

MMWRTM
**MORBIDITY AND MORTALITY
WEEKLY REPORT**

- 401 World No-Tobacco Day — May 31, 2001
- 402 Tobacco Use Among Adults — Arizona, 1996 and 1999
- 406 Protracted Outbreaks of Cryptosporidiosis Associated With Swimming Pool Use — Ohio and Nebraska, 2000
- 410 Prevalence of Parasites in Fecal Material from Chlorinated Swimming Pools — United States, 1999
- 413 Drowning — Louisiana, 1998
- 415 Notices to Readers

World No-Tobacco Day — May 31, 2001

World No-Tobacco Day is May 31, 2001. The theme, "Second-Hand Smoke Kills—Let's Clear the Air," was designated by the World Health Organization (WHO) to raise awareness of the hazards of exposure to second-hand smoke. Tobacco use worldwide will cause an estimated 10 million deaths annually by 2030 (1).

An effective strategy to promote and encourage tobacco-free policies is to link them with sporting events. Such policies also reduce nonsmokers' exposure to second-hand smoke (2). The 1988 Olympic Winter Games in Calgary, Alberta, Canada, was the first tobacco-free Olympics. Since then, all of the Olympic Games have had tobacco-free policies (3).

For the 2002 games, the Olympic organizing committee for Salt Lake City, Utah, will implement a public information campaign using Olympic athletes to promote healthy lifestyles and sports as an alternative to tobacco use. Plans also include information to increase awareness of the tobacco-free policy among visitors, media, athletes, and officials from participating countries.

Another media campaign is "Tobacco Kills—Don't Be Duped," which aims to ban tobacco advertising and promotion at sporting events globally. Additional information about World No-Tobacco Day 2001 is available at <http://tobacco.who.int>*, and <http://www.cdc.gov/tobacco>; telephone (800) 232-1311.

References

1. World Health Organization. Combating the tobacco epidemic. World Health Organization's world health report 1999. Geneva, Switzerland: World Health Organization, 1999:6579.
2. CDC. National report on human exposure to environmental chemicals. Atlanta, Georgia: US Department of Health and Human Services, CDC, National Center for Environmental Health, Division of Laboratory Sciences, 2001. Available at <http://www.cdc.gov/nceh/dls/report>. Accessed March 2001.
3. World Health Organization. Sports and the arts without tobacco: play it tobacco free. Tobacco alert, 1996 World No-Tobacco Day advisory kit. Geneva, Switzerland: World Health Organization, 1996.

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

Tobacco Use Among Adults — Arizona, 1996 and 1999

In 1994, Arizona passed the Tobacco Tax and Healthcare Act (Proposition 200) that increased the tax on cigarettes from \$0.18 to \$0.58, and allocated 23% of the resulting revenues to tobacco-control activities. Since 1995, Arizona has used the tobacco-control funds (approximately \$30 million per year) to support the Arizona Department of Health Services (ADHS) Tobacco Education and Prevention Program (TEPP), a comprehensive program to prevent and reduce tobacco use. To track changes in tobacco use, the knowledge and opinions of Arizona residents about tobacco use, and the proportion of smokers advised to quit smoking by health-care providers, ADHS conducted the Arizona Adult Tobacco Survey (ATS) in 1996 and a follow-up survey in 1999. This report compares results of these two surveys, which indicate that prevalence of tobacco use among adults decreased, and the proportion of adults who were both asked about tobacco use and advised to quit by health-care providers and dentists increased. On the basis of these findings, if all states implemented comprehensive programs similar to those in Arizona, the national health objective for 2010 of reducing the adult smoking rate by half during this decade could be achieved.

The Arizona ATS is a random-digit-dialed, computerized, telephone-interview survey of Arizona residents aged ≥ 18 years in five regions of the state. Surveys were conducted in English or Spanish. In 1996, 6000 surveys were completed, and in 1999, 4868 were completed. The response rate (1) was 83.4% for the 1996 survey and 74.6% for the 1999 survey. To ensure representativeness and comparability, the samples in 1996 and 1999 were standardized to the 1996 age/race distribution for Arizona. The data were weighted by the number of adults in the household and the proportion of the adult population in the regions sampled. The surveys were analyzed by using SAS for point estimates and SUDAAN for standard errors. Hypothesis tests for changes in point estimates of current smoking were conducted for each demographic category. Resulting two-tailed p-values of ≤ 0.05 were significant. A current smoker was defined as someone who answered "yes" to the question "Have you smoked at least 100 cigarettes in your entire life?" and who answered "every day" or "some days" to the question "Do you now smoke cigarettes every day, some days, or not at all?" Current smokers also were asked whether their health-care provider asked them about smoking and, if so, whether their health-care provider advised them to quit.

Prevalence of current smoking declined among women, men, whites, and Hispanics (Table 1). The greatest decrease in smoking prevalence, by age, was among smokers aged ≥ 65 years. By income level, the most substantial decline in smoking prevalence was among those with a household income of $< \$10,000$ per year. By education level, the greatest reduction in smoking was among persons with an 8th grade education or less.

From 1996 to 1999, a significant increase was found in the percentage of smokers who were asked about smoking by health-care providers (i.e., physicians, nurse practitioners, physician assistants) and dentists (Table 2). Although no difference was found between 1996 and 1999 in the proportion of smokers advised to quit smoking (of those who were asked about smoking), the overall proportion of smokers both asked about smoking and advised to quit by a health-care provider (the product of the first two proportions) increased from 25.1% (95% confidence interval [CI]= ± 4.1) in 1996 to 36.7% (95% CI= ± 4.5) in 1999. The proportion of smokers who were both asked about smoking and advised to quit by a dentist increased from 9.9% (95% CI= ± 4.5) in 1996 to 24.9% (95% CI= ± 4.7) in 1999.

*Tobacco Use Among Adults — Continued***TABLE 1. Percentage of smokers*, by selected characteristics — Arizona Adult Tobacco Survey, Arizona, 1996 and 1999**

Characteristic	1996 (n=6000)		1999 (n=4868)	
	%	(95% CI [†])	%	(95% CI)
Sex				
Men	25.3	(±1.9)	19.7	(±1.8) [§]
Women	21.3	(±1.6)	16.9	(±1.6) [§]
Age group (yrs)				
18–24	26.0	(±4.0)	20.9	(±3.9)
25–34	24.4	(±2.7)	18.3	(±2.9) [§]
35–44	23.7	(±2.6)	22.9	(±2.9)
45–54	26.7	(±3.1)	21.1	(±3.0) [§]
55–64	21.4	(±3.4)	16.7	(±3.2) [§]
≥65	15.1	(±2.4)	8.3	(±1.8) [§]
Race/Ethnicity				
White	23.4	(±1.4)	19.1	(±1.4) [§]
Black	28.3	(±9.4)	22.8	(±9.3)
Hispanic	21.9	(±2.9)	13.7	(±2.7) [§]
Income				
<\$10,000	31.2	(±5.2)	22.8	(±5.8) [§]
\$10,000–\$19,999	26.3	(±3.6)	20.8	(±4.2)
\$20,000–\$29,999	26.5	(±3.1)	25.0	(±3.9)
\$30,000–\$49,999	24.7	(±2.7)	20.0	(±2.8) [§]
\$50,000–\$74,999	20.4	(±3.3)	17.3	(±3.5)
≥\$75,000	18.1	(±4.0)	12.4	(±3.4) [§]
Education				
Grades 1–8	29.3	(±7.5)	16.2	(±7.2) [§]
Some high school	30.1	(±5.6)	29.1	(±6.6)
High school graduate or GED	27.9	(±2.5)	22.0	(±2.5) [§]
Some college or tech school	22.9	(±2.1)	21.3	(±2.3)
College graduate	16.0	(±2.0)	10.1	(±1.7) [§]
Marital status				
Married	20.2	(±1.5)	15.6	(±1.5) [§]
Divorced	32.4	(±4.1)	32.0	(±5.1)
Widowed	19.1	(±4.0)	17.4	(±4.0)
Never married	27.3	(±3.3)	21.9	(±3.2) [§]
Unmarried couple	28.8	(±7.7)	23.8	(±8.0)
Total	23.1	(±1.2)	18.3	(±1.2)[§]

* Persons aged ≥18 years who reported having smoked ≥100 cigarettes in their entire life and who reported smoking every day or some days.

† Confidence interval.

§ Significant value: two-tailed $p \leq 0.05$.

*Tobacco Use Among Adults — Continued***TABLE 2. Percentage of smokers* asked about tobacco use by a health-care provider or dentist — Arizona Adult Tobacco Survey, Arizona, 1996 and 1999**

Question	1996 (n=1670)		1999 (n=1249)	
	%	(95% CI [†])	%	(95% CI)
In the last year, did a health-care provider [§] ask you about smoking?	30.9	(±2.8)	43.7	(±3.7) [¶]
If yes, were you advised to stop smoking?	81.3	(±4.0)	83.9	(±4.0)
Asked about smoking <i>and</i> advised to stop smoking by a health-care provider?	25.1	(±4.1)	36.7	(±4.5) [¶]
In the last year, did a dentist ask you about smoking? ^{**}	13.7	(±2.2)	31.6	(±5.4) [¶]
If yes, were you advised to stop smoking?	72.1	(±7.8)	78.9	(±6.8)
Asked about smoking <i>and</i> advised to stop smoking by a dentist?	9.9	(±4.5)	24.9	(±4.7) [¶]

* Persons aged ≥ 18 years who reported having smoked ≥ 100 cigarettes in their entire life and who reported smoking every day or some days.

[†] Confidence interval.

[§] Includes physicians, nurse practitioners, or physician assistants.

[¶] Significant value: two-tailed $p \leq 0.05$.

^{**} Asked of respondents who visited a dentist during the year preceding the survey.

Reported by: RS Porter, MS, VR Gowda, MHS, K Kotchou, MPH, J Nodora, DrPH, R Leischow, MPH, Arizona Dept of Health Svcs. Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note: The results of the 1996 and 1999 Arizona ATS indicate that the prevalence of cigarette use among Arizona adults decreased substantially following the implementation of the statewide Arizona TEPP. The decrease in smoking prevalence among low income and low education groups also indicates a narrowing in disparities in cigarette use.

TEPP directed many of its activities toward Hispanics, which may, in part, explain the substantial decrease in cigarette smoking in that population. TEPP serves the Hispanic population through its Spanish language statewide media campaign and telephone helpline and through local cessation and prevention services. TEPP uses methods appropriate for this population, including *Promotoras de Salud* (lay health workers) and culturally appropriate materials and curricula.

The Arizona ATS results also showed a substantial increase in the proportion of smokers who reported that either a health-care provider or a dentist both asked about tobacco use and advised them to quit. Health-care providers can play a key role in assisting

Tobacco Use Among Adults — Continued

patients to quit smoking (2), and brief physician advice substantially increases successful quitting (2). TEPP, through statewide and local projects, provides training for health-care providers to increase the number of patients with whom they briefly discuss stopping smoking.

The findings in this report are subject to at least five limitations. First, it is difficult to separate the effects of TEPP from price increases. The cigarette tax in Arizona increased from \$0.18 to \$0.58 per pack in November 1994, which may have contributed to the decline in adult smoking prevalence. Although the tax increase occurred more than a year before the first survey, the average retail price of cigarettes in Arizona continued to increase from \$2.08 in 1996 to \$2.50 in 1999 (3). Second, some segments of the population in Arizona, including some low income residents, are more likely than others to lack telephone service and therefore not be included in the study sample. Third, the response rate in 1999 was almost nine percentage points lower than the response rate in 1996, which may have influenced the results. Fourth, health-care provider communication data about smoking was based on self-reported recall for an entire year; the validity of these self-reports was not determined. Finally, although declines in smoking rates in Arizona may be a result of TEPP, a cause-and-effect relation cannot be established by comparing data from the cross-sectional ATS surveys alone. Comparing Arizona smoking prevalence trends and trends in other states with varying levels of interventions during 1996–1999 could help to determine how much of the decline may be related to the Arizona TEPP rather than to regional or national influences.

Arizona is one of seven states that meet CDC's funding recommendations for FY 2001 (4,5). The Arizona TEPP incorporates all nine components of a comprehensive tobacco-control program as recommended by CDC (4). The program added a certification program for smoking cessation counselors. The Arizona TEPP has been implementing strategies recommended in the Surgeon General's report *Reducing Tobacco Use* (6), CDC's *Best Practices for Comprehensive Tobacco Control Programs* (4), the *Clinical Practice Guidelines for Treating Tobacco Use and Dependence* (2), and the Task Force on Community Preventive Services (7). The findings of the 1996 and 1999 Arizona ATS suggest that an adequately funded and comprehensive program can substantially reduce tobacco use overall and across diverse demographic groups. Recent reports from California indicate that sustaining such a program for at least 9 years also could result in reductions in lung and bronchial cancer and coronary heart disease rates (8,9). Attainment of the 2010 national health objective (10) to reduce adult smoking rates to $\leq 12\%$ will require similar programs to be implemented across the United States.

References

1. Frankel LR. The Report of the CASRO Task Force on Response Rates. In: Wiseman F, ed. Improving data quality in sample survey. Cambridge, Massachusetts: Marketing Science Institute, 1983.
2. Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence. In: Clinical practice guidelines. Rockville, Maryland: US Department of Health and Human Services, Public Health Service, 2000.
3. Orzechowski W. The tax burden on tobacco, vol. 34. Arlington, Virginia: Orzechowski and Walker, 1999.
4. CDC. Best Practices for Comprehensive Tobacco Control Programs. Atlanta, Georgia: US Department of Health and Human Services, CDC, 1999.
5. CDC. Investment in tobacco control: state highlights. Atlanta, Georgia: US Department of Health and Human Services, CDC, 2001.

Tobacco Use Among Adults — Continued

6. US Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, Georgia: US Department of Health and Human Services, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.
7. CDC. Strategies for reducing exposure to environmental tobacco smoke, increasing tobacco-use cessation, and reducing initiation in communities and health-care systems: a report on recommendations of the Task Force on Community and Preventive Services. *MMWR* 2000;49(no. RR-12).
8. CDC. Declines in lung cancer rates—California, 1988–1997. *MMWR* 2000;49:1066–9.
9. Fichtenberg CM, Glantz SA. Association of the California tobacco control program with declines in cigarette consumption and mortality from heart disease. *N Engl J Med* 2000;1772–7.
10. US Department of Health and Human Services. Healthy people 2010 (conference ed., 2 vols). Washington, DC: US Department of Health and Human Services, 2000.

Protracted Outbreaks of Cryptosporidiosis Associated With Swimming Pool Use — Ohio and Nebraska, 2000

Swimming is the second most popular exercise in the United States with approximately 400 million pool visits annually (1). During the summer of 2000, five outbreaks of cryptosporidiosis linked to swimming pools were reported to CDC. This report summarizes the investigations of two of these outbreaks involving approximately 1000 cases and provides recommendations to reduce the transmission of pool-related disease.

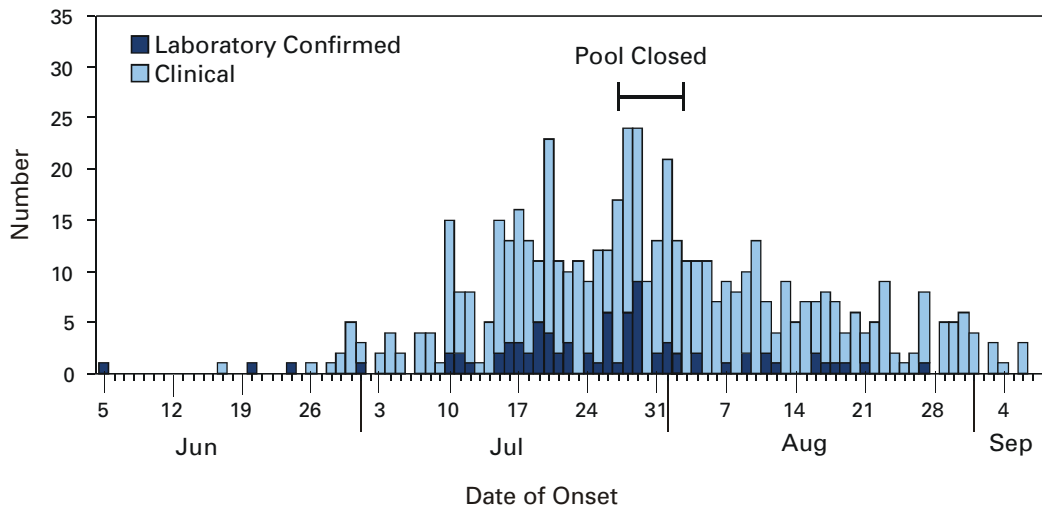
Ohio

In July 2000, the Delaware City/County Health Department (DCCHD) learned of several laboratory-confirmed cases of cryptosporidiosis potentially linked to a private swim club. To determine associated exposures, DCCHD, in collaboration with the Ohio State Health Department and CDC, conducted an investigation.

A descriptive study and two telephone-based case-control studies were conducted: a community-based study to examine potential sources of the outbreak and a swim club-based study to identify club-related risk factors. Persons were asked about source of drinking water, recent travel, visits to pools and lakes, swimming behaviors, contact with ill persons or young animals, and day care attendance.

A clinical case was defined as diarrhea (three loose stools during a 24-hour period) in a person for at least 1 day. A laboratory-confirmed case was defined as diarrhea, vomiting, or abdominal cramps in a person and a stool specimen that tested positive for *Cryptosporidium parvum*. All case-patients were in central Ohio during June 17–August 18. Case-patients and controls were frequency matched by age.

DCCHD identified 700 clinical cases among residents of Delaware County and three neighboring counties. The outbreak began in late June and continued through September (Figure 1). The club closed during July 28–August 4. Of 268 stool samples submitted to DCCHD, 186 (70%) tested positive for *Cryptosporidium*; 47 laboratory-confirmed case-patients were enrolled in the two case-control studies. The median age of these case-patients was 6 years (range: 1–46 years) and 28 (61%) were female. The median duration of illness was 7 days (range: 1–36 days). Symptoms included diarrhea (91%), loss of appetite (87%), abdominal cramps (83%), and vomiting (35%). Nearly half (45%) reported intermittent diarrhea.

*Cryptosporidiosis — Continued***FIGURE 1. Number of laboratory-confirmed* and clinical† cryptosporidiosis cases, by date of onset — Delaware County, Ohio, June–September 2000**

* Diarrhea, vomiting, or abdominal cramps and a stool specimen that tested positive for *Cryptosporidium*.

† Diarrhea (three loose stools during a 24-hour period) for at least 1 day.

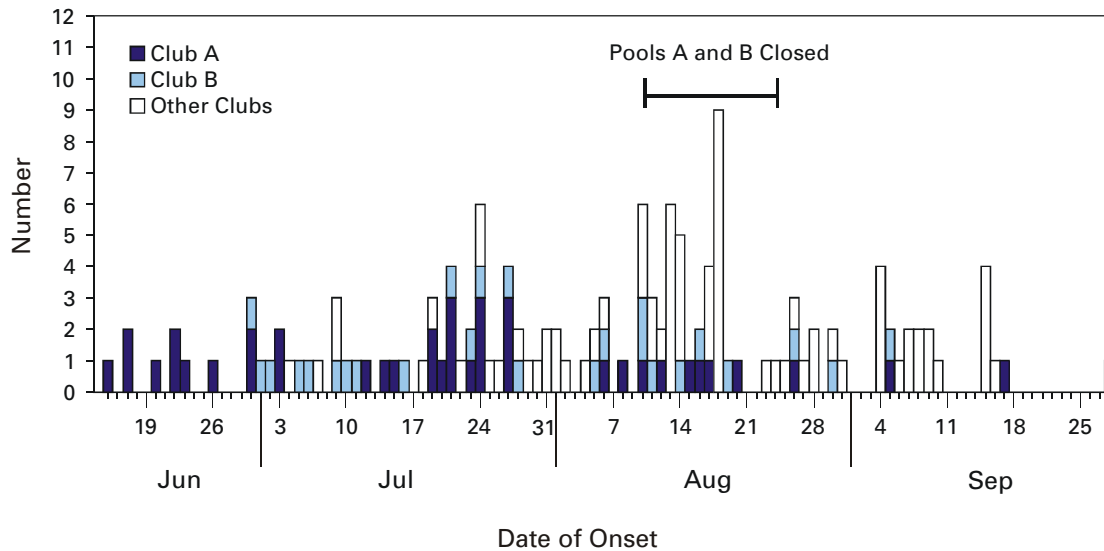
Swimming at the private club was strongly associated with illness in the community case-control study. Of the 47 case-patients, 40 (93.6%) went swimming in the pool, compared with 24 (55%) of 44 controls (odds ratio [OR]=42.3; 95% confidence interval [CI]=12.3–144.9). In the club-based case-control study, activities that increased the risk for pool water getting in the mouth (e.g., standing under a pool sprinkler) increased the risk for illness (OR=8.4; 95% CI=1.8–54.8). At least five fecal accidents, one of which was diarrheal, were observed.

Nebraska

In August 2000, the Douglas County Health Department, Nebraska, detected an increase in laboratory-reported cases of cryptosporidiosis. Initial cases were linked to a private club with swimming facilities (club A). Additional case-patients reported swimming at club A, at another nearby private club (club B), or at other local pools. The pools at clubs A and B subsequently closed for 2 weeks in mid-August.

A case-control study was conducted at club A to identify community and club-specific risk factors. A clinical case was defined as diarrhea (three loose stools during a 24-hour period) in a person who was a member of club A. A laboratory-confirmed case was defined as diarrhea, vomiting, or cramps in a person who had a stool specimen that tested positive for *Cryptosporidium*. All case-patients were in the Douglas County area during June 3–September 28. Members of club A with laboratory-confirmed or clinical cases of cryptosporidiosis were enrolled in the study. Controls were randomly selected from the club A membership list and frequency matched by age.

The outbreak began in mid-June, peaked in mid-August, and tapered off in September, coinciding with the end of the outdoor swimming season in Nebraska (Figure 2). Of 225 clinical and laboratory-confirmed cases, 65 (29%) were laboratory-confirmed and

*Cryptosporidiosis — Continued***FIGURE 2. Number of primary cryptosporidiosis cases, by club membership and date of onset — Douglas County, Nebraska, June–September 2000**

205 (91%) persons were interviewed. Case-patients were primarily children aged <5 years or adults aged 20–40 years, with a median age of 10 years (range: <1–77 years). Symptoms included diarrhea (94%), abdominal cramps (83%), loss of appetite (74%), nausea (60%), and vomiting (43%). The median duration of diarrhea was 7 days (range: 1–44 days), and nearly half (46%) of patients reported intermittent diarrhea.

Thirty-seven case-patients and 36 controls were included in the case-control study at club A. Illness was associated with swimming at club A (OR=5.0; 95% CI=1.48–17.7) and having been splashed with pool water (OR=5.3; 95% CI=1.6–18.9).

Swimmers often swam at multiple pool facilities and swim/dive team meets were held at both clubs A and B. Approximately 18% of the case-patients reported swimming while symptomatic, and nearly one third (32%) swam either during illness or during the 2-week period after symptoms subsided. Fecal accidents were observed at both clubs.

Reported by: F Veverka, MPH, N Shapiro, MA, Delaware City/County Health Dept, Delaware. MK Parish, MS, S York, MPH, W Becker, DO, F Smith, MD, State Epidemiologist, Ohio Dept of Health. C Allensworth, T Baker, MPH, Douglas County Health Dept, Omaha; P Iwen, MS, Nebraska Public Health Laboratory, T Safranek, MD, State Epidemiologist, Nebraska Dept of Health and Human Svcs. Div of Parasitic Diseases, National Center for Infectious Diseases; Div of Applied Public Health Training, Epidemiology Program Office; Div of Emergency and Environmental Health Svcs, National Center for Environmental Health; and EIS officers, CDC.

Editorial Note: Outbreaks of gastrointestinal illness associated with treated recreational water (e.g., swimming pools) appear to have increased in recent years with most being caused by *Cryptosporidium* (2,3). Although a fecal accident by a swimmer can expose other swimmers to various disease-causing organisms, the probability of transmission of cryptosporidiosis is higher in this setting for two reasons. First, *Cryptosporidium* oocysts are extremely resistant to chlorine and may remain infective for several days in swimming pool water containing recommended chlorine concentrations (4) and, because of their small size, may not be removed efficiently by conventional pool filters. Second, the high titer of *Cryptosporidium* in diarrhea from infected persons (5) and the low

Cryptosporidiosis — Continued

infectious dose (6) make it possible for a single fecal accident to sufficiently contaminate an entire pool such that accidental ingestion of a few mouthfuls of water can result in infection.

The protracted nature of these two outbreaks highlights the challenges faced by health departments and pool managers in detecting and controlling pool-associated cryptosporidiosis outbreaks. The outbreaks went unreported for several weeks, possibly because ill persons often do not seek health care for diarrheal illness (U.S. Department of Agriculture, unpublished data, 1997). During this time, ill persons continued to swim, increasing the likelihood that contamination of the pools continued to occur. It is unclear whether extended pool closure reduced the potential for exposure or contributed to transmission at other pools. A multicomponent approach to outbreak prevention is needed that combines education of swimmers and pool staff, pool design modifications, and improved operations and maintenance procedures.

The high incidence of diarrhea in the United States (7) and the continued use of the pools during illness suggest that education of the public is an important component of any prevention strategy. To reduce pool contamination and the spread of cryptosporidiosis and other diarrheal illnesses, public health officials and pool managers should educate staff and patrons about key messages that may reduce recreational water illness transmission. To prevent transmission, persons with diarrhea should not swim, swimmers should avoid swallowing pool water, and persons should practice good hygiene before swimming, after using the restroom, and after changing a diaper.

Improved design and management of pools also may reduce the risk for disease transmission. Public health officials and pool operators should consider 1) using separate filtration systems for "kiddie" pools and other pools to decrease the potential for cross-contamination; 2) optimizing filtration rates of kiddie pools without facilitating suction injuries to decrease the length of time that swimmers would be exposed to pathogens; and 3) ensuring that restrooms and diaper changing areas are close to the pool and are clean and adequate in number. Management practices should 1) reinforce that pool operators regularly maintain and monitor pH and free residual chlorine levels to help prevent transmission of most waterborne pathogens; 2) develop policies for pool disinfection following a fecal accident (8,9); 3) train staff about prevention of recreational water illness transmission; and 4) institute frequent restroom breaks for young swimmers to reduce the potential for fecal accidents.

During a pool-associated or other local outbreak of cryptosporidiosis, extra vigilance is necessary to prevent swimming-related disease transmission. Those at risk for serious illness (e.g., immunocompromised persons) should consider not swimming during an outbreak. In addition, because persons ill with cryptosporidiosis often have intermittent diarrhea and *Cryptosporidium* can be excreted for several weeks after diarrhea subsides (10), ill swimmers should refrain from swimming while ill with diarrhea and should also not swim for a 2-week period after cessation of diarrhea. Operators of implicated pools should intensify education efforts and consider prohibiting diaper- and toddler-aged children from swimming during the outbreak. In addition, health officials should alert pool operators in the geographic area so they can undertake intensive education efforts to prevent infected persons from swimming in and potentially contaminating their pools. Further evaluation is needed to determine the efficacy of extended pool closures on preventing *Cryptosporidium* transmission. Additional information about prevention of recreational water illness is available at <http://www.cdc.gov/healthyswimming>.

*Cryptosporidiosis — Continued**References*

1. US Bureau of the Census. Statistical abstract of the United States: 1995. 115th ed. Washington, DC: US Bureau of the Census, 1995.
2. Barwick RS, Levy DA, Craun GF, Beach MJ, Calderon RL. Surveillance for waterborne-disease outbreaks—United States, 1997–1998. In: CDC Surveillance Summaries (May). MMWR 2000;49(no. SS-4).
3. Meinhardt PL, Casemore DP, Miller KB. Epidemiologic aspects of human cryptosporidiosis and the role of waterborne transmission. *Epidemiol Rev* 1996;18:118–36.
4. Korich DG, Mead JR, Madore MS, Sinclair NA, Sterling CR. Effects of ozone, chlorine dioxide, chlorine, and monochloramine on *Cryptosporidium parvum* oocyst viability. *Appl Environ Microbiol* 1990;56:1423–8.
5. Goodgame RW, Genta RM, White AC, Chappell CL. Intensity of infection in AIDS-associated cryptosporidiosis. *J Infect Dis* 1993;167:704–9.
6. DuPont HL, Chappell CL, Sterling CR, Okhuysen PC, Rose JB, Jakubowski W. The infectivity of *Cryptosporidium parvum* in healthy volunteers. *N Engl J Med* 1995;332:855–9.
7. Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. *Emerg Infect Dis* 1999;5:607–25.
8. CDC. Prevalence of parasites in fecal material from chlorinated swimming pools—United States. MMWR 2001;50:410–12.
9. CDC. Responding to fecal accidents in disinfected swimming venues. MMWR 2001;50:416–17.
10. Stehr-Green JK, McCaig L, Remsen HM, Rains CS, Fox M, Juranek DD. Shedding of oocysts in immunocompetent individuals infected with *Cryptosporidium*. *Am J Trop Med Hyg* 1987;36:338–42.

Prevalence of Parasites in Fecal Material from Chlorinated Swimming Pools — United States, 1999

As a result of the 1998 outbreak of infection with the chlorine-sensitive pathogen *Escherichia coli* O157:H7 at a waterpark in Georgia (1), many public health departments updated their guidelines for disinfecting pools following a fecal accident. Many of these guidelines recommended treating all fecal accidents as if they contained the highly chlorine-resistant parasite *Cryptosporidium parvum* (2), generally resulting in hyperchlorination and pool closures of up to a day. To determine whether fecal accidents commonly contained *Cryptosporidium*, the prevalence of this parasite and the moderately chlorine sensitive parasite *Giardia intestinalis* (3) was assessed by asking swimming pool operators throughout the United States to collect formed stools from fecal accidents in their pools. This report summarizes the results of this study and provides recommendations for disinfecting pools following fecal accidents.

During 1999, 47 swimming pools, waterparks, or aquatics centers were enrolled in the survey by telephone. Sample collection began Memorial Day weekend (May 29) and ended after Labor Day weekend (September 6). Samples of each fecal accident were collected into vials containing 10% formalin. Labels included no pool-specific identifiers. Samples were tested for *Cryptosporidium*- and *Giardia*-specific stool antigen without prior concentration. All positive specimens were verified using an immunofluorescent antibody mixture specific to *Cryptosporidium* and *Giardia* followed by microscopic identification.

Parasites in Chlorinated Swimming Pools — Continued

None of 293 formed stools from fecal accidents collected by pool operators contained *Cryptosporidium*. *Giardia* was found in 13 (4.4%) of the samples. Because this study addressed parasite prevalence in only formed stool, no information relating to disinfection procedures for diarrheal fecal accidents was obtained.

Reported by: CDC Recreational Waterborne Disease Working Group, Div of Emergency and Environmental Health Svcs, National Center for Environmental Health; Div of Bacterial and Mycotic Diseases, Div of Parasitic Diseases, Div of Viral and Rickettsial Diseases, Div of Healthcare Quality Promotion (proposed), National Center for Infectious Diseases; Div of Unintentional Injuries Prevention, National Center for Injury Prevention and Control, CDC.

Editorial Note: During the 1990s, reports of outbreaks of gastrointestinal disease associated with the use of disinfected recreational water (i.e., swimming and wading pools, waterparks, fountains, hot tubs, and spas) have gradually increased (4). During 1989–1998, approximately 10,000 cases of diarrheal illness were associated with 32 recreational waterborne disease outbreaks in disinfected water venues in the United States. Ten outbreaks occurred during 1997–1998, the highest number of recreational water outbreaks ever reported (4). Because diarrheal illness is underreported to public health authorities, the number of outbreaks associated with recreational water use is probably higher (5). The number of swimming exposures in the United States (approximately 400 million annual visits) (6) and increasing attendance at high capacity recreational water venues provide strong incentives to review and improve recommendations to reduce the transmission of gastrointestinal illness resulting from recreational water use.

Because swimming typically involves sharing water with many other persons in a pool, the water contains various bodily fluids, fecal matter, dirt, and debris that wash off bodies during swimming activities. Fecal matter is regularly introduced into the water when someone has a fecal accident through release of formed stool or diarrhea into the water, or residual fecal material on swimmers' bodies is washed into the pool. Fecal contamination may be more likely to occur when there is a high density of bathers, particularly diaper- and toddler-aged children. Swallowing this fecally contaminated water is the primary mode for transmission of enteric pathogens in recreational water outbreaks.

Although chlorine is an effective disinfectant, it does not instantly kill all pathogens (7). In addition, some pathogens, such as the parasite *Cryptosporidium*, are highly resistant to chlorine concentrations routinely used in pools (2). Because of frequent fecal contamination, the inability of chlorine disinfection to rapidly inactivate several pathogens and the common occurrence of accidental ingestion of pool water, transmission of pathogens can occur even in well-maintained pools.

The low prevalence of *Cryptosporidium* in formed fecal accidents in this study indicates that regulators can adopt less stringent disinfection guidelines by disinfecting pool water as if it contained the moderately chlorine-resistant parasite *Giardia*. Although there is a large differential between inactivation times for *Cryptosporidium*, *Giardia*, and *E. coli* (approximately 7 days, <1 hour, and <1 minute, respectively, at 1 mg/L free available chlorine [2,3,8]), responding to formed fecal accidents with water treatment sufficient to inactivate *Giardia* also should be sufficient to inactivate other known viral and bacterial waterborne pathogens, including *E. coli* O157:H7 (8).

On the basis of these findings, CDC has prepared recommendations for responding to fecal accidents in disinfected recreational water venues (see Notice to Readers, page

Parasites in Chlorinated Swimming Pools — Continued

416). These recommendations assume the presence of *Giardia* in formed stool accidents and the presence of *Cryptosporidium* in diarrheal accidents. The prevalence of *Cryptosporidium* in diarrhetic and nondiarrhetic stools requires further investigation. The *Giardia* inactivation guidelines are based on data developed by the Environmental Protection Agency for disinfection of *Giardia* in drinking water (9). Pool operators should consult with their local or state health authorities for specific fecal accident disinfection procedures.

These recommendations are intended to minimize infectious disease transmission by observed fecal accidents (primarily formed stool); however, the unique circulation patterns found in pools often result in areas of poor pool circulation (i.e., "dead spots") making it unlikely that disease transmission can be fully prevented. In addition, the higher risk associated with diarrheal accidents, which may rarely be observed and/or responded to, makes it important that public health professionals and the aquatics industry address other critical recreational water illness prevention components. These may include improving aquatics industry policies, planning, and practices and educating aquatics staff and patrons about the potential for recreational water illness transmission. Swimmers should be informed by public health professionals and the aquatics industry that healthy swimming practices necessitate that patrons refrain from swimming while ill with diarrhea and avoid swallowing pool water. Improved hygiene before and during swimming (e.g., showering, handwashing, frequent restroom breaks for young children, and appropriate diaper changing) also should be promoted. Additional information about prevention of recreational water illness is available at <http://www.cdc.gov/healthyswimming>.

References

1. Gilbert L, Blake P. Outbreak of *Escherichia coli* O157:H7 infections associated with a waterpark. Georgia Epidemiol Report 1998;14:1–2.
2. Korich DG, Mead JR, Madore MS, Sinclair NA, Sterling CR. Effects of ozone, chlorine dioxide, chlorine, and monochloramine on *Cryptosporidium parvum* oocyst viability. Appl Environ Microbiol 1990;56:1423–8.
3. Jarroll EL, Bingham AK, Meyer EA. Effect of chlorine on *Giardia lamblia* cyst viability. Appl Environ Microbiol 1981;41:483–7.
4. Barwick RS, Levy DA, Craun GF, Beach MJ, Calderon RL. Surveillance for waterborne-disease outbreaks—United States, 1997–1998. In: CDC Surveillance Summaries (May). MMWR 2000;49(no. SS-4).
5. Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. Emerg Infect Dis 1999;5:607–25.
6. US Bureau of the Census. Statistical abstract of the United States: 1995. 115th ed. Washington, DC: US Bureau of the Census, 1995.
7. Carpenter C, Fayer R, Trout J, Beach MJ. Chlorine disinfection of recreational water for *Cryptosporidium parvum*. Emerg Infect Dis 1999;5:1–6.
8. Rice EW, Clark RM, Johnson CH. Chlorine inactivation of *Escherichia coli* O157:H7. Emerg Infect Dis 1999;5:461–3.
9. Environmental Protection Agency. EPA guidance manual: disinfection profiling and benchmarking guidance manual, EPA 815-R-99-013. Cincinnati, Ohio: National Service Center for Environmental Publications, 1999.

Drowning — Louisiana, 1998

Drowning is the third leading cause of death from unintentional injuries in Louisiana. In 1998, the fatality rate from drowning for Louisiana residents was 3.1 per 100,000 population, higher than the U.S. rate of 1.9 per 100,000, and more than twice the 2000 national target of 1.3 per 100,000 population. This report describes the demographics and risk factors associated with drownings in Louisiana in 1998. Findings indicate that alcohol or illicit drug use was found in approximately 60% of tested victims aged ≥ 13 years and that none of the victims of boating-related drowning were correctly wearing a personal flotation device (PFD). Prevention efforts should focus on decreasing alcohol and illicit drug use and increasing the proper use of PFDs among boaters and others involved in water recreation.

The Louisiana Office of Public Health examined three sources of data on persons who died by drowning: 1998 death certificates, coroners' records, and records of investigations performed by the Louisiana Department of Wildlife and Fisheries (LDWF). A case was defined as death in a resident of Louisiana coded on the death certificate as having drowned in the state during 1998. Using death certificates, 137 cases were identified. Of these, 114 investigative reports were reviewed: 96 with coroners' records, six with LDWF reports, and 12 with both; investigative reports for 23 (17%) cases could not be obtained. In addition, modifiable risk factors were analyzed. Alcohol and illicit drug use were examined in the deaths of persons aged ≥ 13 years. Use was determined by the presence of ethanol or metabolites of illicit drugs in samples collected at autopsy. Among deaths that occurred in a swimming pool, pool fencing was described as present or absent, and PFD use was recorded for investigative reports of boating-related drowning.

Of the 137 drowning cases, 115 (84%) occurred among males. Blacks and whites died in almost equal numbers, 68 (50%) and 67 (49%), respectively; however, the rate of drowning among blacks was more than twice the rate of whites, 4.8 per 100,000 and 2.3 per 100,000, respectively. The median age of drowned persons was 32 years (range: 10 months–94 years). The highest drowning rate was among persons aged 25–35 years (3.8 per 100,000). Children aged < 4 years accounted for 10% of the total deaths and had the second highest rate (3.5 per 100,000). Among those cases in which the manner of death could be determined, 122 (95%) were classified as "accident" (unintentional); seven (5%) were classified as suicide. Twelve (9%) drowning deaths were work-related.

Of 114 deaths with coroner or LDWF records, 83 (73%) occurred in natural bodies of water (e.g., lakes, bayous, rivers, and the Gulf of Mexico), 19 (17%) in swimming pools, and seven (6%) in bathtubs or hot tubs. Four deaths were classified to have occurred in an "other setting" and in one death the setting was unknown. Alcohol testing was recorded in 72 (76%) of the 94 decedents aged ≥ 13 years; 43 (60%) had evidence for the presence of alcohol and/or illicit drugs. Thirteen (30%) decedents were positive for alcohol and illicit drugs, 28 (67%) were positive for alcohol, and one (2%) was positive for illicit drugs.

Among the 19 deaths that occurred in a swimming pool, 11 (58%) were in children aged < 14 years. Children aged < 4 years died in swimming pools at the highest rate (1.3 per 100,000). The presence or absence of fences was noted in eight (42%) deaths. Six pools had and two did not have fencing.

Drowning — Continued

Coroner and LDWF reports indicated that 35 (31%) of 114 deaths occurred during boating-related activities: 11 (31%) involved a fall from the boat, seven (20%) occurred when the boat capsized, and six (17%) involved a collision. Five (14%) persons who drowned had entered the water voluntarily, and six (17%) had entered the water for unknown reasons. PFD use was recorded for 22 (63%) boating-related drownings; only one decedent had been wearing a PFD and it was unfastened. Among persons aged ≥ 13 years, 34 drownings occurred; 13 (48%) tested positive for alcohol or illicit drugs.

Reported by: M Kohn, MD, Health Div, Oregon Dept of Human Svcs. R Duthu, Louisiana Dept of Wildlife and Fisheries; H Flood, MPH, G Hall, J Wiley, MHSE, H Benson Kutinac, MPH, Louisiana Office of Public Health. State Br, Div of Applied Public Health Training, Epidemiology Program Office; National Center for Injury Prevention and Control; and an EIS Officer, CDC.

Editorial Note: The circumstances of drowning identified in this report highlight ways to prevent drowning deaths. Drowning in Louisiana occurred most often in natural bodies of water. Approximately 30% of the deaths during 1998 were associated with boating, which is proportionately more than in the entire United States, where boating accounts for 20% of drowning (1). In this investigation, the findings indicated that alcohol or illicit drug use was present in nearly half of the tested boating-related deaths among persons aged ≥ 13 years, that none of the boating-related decedents had been wearing a PFD correctly, and that during 1998, drowning in swimming pools accounted for 17% of deaths, with children aged <4 years at highest risk. Louisiana state regulations pertaining to alcohol use focus only on boat operators, and state regulations on wearing PFD pertain only to children aged <13 years.

The findings in this report are subject to at least two limitations. First, some investigative reports were not available. Second, risk factor information was missing in many of the reports that were examined. Both of these limitations could effect the reported prevalence of risk behaviors.

By analyzing the state-level data described in this report, the Louisiana Office of Public Health determined that drowning prevention efforts should include: 1) decreasing alcohol and illicit drug use among both boating passengers and operators; 2) focusing on the proper use of PFDs not only among children but among persons of all ages; and 3) instructing caretakers to supervise children and maintain adequate fencing around swimming pools (2). For a pool fence to protect against drowning, the fence must completely enclose the pool and must be at least 4 feet high with vertical openings <4 inches wide and with a functional self-latching gate (3). All of these prevention efforts need to be delivered in a manner culturally appropriate for the highest risk populations.

References

1. Baker SP, O'Neill B, Ginsburg M. The injury fact book. New York, New York: Oxford University Press, 1992.
2. Wintemute GJ. Childhood drowning and near-drowning in the United States. *Am J Dis Child* 1990;144:663-9.
3. US Consumer Product Safety Commission. Children and pools: a safety checklist. Washington, DC: US Consumer Product Safety Commission, 1993; publication no. 357.

Notice to Readers

National Safe Boating Week — May 19–25, 2001

National Safe Boating Week is May 19–25, 2001. Boating safety improved in the United States throughout the 1990s. Despite a 15% increase in boats registered, the boating fatality rate declined 32% from 1990 to 1999. However, boating-related deaths continue to occur. In 1999, 734 persons died in boating incidents. Boaters routinely should adopt safety practices.

All boaters should wear personal flotation devices (PFDs). Capsizing and falling overboard account for more than half of all recreational boating deaths each year (1). Although all states and territories (except Guam, Hawaii, and Idaho) have regulations on wearing life jackets, most affect only children aged <12 years.

Boaters should avoid alcoholic beverages while boating. Alcohol use affects judgment, vision, balance, and coordination. Approximately one third of all deaths caused by a collision involved alcohol use.

Boaters should be aware of the risk for carbon monoxide (CO) poisoning. Potential sources of CO poisoning include using air conditioning powered by an onboard motor generator, operating a gasoline powered engine while docked and/or rafted with other boats operating engines, or being underway with improper cabin ventilation. To avoid CO poisoning, boaters should have sufficient ventilation, properly install and maintain equipment, and use CO detectors.

Boaters should be aware of potential hazards and the regulations of operating a boat. Boating education courses teach the regulatory and statutory rules for safely operating and navigating recreational boats. The U.S. Coast Guard Auxiliary and U.S. Power Squadron offer the Vessel Safety Check (VSC) program to promote boating safety. Volunteers check safety equipment and provide information about equipment purpose, safety procedures, and applicable regulations.

Additional information about boating safety is available from the U.S. Coast Guard, Office of Boating Safety at <http://www.uscgboating.org> or National Association of State Boating Law Administrators at <http://www.nasbla.org>.* Information about the VSC program is available at http://www.usps.org/national/vsc/vsc_main.htm. CDC fact sheets and articles on boating and water safety are available at <http://www.cdc.gov/safeusa/water/water.htm> and <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4949a1.htm>.

Reference

1. US Coast Guard. Boating statistics—1999. US Department of Transportation, US Coast Guard, 1999. Available at <http://www.uscboating.org>. Accessed May 2001.

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

Notice to Readers — Continued

Notice to Readers

Responding to Fecal Accidents in Disinfected Swimming Venues

These recommendations are solely for management of fecal accidents in disinfected recreational water venues. The recommendations do not address use of other nonchlorine disinfectants because there is limited pathogen inactivation data for many of these compounds. Because improper handling of chlorinated disinfectants could cause injury, appropriate occupational safety and health requirements should be followed.

A. Formed stool (solid, nonliquid)

1. Direct everyone to leave all pools into which water containing the feces is circulated. Do not allow anyone to enter the contaminated pool(s) until all decontamination procedures are completed.

2. Remove as much of the fecal material as possible using a net or scoop and dispose of it in a sanitary manner. Clean and disinfect the net or scoop (e.g., after cleaning, leave the net or scoop immersed in the pool during disinfection). Vacuuming stool from the pool is not recommended*.

3. Raise the free available chlorine concentration to 2 mg/L, pH 7.2–7.5, if it is <2.0 mg/L. Ensure this concentration is found throughout all co-circulating pools by sampling at least three widely spaced locations away from return water outlets. This free available chlorine concentration was selected to keep the pool closure time to approximately 30 minutes. Other concentrations or closure times can be used as long as the CT inactivation value[†] is kept constant (Table 1).

4. Maintain the free available chlorine concentration at 2.0 mg/L, pH 7.2–7.5, for at least 25 minutes before reopening the pool. State or local regulators may require higher free available chlorine levels in the presence of chlorine stabilizers such as chlorinated isocyanurates[‡]. Ensure that the filtration system is operating while the pool reaches and maintains the proper free available chlorine concentration during the disinfection process.

5. Establish a fecal accident log. Document each fecal accident by recording date and time of the event, formed stool or diarrhea, free available chlorine concentration at the time or observation of the event and before opening the pool, the pH, the procedures followed to respond to the fecal accident (including the process used to increase free chlorine residual if necessary), and the contact time.

B. Diarrhea (liquid stool)

1. See A1.

2. See A2.

3. Raise the free available chlorine concentration to 20 mg/L[¶] and maintain the pH between 7.2 and 7.5. Ensure this concentration is found throughout all co-circulating pools by sampling at least three widely spaced locations away from return water outlets. This chlorine and pH level should be sufficient to inactivate *Cryptosporidium* and should be maintained for at least 8 hours, equivalent to a CT inactivation value of 9600. A higher or lower free available chlorine level/inactivation time can be used as long as a CT inactivation value equaling 9600 is maintained for *Cryptosporidium* inactivation. State or local regulators may require higher free available chlorine levels in the presence of chlorine stabilizers such as chlorinated isocyanurates. If necessary, consult an aquatics professional to determine and identify the feasibility, practical methods, and safety considerations before attempting the hyperchlorination of any pool.

4. Ensure that the filtration system is operating while the pool reaches and maintains the proper free available chlorine concentration during disinfection.

5. Backwash the filter thoroughly after reaching the CT value. Be sure the effluent is discharged directly to waste and in accordance with state or local regulations. Do not return the backwash through the filter. Where appropriate, replace the filter media.

6. Swimmers may be allowed into the pool after the required CT value has been achieved and the free available chlorine level has been returned to the normal operating range allowed

Notice to Readers — Continued

by the state or local regulatory authority. Maintain the free available chlorine concentration and pH at standard operating levels based on state or local regulations. If necessary, consult state or local regulatory authorities for recommendations on bringing the free available chlorine levels back to an acceptable operating range.

7. See A5.

* No uniform recommendations for disinfection of vacuum systems are available. However, if a vacuum system is accidentally used, the waste should be discharged directly to a sewer or other approved waste disposal system and not through the filtration system. The dilution effect of the pool water going through the hose may reduce the risk for high-level contamination of the vacuum system.

† CT refers to concentration (C) of free available chlorine in mg/L or ppm multiplied by time (T) in minutes. If pool operators want to use a different chlorine concentration or inactivation time, they need to ensure that CT values always remain the same. For example, if an operator finds a formed fecal accident in the pool and his pool has a free available chlorine reading of 3 mg/L and a pH of 7.5, to determine how long the pool should be closed to swimmers, locate 3 mg/L in the left column of the table and then move right and read the pool closure time. The pool should be closed for 19 minutes. Example 2: The CT inactivation value for *Cryptosporidium* is 9600, which equals (20 mg/L)(480 minutes) (i.e., 8 hours). After a diarrheal accident in the pool, an operator determines she can only maintain 15 mg/L. How long would hyperchlorination take? Answer: $9600=CT=(15)(T)$; $T=9600/15=640$ minutes=10.7 hours.

§ The impact of chlorine stabilizers (e.g., chlorinated isocyanurates) on pathogen inactivation and disinfectant measurement is unclear and requires further investigation. State or local regulations on chlorinated isocyanurates use should be consulted.

¶ Many conventional test kits cannot measure free available chlorine levels this high. Use chlorine test strips that can measure free available chlorine in a range that includes 20mg/L (such as those used in the food industry) or make dilutions for use in a standard DPD (N, N-diethyl-*p*-phenylenediamine) test kit using chlorine-free water.

TABLE 1. Free available chlorine concentrations and pool closure time* required for disinfection of pools after a formed fecal accident

Concentration (mg/L or ppm)	Pool closure time (minutes)
<0.4	105
0.6	72
0.8	55
1.0	45
1.2	39
1.4	34
1.6	30
1.8	28
2.0	25
2.2	24
2.4	22
2.6	21
2.8	20
3.0	19

* Theoretical pool closure times for 99.9% inactivation of *Giardia* cysts by free available chlorine, pH 7.5, 25 C were derived from the Environmental Protection Agency's (EPA) Disinfection Profiling and Benchmarking Guidance Manual. EPA data were generated from original pathogen inactivation data and modeled for use in drinking water treatment facilities. These data were used to develop the pathogen inactivation table from which these pool closure times were derived. The applicability of these data to pools, where water and disinfectant mixing may not be uniform, has not been shown. Therefore, these pool closure times do not take into account "dead spots" and other areas of poor pool water mixing.

Notice to Readers — Continued

Notice to Readers

Deferral of Routine Booster Doses of Tetanus and Diphtheria Toxoids for Adolescents and Adults

A shortage of tetanus and diphtheria toxoids (Td) and tetanus toxoid (TT) in the United States has resulted because one of two manufacturers discontinued production of tetanus toxoid-containing products (1). Aventis Pasteur (Swiftwater, Pennsylvania) is the only major manufacturer of tetanus and Td in the United States. In response to the shortage, Aventis Pasteur has increased production of Td to meet national needs; however, because 11 months are required for vaccine production, the shortage is expected to last for the remainder of 2001.

To assure vaccine availability for priority indications (2), all routine Td boosters in adolescents and adults should be delayed until 2002. Td use should follow existing recommendations for all other indications, which include 1) persons traveling to a country where the risk for diphtheria is high*; 2) persons requiring tetanus vaccination for prophylaxis in wound management; 3) persons who have received <3 doses of any vaccine containing Td; and 4) pregnant women who have not been vaccinated with Td during the preceding 10 years.

CDC recommends that health-care providers, including clinic personnel, record the names of patients whose booster dose is delayed during the shortage. When Td supplies are restored, these patients should be notified to return to their health-care provider for vaccination. According to Aventis Pasteur, sufficient vaccine will be available in early 2002 to supply the national demand.

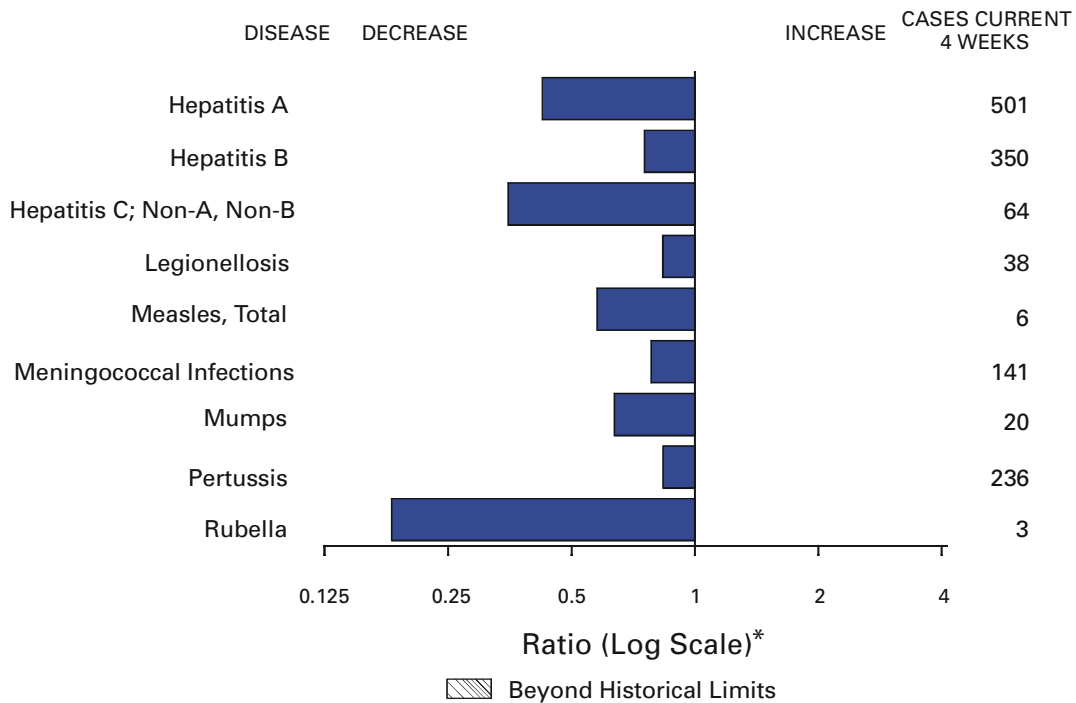
Health-care providers using Td for wound management should follow recommendations from the Advisory Committee on Immunization Practices for wound management (3). All wound patients should receive Td if they have received <3 tetanus-containing vaccines or if vaccination history is uncertain. These patients also should receive tetanus immune globulin for wounds that are contaminated with dirt, feces, soil or saliva, puncture wounds, and avulsions and wounds resulting from missiles, crushing, burns or frostbite (3). For persons with ≥ 3 doses of TT-containing vaccine and severe or contaminated wounds, Td should be given only if >5 years have passed since the last dose of tetanus-containing vaccine. For clean and minor wounds, Td should be given only if the patient has not received a tetanus-containing vaccine during the preceding 10 years. Health-care providers should inquire from patients presenting for wound management about the timing of their last tetanus-containing vaccine to avoid unnecessary vaccination.

Pediatric formulations of diphtheria and tetanus toxoids (DT) and diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) should not be used for persons aged ≥ 7 years. Although TT might be considered a substitute for Td in wound management

*Travelers to certain countries may be at substantial risk for exposure to toxigenic strains of *C. diphtheriae*, especially with prolonged travel, extensive contact with children, or exposure to poor hygiene. Based on surveillance data and consultation with the World Health Organization, countries at highest risk are: *Africa*=Algeria, Egypt, and sub-Saharan Africa; *Americas*=Brazil, Dominican Republic, Ecuador, and Haiti; *Asia/Oceania*=Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Iran, Iraq, Laos, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Syria, Thailand, Turkey, Vietnam, and Yemen; *Europe*=Albania and all countries of the former Soviet Union (3).

(Continued on page 427)

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending May 19, 2001, with historical data



* 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 of provisional cases of selected notifiable diseases, United States, cumulative, week ending May 19, 2001 (20th Week)

	Cum. 2001		Cum. 2001
Anthrax	-	Poliomyelitis, paralytic	-
Brucellosis*	20	Psittacosis*	4
Cholera	2	Q fever*	6
Cyclosporiasis*	39	Rabies, human	-
Diphtheria	1	Rocky Mountain spotted fever (RMSF)	63
Ehrlichiosis: human granulocytic (HGE)*	30	Rubella, congenital syndrome	-
human monocytic (HME)*	5	Streptococcal disease, invasive, group A	1,542
Encephalitis: California serogroup viral*	-	Streptococcal toxic-shock syndrome*	22
eastern equine*	-	Syphilis, congenital†	34
St. Louis*	-	Tetanus	6
western equine*	-	Toxic-shock syndrome	54
Hansen disease (leprosy)*	22	Trichinosis	5
Hantavirus pulmonary syndrome*†	3	Tularemia*	12
Hemolytic uremic syndrome, postdiarrheal*	26	Typhoid fever	83
HIV infection, pediatric*§	72	Yellow fever	-
Plague	-		

-: No reported cases.

*Not notifiable in all states.

† 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 April 24, 2001.

§ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 19, 2001, and May 20, 2000 (20th Week)

Reporting Area	AIDS		Chlamydia [†]		Cryptosporidiosis		<i>Escherichia coli</i> O157:H7*			
	Cum. 2001 [§]	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	NETSS		PHLIS	
							Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	11,921	13,943	236,293	262,069	539	553	415	614	306	503
NEW ENGLAND	469	933	8,739	8,932	19	33	50	67	39	69
Maine	14	14	448	525	2	5	5	4	6	4
N.H.	13	13	440	397	-	2	8	4	6	5
Vt.	10	1	213	211	9	10	2	2	1	3
Mass.	271	668	3,909	3,818	3	9	19	33	16	27
R.I.	40	33	1,045	993	3	2	4	-	2	4
Conn.	121	204	2,684	2,988	2	5	12	24	8	26
MID. ATLANTIC	2,254	3,254	19,456	24,422	56	107	37	89	31	71
Upstate N.Y.	97	157	N	N	29	26	30	66	20	38
N.Y. City	1,028	1,931	10,071	10,472	25	73	-	7	1	3
N.J.	635	722	1,715	4,864	1	4	7	16	10	14
Pa.	494	444	7,670	9,086	1	4	N	N	-	16
E.N. CENTRAL	926	1,311	34,390	45,525	171	115	94	110	50	74
Ohio	167	173	4,145	11,876	45	19	31	19	23	13
Ind.	85	97	5,849	4,810	20	7	17	12	9	12
Ill.	433	803	9,262	13,203	1	17	12	36	7	27
Mich.	189	184	11,538	9,245	41	15	18	17	-	15
Wis.	52	54	3,596	6,391	64	57	16	26	11	7
W.N. CENTRAL	243	284	12,387	14,629	26	32	42	86	45	78
Minn.	47	47	2,436	3,072	-	4	8	18	21	31
Iowa	24	24	1,490	1,914	15	11	8	14	3	8
Mo.	117	124	4,281	4,927	5	6	10	26	11	19
N. Dak.	1	-	352	340	-	2	-	5	3	5
S. Dak.	-	3	718	674	3	3	4	2	3	2
Nebr.	16	19	894	1,373	3	3	4	14	-	9
Kans.	38	67	2,216	2,329	-	3	8	7	4	4
S. ATLANTIC	3,720	3,816	49,005	47,672	117	89	48	53	22	42
Del.	72	63	1,087	1,143	1	2	-	1	-	-
Md.	436	449	4,704	4,813	24	4	3	8	-	1
D.C.	297	264	1,408	1,244	7	-	-	-	U	U
Va.	270	259	6,738	5,985	7	3	11	12	7	11
W. Va.	28	19	888	797	-	3	1	2	9	2
N.C.	190	169	7,516	7,913	14	8	20	9	9	6
S.C.	250	294	4,931	3,804	-	-	2	3	2	2
Ga.	392	356	9,867	9,656	42	50	4	5	2	10
Fla.	1,785	1,943	11,866	12,317	22	19	7	13	2	10
E.S. CENTRAL	682	639	17,328	19,179	14	19	17	33	12	21
Ky.	121	98	3,370	3,084	1	1	2	10	3	8
Tenn.	220	283	5,446	5,514	2	3	10	14	8	11
Ala.	174	163	4,433	6,036	5	8	5	1	-	-
Miss.	167	95	4,079	4,545	6	7	-	8	1	2
W.S. CENTRAL	1,296	1,423	38,275	39,778	7	26	24	32	29	49
Ark.	81	92	3,015	2,380	2	1	1	4	-	4
La.	331	214	6,163	7,212	3	3	1	2	13	12
Okla.	67	112	3,872	3,625	2	2	8	7	8	3
Tex.	817	1,005	25,225	26,561	-	20	14	19	8	30
MOUNTAIN	510	515	12,567	15,400	44	30	43	51	29	30
Mont.	11	7	862	591	3	4	3	9	-	-
Idaho	7	11	650	731	5	3	5	8	-	4
Wyo.	1	2	260	297	-	3	1	3	-	2
Colo.	109	129	1,057	4,604	15	8	19	15	15	7
N. Mex.	40	50	2,090	1,901	8	1	2	2	2	3
Ariz.	202	142	5,391	4,864	1	2	7	12	7	11
Utah	48	57	318	965	10	7	3	1	4	1
Nev.	92	117	1,939	1,447	2	2	3	1	1	2
PACIFIC	1,821	1,768	44,146	46,532	85	102	60	93	49	69
Wash.	201	196	5,270	5,075	N	U	14	21	13	34
Oreg.	69	47	847	2,635	3	3	10	12	7	14
Calif.	1,526	1,457	36,912	36,488	81	99	34	52	27	14
Alaska	9	5	991	973	-	-	1	1	-	1
Hawaii	16	63	126	1,361	1	-	1	7	2	6
Guam	9	13	-	213	-	-	N	N	U	U
P.R.	408	284	2,090	U	-	-	-	3	U	U
V.I.	2	18	53	-	-	-	-	-	U	U
Amer. Samoa	-	-	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	U	U	U	U	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases. C.N.M.I.: Commonwealth of Northern Mariana Islands.
 * Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).
[†] Chlamydia refers to genital infections caused by *C. trachomatis*. Totals reported to the Division of STD Prevention, NCHSTP.
[§] Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update April 24, 2001.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending May 19, 2001, and May 20, 2000 (20th Week)

Reporting Area	Gonorrhea		Hepatitis C; Non-A, Non-B		Legionellosis		Listeriosis	Lyme Disease	
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2001	Cum. 2000
UNITED STATES	110,345	129,076	832	9,741	236	252	134	855	1,999
NEW ENGLAND	2,407	2,480	12	11	12	17	13	268	365
Maine	48	32	-	-	-	2	-	-	-
N.H.	51	36	-	-	3	2	-	42	26
Vt.	30	25	5	3	4	-	-	1	2
Mass.	1,197	992	7	5	3	9	8	48	123
R.I.	272	244	-	3	-	1	-	-	-
Conn.	809	1,151	-	-	2	3	5	177	214
MID. ATLANTIC	11,529	13,679	28	274	26	61	20	335	1,289
Upstate N.Y.	2,732	2,279	18	10	17	19	9	266	392
N.Y. City	4,255	4,379	-	-	4	8	3	-	49
N.J.	932	2,744	-	251	3	4	5	-	381
Pa.	3,610	4,277	10	13	2	30	3	69	467
E.N. CENTRAL	18,722	26,055	85	102	63	70	17	20	71
Ohio	2,816	6,575	5	3	35	30	4	19	9
Ind.	2,414	2,192	1	-	5	9	2	1	-
Ill.	5,798	7,925	9	9	-	7	-	-	5
Mich.	6,534	6,680	70	90	16	13	10	-	3
Wis.	1,160	2,683	-	-	7	11	1	U	54
W.N. CENTRAL	5,154	6,129	255	211	19	13	3	33	30
Minn.	765	1,207	-	1	1	1	-	20	13
Iowa	392	401	-	1	5	3	-	3	-
Mo.	2,662	2,962	251	203	9	6	1	7	11
N. Dak.	13	22	-	-	-	-	-	-	-
S. Dak.	87	97	-	-	-	1	-	-	-
Nebr.	270	484	1	2	3	-	1	1	1
Kans.	965	956	3	4	1	2	1	2	5
S. ATLANTIC	29,750	33,382	41	30	38	42	24	146	188
Del.	587	636	-	2	-	4	-	-	33
Md.	2,715	3,278	11	2	7	9	2	103	120
D.C.	1,190	873	-	-	1	-	-	7	-
Va.	3,311	3,841	-	1	6	3	4	25	14
W. Va.	209	247	5	4	N	N	2	1	8
N.C.	6,106	6,648	7	12	4	6	-	5	8
S.C.	3,611	3,377	3	-	1	2	2	1	1
Ga.	5,396	5,971	-	-	2	3	7	-	-
Fla.	6,625	8,511	15	9	17	15	7	4	4
E. S. CENTRAL	10,932	13,533	90	180	22	7	8	4	9
Ky.	1,300	1,278	3	16	6	5	2	2	2
Tenn.	3,526	4,209	28	38	9	1	3	2	5
Ala.	3,516	4,581	1	6	5	1	3	-	1
Miss.	2,590	3,465	58	120	2	-	-	-	1
W.S. CENTRAL	18,290	20,442	148	8,840	3	11	4	7	15
Ark.	1,883	1,258	3	2	-	-	1	-	-
La.	4,197	5,027	62	217	2	5	-	1	1
Okla.	1,791	1,590	2	2	1	1	-	-	-
Tex.	10,419	12,567	81	8,619	-	5	3	6	14
MOUNTAIN	3,876	3,973	126	26	20	15	13	3	1
Mont.	43	20	-	1	-	-	-	-	-
Idaho	30	34	1	-	-	2	-	1	-
Wyo.	17	24	101	1	1	-	-	1	1
Colo.	1,190	1,264	8	5	6	6	1	-	-
N. Mex.	347	401	9	6	1	1	3	-	-
Ariz.	1,504	1,596	4	10	6	2	3	-	-
Utah	34	107	-	-	4	4	1	-	-
Nev.	711	527	3	3	2	-	5	1	-
PACIFIC	9,685	9,403	47	67	33	16	32	39	31
Wash.	1,150	886	12	9	6	7	2	2	-
Oreg.	145	340	5	14	N	N	1	3	3
Calif.	8,236	7,884	30	44	27	9	29	34	27
Alaska	124	117	-	-	-	-	-	-	1
Hawaii	30	176	-	-	-	-	-	N	N
Guam	-	20	-	1	-	-	-	-	-
P.R.	653	213	-	1	2	-	-	N	N
V.I.	6	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	-	U	U
C.N.M.I.	U	U	U	U	U	U	-	U	U

N: Not notifiable.

U: Unavailable.

-: No reported cases.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending May 19, 2001, and May 20, 2000 (20th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	NETSS		PHLIS	
					Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	325	409	2,218	2,361	8,542	10,227	7,178	10,010
NEW ENGLAND	23	17	224	262	696	616	665	645
Maine	2	2	29	59	86	47	70	31
N.H.	2	1	7	3	50	44	42	46
Vt.	-	2	33	16	30	43	32	52
Mass.	6	8	65	85	388	356	320	351
R.I.	1	2	25	19	33	25	54	45
Conn.	12	2	65	80	109	101	147	120
MID. ATLANTIC	58	79	291	363	770	1,487	1,085	1,710
Upstate N.Y.	15	20	231	255	305	321	322	447
N.Y. City	30	36	5	3	263	421	362	459
N.J.	8	11	53	57	121	419	159	317
Pa.	5	12	2	48	81	326	242	487
E.N. CENTRAL	41	50	12	25	1,233	1,473	1,028	1,438
Ohio	9	4	1	4	445	316	408	345
Ind.	9	2	1	-	126	165	112	172
Ill.	1	31	2	1	281	491	179	522
Mich.	15	10	8	13	234	248	226	299
Wis.	7	3	-	7	147	253	103	100
W.N. CENTRAL	14	19	125	215	452	568	579	725
Minn.	6	4	15	30	71	66	207	214
Iowa	1	1	23	32	82	68	83	78
Mo.	3	3	13	9	141	211	182	244
N. Dak.	-	2	17	54	1	14	18	25
S. Dak.	-	-	15	46	38	25	30	35
Nebr.	2	3	1	-	44	71	-	45
Kans.	2	6	41	44	75	113	59	84
S. ATLANTIC	85	87	791	814	2,219	1,693	1,398	1,462
Del.	1	2	12	13	25	35	27	37
Md.	34	35	92	154	228	234	240	263
D.C.	4	-	-	-	24	-	U	U
Va.	20	20	161	208	365	223	291	228
W. Va.	1	-	52	48	28	41	33	40
N.C.	1	9	232	204	369	252	194	211
S.C.	4	1	50	49	265	139	239	124
Ga.	3	4	110	91	312	281	301	420
Fla.	17	16	82	47	603	488	73	139
E.S. CENTRAL	10	14	76	74	496	502	301	400
Ky.	2	2	9	10	94	111	53	77
Tenn.	5	5	56	45	135	124	115	181
Ala.	3	6	11	19	172	150	109	119
Miss.	-	1	-	-	95	117	24	23
W.S. CENTRAL	5	22	477	415	755	1,139	498	682
Ark.	2	1	-	-	108	104	79	74
La.	1	4	-	-	100	194	168	144
Okla.	1	1	35	29	56	99	53	83
Tex.	1	16	442	386	491	742	198	381
MOUNTAIN	19	18	88	84	621	885	509	819
Mont.	2	1	14	23	25	38	-	-
Idaho	2	-	-	-	28	47	4	43
Wyo.	-	-	16	24	25	20	16	17
Colo.	9	10	-	-	181	273	180	256
N. Mex.	1	-	2	5	79	77	66	69
Ariz.	1	2	56	31	169	205	158	215
Utah	2	3	-	1	68	135	62	130
Nev.	2	2	-	-	46	90	23	89
PACIFIC	70	103	134	109	1,300	1,864	1,115	2,129
Wash.	2	7	-	-	143	146	205	233
Oreg.	3	20	-	-	53	123	92	157
Calif.	62	74	101	89	1,070	1,507	704	1,659
Alaska	1	-	33	20	15	22	-	19
Hawaii	2	2	-	-	19	66	114	61
Guam	-	-	-	-	-	7	U	U
P.R.	-	2	61	24	104	124	U	U
V.I.	-	-	-	-	-	-	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.

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

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending May 19, 2001, and May 20, 2000 (20th Week)

Reporting Area	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS		Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000				
UNITED STATES	4,116	6,407	1,979	4,167	1,906	2,457	3,869	4,746
NEW ENGLAND	67	111	67	94	15	29	132	144
Maine	2	4	1	-	-	1	5	3
N.H.	1	1	1	4	-	1	7	3
Vt.	2	1	1	-	-	-	2	2
Mass.	45	74	39	60	11	21	81	88
R.I.	6	9	9	10	1	1	13	12
Conn.	11	22	16	20	3	5	24	36
MID. ATLANTIC	346	985	300	615	125	112	772	803
Upstate N.Y.	156	322	14	140	4	5	117	104
N.Y. City	113	480	169	306	85	50	410	441
N.J.	40	111	52	84	17	24	166	193
Pa.	37	72	65	85	19	33	79	65
E.N. CENTRAL	593	1,129	309	711	294	535	418	499
Ohio	203	77	118	66	29	27	65	105
Ind.	99	231	17	38	70	180	28	51
Ill.	141	373	84	304	82	185	227	234
Mich.	120	307	81	277	104	119	68	73
Wis.	30	141	9	26	9	24	30	36
W.N. CENTRAL	413	426	377	404	24	36	160	186
Minn.	105	47	189	125	12	3	87	65
Iowa	82	97	73	115	1	10	9	13
Mo.	108	224	64	132	6	18	43	68
N. Dak.	9	2	1	1	-	-	-	-
S. Dak.	44	2	33	1	-	-	6	9
Nebr.	27	22	-	11	-	2	15	7
Kans.	38	32	17	19	5	3	-	24
S. ATLANTIC	674	712	209	270	751	796	728	821
Del.	4	5	4	5	2	2	-	2
Md.	42	36	18	12	92	125	72	85
D.C.	21	-	U	U	16	17	15	-
Va.	46	49	21	62	55	53	80	98
W. Va.	4	2	6	2	-	1	11	15
N.C.	147	44	70	24	180	230	94	119
S.C.	61	18	35	36	106	80	32	30
Ga.	83	89	51	80	102	139	156	187
Fla.	266	469	4	49	198	149	268	285
E.S. CENTRAL	373	312	150	228	217	365	223	333
Ky.	124	67	36	35	18	37	37	36
Tenn.	36	154	28	177	123	229	43	125
Ala.	98	14	78	13	38	46	110	109
Miss.	115	77	8	3	38	53	33	63
W.S. CENTRAL	712	1,128	270	347	258	338	485	754
Ark.	216	73	65	24	18	44	49	72
La.	33	106	71	53	52	77	-	52
Okla.	13	14	2	14	32	61	49	46
Tex.	450	935	132	256	156	156	387	584
MOUNTAIN	273	343	170	222	79	78	142	172
Mont.	-	3	-	-	-	-	-	4
Idaho	14	28	-	19	-	-	4	3
Wyo.	-	2	-	2	-	1	-	-
Colo.	56	63	47	30	15	4	42	23
N. Mex.	48	35	29	21	6	7	11	20
Ariz.	117	119	69	69	48	64	48	66
Utah	18	30	17	35	6	-	6	12
Nev.	20	63	8	46	4	2	31	44
PACIFIC	665	1,261	127	1,276	143	168	809	1,034
Wash.	65	231	76	273	22	23	76	83
Oreg.	17	90	36	54	2	6	35	32
Calif.	580	920	-	935	118	138	680	846
Alaska	2	6	-	3	-	-	14	30
Hawaii	1	14	15	11	1	1	4	43
Guam	-	18	U	U	-	2	-	23
P.R.	7	14	U	U	136	73	58	50
V.I.	-	-	U	U	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending May 19, 2001, and May 20, 2000 (20th Week)

Reporting Area	<i>H. influenzae</i> , Invasive		Hepatitis (Viral), By Type				Measles (Rubeola)					
	Cum. 2001†	Cum. 2000	A		B		Indigenous		Imported*		Total	
			Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	2001	Cum. 2001	2001	Cum. 2001	Cum. 2001	Cum. 2000
UNITED STATES	545	535	3,499	5,010	2,274	2,515	2	24	-	20	44	30
NEW ENGLAND	18	43	158	124	36	43	-	3	-	1	4	-
Maine	1	1	3	6	3	4	U	-	U	-	-	-
N.H.	-	6	5	11	8	8	-	-	-	-	-	-
Vt.	1	3	3	3	2	3	-	1	-	-	1	-
Mass.	16	25	48	50	3	2	-	2	-	1	3	-
R.I.	-	1	8	6	8	9	-	-	-	-	-	-
Conn.	-	7	91	48	12	17	-	-	-	-	-	-
MID. ATLANTIC	63	82	290	465	302	455	-	2	-	5	7	10
Upstate N.Y.	25	30	93	92	54	45	-	1	-	4	5	-
N.Y. City	23	26	131	195	175	217	-	-	-	-	-	10
N.J.	14	21	46	75	44	83	U	-	U	1	1	-
Pa.	1	5	20	103	29	110	-	1	-	-	1	-
E.N. CENTRAL	68	81	392	675	284	265	-	-	-	10	10	3
Ohio	32	26	97	124	51	40	-	-	-	3	3	2
Ind.	19	10	36	18	12	20	-	-	-	4	4	-
Ill.	10	27	106	283	24	36	-	-	-	3	3	-
Mich.	3	6	138	207	197	159	-	-	-	-	-	1
Wis.	4	12	15	43	-	10	-	-	-	-	-	-
W.N. CENTRAL	23	26	162	375	79	103	-	4	-	-	4	-
Minn.	11	15	12	92	10	7	-	2	-	-	2	-
Iowa	1	-	17	36	9	14	-	-	-	-	-	-
Mo.	9	7	43	176	41	54	-	2	-	-	2	-
N. Dak.	-	1	-	-	-	2	U	-	U	-	-	-
S. Dak.	-	-	1	-	1	-	-	-	-	-	-	-
Nebr.	1	2	21	17	8	18	-	-	-	-	-	-
Kans.	1	1	68	54	10	8	-	-	-	-	-	-
S. ATLANTIC	187	127	711	473	483	403	-	3	-	1	4	-
Del.	-	-	-	8	-	5	U	-	U	-	-	-
Md.	44	30	105	55	57	51	-	2	-	1	3	-
D.C.	-	-	18	-	3	-	-	-	-	-	-	-
Va.	12	27	55	60	53	57	-	-	-	-	-	-
W. Va.	4	3	2	37	12	4	-	-	-	-	-	-
N.C.	22	10	46	84	84	109	-	-	-	-	-	-
S.C.	5	3	23	15	6	3	-	-	-	-	-	-
Ga.	49	37	260	67	121	67	-	1	-	-	1	-
Fla.	51	17	202	147	147	107	-	-	-	-	-	-
E.S. CENTRAL	42	25	126	205	141	170	2	2	-	-	2	-
Ky.	1	10	18	20	16	34	2	2	-	-	2	-
Tenn.	19	11	57	75	55	72	-	-	-	-	-	-
Ala.	21	3	47	26	36	19	-	-	-	-	-	-
Miss.	1	1	4	84	34	45	-	-	-	-	-	-
W.S. CENTRAL	20	31	535	932	273	380	-	1	-	-	1	-
Ark.	-	-	27	77	41	41	-	-	-	-	-	-
La.	2	10	34	37	20	65	-	-	-	-	-	-
Okla.	18	20	69	126	34	44	-	-	-	-	-	-
Tex.	-	1	405	692	178	230	-	1	-	-	1	-
MOUNTAIN	89	55	311	338	230	186	-	-	-	1	1	9
Mont.	-	-	4	1	1	3	-	-	-	-	-	-
Idaho	1	2	28	13	6	4	-	-	-	1	1	-
Wyo.	4	-	15	3	16	-	U	-	U	-	-	-
Colo.	20	11	29	70	47	33	-	-	-	-	-	2
N. Mex.	12	13	11	38	63	56	-	-	-	-	-	-
Ariz.	42	23	162	161	69	63	-	-	-	-	-	-
Utah	3	4	27	25	11	9	-	-	-	-	-	3
Nev.	7	2	35	27	17	18	-	-	-	-	-	4
PACIFIC	35	65	814	1,423	446	510	-	9	-	2	11	8
Wash.	1	3	33	119	40	24	-	-	-	-	-	3
Oreg.	7	20	27	97	18	39	-	1	-	-	1	-
Calif.	24	25	743	1,191	385	439	-	7	-	1	8	5
Alaska	2	1	11	6	3	2	-	-	-	-	-	-
Hawaii	1	16	-	10	-	6	-	1	-	1	2	-
Guam	-	-	-	1	-	8	U	-	U	-	-	-
P.R.	-	2	41	138	28	93	U	-	U	-	-	-
V.I.	-	-	-	-	-	-	U	-	U	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.

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

† Of 115 cases among children aged <5 years, serotype was reported for 55, and of those, eight were type b.

TABLE III. (Cont'd) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending May 19, 2001, and May 20, 2000 (20th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000
UNITED STATES	1,089	1,049	8	67	163	62	1,647	2,018	1	7	62
NEW ENGLAND	66	57	-	-	2	-	179	523	-	-	10
Maine	1	3	U	-	-	U	-	11	U	-	-
N.H.	7	4	-	-	-	-	16	54	-	-	1
Vt.	4	2	-	-	-	-	22	98	-	-	-
Mass.	37	36	-	-	-	-	133	330	-	-	8
R.I.	2	3	-	-	1	-	1	7	-	-	-
Conn.	15	9	-	-	1	-	7	23	-	-	1
MID. ATLANTIC	81	101	-	2	11	1	101	190	-	1	5
Upstate N.Y.	34	24	-	1	5	1	85	92	-	1	1
N.Y. City	20	26	-	1	3	-	6	35	-	-	4
N.J.	22	22	U	-	-	U	2	-	U	-	-
Pa.	5	29	-	-	3	-	8	63	-	-	-
E.N. CENTRAL	138	186	1	9	16	6	198	266	1	3	-
Ohio	49	35	-	1	7	4	123	155	-	-	-
Ind.	24	21	-	1	-	1	18	22	-	1	-
Ill.	20	48	-	6	4	-	21	22	1	2	-
Mich.	24	59	1	1	4	1	18	18	-	-	-
Wis.	21	23	-	-	1	-	18	49	-	-	-
W.N. CENTRAL	73	67	1	4	8	1	77	76	-	1	1
Minn.	10	7	-	1	-	-	17	39	-	-	-
Iowa	17	15	-	-	4	-	10	8	-	1	-
Mo.	25	33	-	-	2	-	33	14	-	-	-
N. Dak.	3	1	U	-	-	U	-	1	U	-	-
S. Dak.	4	4	-	-	-	-	3	1	-	-	-
Nebr.	5	4	1	1	1	-	2	3	-	-	1
Kans.	9	3	-	2	1	1	12	10	-	-	-
S. ATLANTIC	204	148	6	16	24	5	87	147	-	2	27
Del.	-	-	U	-	-	U	-	3	U	-	-
Md.	26	15	-	4	5	-	13	38	-	-	-
D.C.	-	-	-	-	-	-	1	-	-	-	-
Va.	21	28	-	2	4	-	10	13	-	-	-
W. Va.	4	5	-	-	-	-	1	-	-	-	-
N.C.	44	25	-	-	3	-	30	39	-	-	20
S.C.	21	11	-	1	7	4	19	16	-	-	5
Ga.	28	26	6	7	2	-	3	19	-	1	-
Fla.	60	38	-	2	3	1	10	19	-	1	2
E.S. CENTRAL	76	74	-	1	4	-	38	40	-	-	4
Ky.	13	14	-	1	-	-	11	25	-	-	1
Tenn.	28	33	-	-	2	-	16	6	-	-	-
Ala.	28	21	-	-	2	-	8	8	-	-	3
Miss.	7	6	-	-	-	-	3	1	-	-	-
W.S. CENTRAL	159	125	-	7	19	1	53	82	-	-	5
Ark.	10	6	-	1	1	-	3	10	-	-	-
La.	52	33	-	2	3	-	1	6	-	-	1
Okla.	17	19	-	-	-	-	1	8	-	-	-
Tex.	80	67	-	4	15	1	48	58	-	-	4
MOUNTAIN	56	51	-	6	13	41	784	310	-	-	1
Mont.	-	1	-	-	1	-	6	6	-	-	-
Idaho	5	6	-	1	-	-	160	38	-	-	-
Wyo.	1	-	U	1	1	U	1	-	U	-	-
Colo.	23	14	-	1	-	-	135	179	-	-	1
N. Mex.	8	6	-	2	1	-	49	51	-	-	-
Ariz.	10	16	-	-	3	40	415	26	-	-	-
Utah	5	6	-	-	4	1	13	7	-	-	-
Nev.	4	2	-	1	3	-	5	3	-	-	-
PACIFIC	236	240	-	22	66	7	130	384	-	-	9
Wash.	37	22	-	-	2	6	40	114	-	-	7
Oreg.	16	27	N	N	N	1	7	36	-	-	-
Calif.	181	180	-	20	55	-	83	209	-	-	2
Alaska	1	3	-	1	4	-	-	5	-	-	-
Hawaii	1	8	-	1	5	-	-	20	-	-	-
Guam	-	-	U	-	1	U	-	2	U	-	1
P.R.	1	5	U	-	-	U	-	1	U	-	-
V.I.	-	-	U	-	-	U	-	-	U	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable.

U: Unavailable.

- : No reported cases.

**TABLE IV. Deaths in 122 U.S. cities,* week ending
May 19, 2001 (20th Week)**

Reporting Area	All Causes, By Age (Years)						P&I [†] Total	Reporting Area	All Causes, By Age (Years)						P&I [†] Total
	All Ages	≥65	45-64	25-44	1-24	<1			All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	632	470	91	46	13	12	79	S. ATLANTIC	1,495	992	297	141	40	25	106
Boston, Mass.	180	114	32	24	7	3	16	Atlanta, Ga.	189	109	41	26	5	8	3
Bridgeport, Conn.	48	39	3	2	2	2	6	Baltimore, Md.	213	122	49	34	8	-	20
Cambridge, Mass.	16	14	1	1	-	-	1	Charlotte, N.C.	110	74	25	10	1	-	13
Fall River, Mass.	26	21	3	1	-	1	3	Jacksonville, Fla.	150	109	16	16	4	5	13
Hartford, Conn.	40	26	8	5	1	-	3	Miami, Fla.	179	117	38	13	5	6	25
Lowell, Mass.	26	19	6	-	1	-	2	Norfolk, Va.	48	31	8	7	2	-	1
Lynn, Mass.	16	12	1	2	1	-	1	Richmond, Va.	57	34	18	3	1	1	2
New Bedford, Mass.	31	28	2	1	-	-	5	Savannah, Ga.	63	42	14	2	3	2	5
New Haven, Conn.	38	29	4	3	-	2	5	St. Petersburg, Fla.	92	79	12	1	-	-	12
Providence, R.I.	64	50	13	-	-	1	6	Tampa, Fla.	170	130	25	10	4	1	5
Somerville, Mass.	3	3	-	-	-	-	1	Washington, D.C.	200	121	51	19	7	2	7
Springfield, Mass.	42	30	8	3	-	1	7	Wilmington, Del.	24	24	-	-	-	-	-
Waterbury, Conn.	38	31	4	2	-	1	6	E.S. CENTRAL	843	568	175	63	18	18	64
Worcester, Mass.	64	54	6	2	1	1	17	Birmingham, Ala.	174	113	42	15	3	-	19
MID. ATLANTIC	2,161	1,524	435	134	43	25	108	Chattanooga, Tenn.	77	55	14	4	4	-	2
Albany, N.Y.	53	37	5	5	5	1	3	Knoxville, Tenn.	97	63	24	5	-	5	2
Allentown, Pa.	18	16	2	-	-	-	2	Lexington, Ky.	38	26	6	3	2	1	7
Buffalo, N.Y.	79	58	11	7	3	-	9	Memphis, Tenn.	133	91	23	11	4	4	12
Camden, N.J.	20	10	3	4	1	2	1	Mobile, Ala.	76	57	8	7	1	3	-
Elizabeth, N.J.	27	19	6	1	1	-	1	Montgomery, Ala.	56	44	8	3	1	-	10
Erie, Pa.‡	37	30	4	3	-	-	2	Nashville, Tenn.	192	119	50	15	3	5	12
Jersey City, N.J.	49	29	14	6	-	-	-	W.S. CENTRAL	1,380	902	280	131	35	30	74
New York City, N.Y.	1,152	797	252	69	20	14	42	Austin, Tex.	71	50	10	4	4	1	3
Newark, N.J.	U	U	U	U	U	U	U	Baton Rouge, La.	60	30	19	4	3	4	3
Paterson, N.J.	12	5	3	3	1	-	-	Corpus Christi, Tex.	58	42	10	5	1	-	4
Philadelphia, Pa.	341	241	70	18	8	4	16	Dallas, Tex.	205	123	46	16	12	8	14
Pittsburgh, Pa.‡	34	26	5	3	-	-	3	El Paso, Tex.	72	49	12	9	-	2	4
Reading, Pa.	22	18	2	2	-	-	1	Ft. Worth, Tex.	117	74	32	8	3	-	5
Rochester, N.Y.	109	90	14	3	1	1	3	Houston, Tex.	322	204	66	41	6	5	15
Schenectady, N.Y.	25	20	3	2	-	-	4	Little Rock, Ark.	57	35	15	4	1	2	1
Scranton, Pa.‡	19	14	5	-	-	-	12	New Orleans, La.	U	U	U	U	U	U	U
Syracuse, N.Y.	117	80	27	6	1	3	14	San Antonio, Tex.	284	212	39	25	3	5	13
Trenton, N.J.	29	18	7	2	2	-	4	Shreveport, La.	U	U	U	U	U	U	U
Utica, N.Y.	18	16	2	-	-	-	1	Tulsa, Okla.	134	83	31	15	2	3	12
Yonkers, N.Y.	U	U	U	U	U	U	U	MOUNTAIN	1,096	756	200	88	32	19	86
E.N. CENTRAL	1,664	1,142	340	111	32	38	80	Albuquerque, N.M.	122	90	16	11	3	2	11
Akron, Ohio	45	33	7	4	-	1	1	Boise, Idaho	47	40	5	2	-	-	4
Canton, Ohio	37	31	3	2	1	-	4	Colo. Springs, Colo.	67	44	12	9	1	1	3
Chicago, Ill.	U	U	U	U	U	U	U	Denver, Colo.	113	65	28	15	3	2	10
Cincinnati, Ohio	120	82	19	10	3	6	4	Las Vegas, Nev.	236	173	51	9	2	1	19
Cleveland, Ohio	148	91	44	9	1	3	3	Ogden, Utah	18	15	2	1	-	-	1
Columbus, Ohio	178	112	41	17	5	3	7	Phoenix, Ariz.	200	119	45	21	8	6	8
Dayton, Ohio	144	112	18	11	1	1	6	Pueblo, Colo.	23	21	1	-	1	-	2
Detroit, Mich.	170	110	34	14	5	7	10	Salt Lake City, Utah	129	90	16	12	6	5	13
Evansville, Ind.	40	24	13	2	1	-	3	Tucson, Ariz.	141	99	24	8	8	2	15
Fort Wayne, Ind.	59	47	7	3	1	1	6	PACIFIC	2,056	1,490	365	109	52	37	165
Gary, Ind.	17	8	5	3	1	-	-	Berkeley, Calif.	14	10	4	-	-	-	-
Grand Rapids, Mich.	54	37	12	3	2	-	1	Fresno, Calif.	93	65	17	7	2	2	8
Indianapolis, Ind.	199	121	58	13	1	6	9	Glendale, Calif.	38	31	6	-	1	-	1
Lansing, Mich.	51	38	7	3	2	1	5	Honolulu, Hawaii	69	52	11	3	-	3	4
Milwaukee, Wis.	96	72	17	3	1	3	3	Long Beach, Calif.	81	64	11	4	2	-	12
Peoria, Ill.	49	34	8	1	3	3	6	Los Angeles, Calif.	684	514	118	31	13	8	42
Rockford, Ill.	43	34	4	1	2	2	1	Pasadena, Calif.	36	28	6	2	-	-	6
South Bend, Ind.	48	34	9	4	1	-	1	Portland, Oreg.	127	84	24	8	6	5	8
Toledo, Ohio	96	65	25	6	-	-	8	Sacramento, Calif.	208	143	37	17	3	8	25
Youngstown, Ohio	70	57	9	2	1	1	2	San Diego, Calif.	172	123	33	6	8	2	16
W.N. CENTRAL	760	532	144	47	18	19	56	San Francisco, Calif.	U	U	U	U	U	U	U
Des Moines, Iowa	50	41	8	-	-	1	6	San Jose, Calif.	198	145	38	10	2	3	21
Duluth, Minn.	37	28	7	2	-	-	2	Santa Cruz, Calif.	32	20	6	2	3	-	2
Kansas City, Kans.	36	20	12	3	-	1	7	Seattle, Wash.	142	96	22	14	6	4	10
Kansas City, Mo.	91	58	18	9	3	3	5	Spokane, Wash.	61	39	15	3	2	2	5
Lincoln, Nebr.	44	30	12	1	1	-	3	Tacoma, Wash.	101	76	17	2	4	-	5
Minneapolis, Minn.	151	110	27	9	2	3	10	TOTAL	12,087 [†]	8,376	2,327	870	283	223	818
Omaha, Nebr.	91	69	16	4	-	2	5								
St. Louis, Mo.	85	53	17	6	4	5	7								
St. Paul, Minn.	91	67	17	4	1	2	3								
Wichita, Kans.	84	56	10	9	7	2	8								

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. 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.

Notice to Readers — Continued

when Td is not available, TT is not available for national distribution. Existing stocks of TT are extremely limited and are mainly reserved for production of tetanus immune globulin and other special circumstances.

Health-care providers and institutions requiring Td for priority indications should contact Aventis Pasteur, telephone (800) 822-2463 or (800) VACCINE. Institutions should place orders for their anticipated needs for priority indications only. Limiting quantities of vaccine in each order is necessary to assure the widest possible distribution of available vaccine. For emergency situations (e.g., natural disasters) requiring increased use of Td, Aventis Pasteur can provide vaccine within 24 hours.

References

1. CDC. Update on the supply of tetanus and diphtheria toxoids and of diphtheria and tetanus toxoids and acellular pertussis vaccine. MMWR 2001;50:189–90.
2. CDC. Shortage of tetanus and diphtheria toxoids. MMWR 2000;49:1029–30.
3. Immunization Practices Advisory Committee. Diphtheria, tetanus, and pertussis: recommendations for vaccine use and other preventive measures—recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1991;40(no. RR-10).

Vol. 50, No. 19

In the article, "Update: Syringe Exchange Programs — United States, 1998," on page 387, an error occurred in the fourth sentence of the last paragraph. It should read, "Assuring availability of sterile syringes for IDUs who continue to inject is only one component of a comprehensive approach to HIV prevention for IDUs."

Contributors to the Production of the *MMWR* (Weekly)**Weekly Notifiable Disease Morbidity Data and 122 Cities Mortality Data**

Samuel L. Groseclose, D.V.M., M.P.H.

State Support Team

Robert Fagan
Jose Aponte
Gerald Jones
David Nitschke
Scott Noldy
Carol A. Worsham

CDC Operations Team

Carol M. Knowles
Deborah A. Adams
Willie J. Anderson
Patsy A. Hall
Suzette A. Park
Felicia J. Perry
Pearl Sharp

Informatics

T. Demetri Vacalis, Ph.D.

Michele D. Renshaw

Erica R. Shaver

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/mmwr> or from CDC's file transfer protocol server at <ftp://ftp.cdc.gov/pub/Publications/mmwr>. 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.

All material in the *MMWR* Series is in the public domain and may be used and reprinted without permission; citation as to source, however, is appreciated.

Director, Centers for Disease Control and Prevention Jeffrey P. Koplan, M.D., M.P.H.	Director, Epidemiology Program Office Stephen B. Thacker, M.D., M.Sc.	Acting Managing Editor, <i>MMWR</i> (Weekly) Teresa F. Rutledge
Deputy Director for Science and Public Health, Centers for Disease Control and Prevention David W. Fleming, M.D.	Editor, <i>MMWR</i> Series John W. Ward, M.D.	Writers-Editors, <i>MMWR</i> (Weekly) Jill Crane David C. Johnson
		Desktop Publishing Lynda G. Cupell Morie M. Higgins

☆U.S. Government Printing Office: 2001-633-173/48233 Region IV