0	1

*Data for 1997 are final; data for 1998 are provisional.
†For 1997 and 1998, age data were available for ≥97% cases.
§Invasive disease; *H. influenzae* serotype is not routinely reported to the National Notifiable Diseases Surveillance System. Of 186 cases among children aged <5 years, serotype was reported for 103 cases, and of those, 39 were type b, the only serotype of *H. influenzae* preventable by vaccination.
¶Because most hepatitis B virus infections among infants and children aged <5 years are asymptomatic (although likely to become chronic), acute disease surveillance does not reflect the incidence of this problem in this age group or the effectiveness of hepatitis B vaccination in infants.
**One case with onset in 1998 and three cases with onset in 1997 have been confirmed. All were associated with administration of oral poliovirus vaccine. Two suspected cases remain under investigation: one with onset in 1998 and one with onset in 1997.

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