MMWR™
Morbidity and Mortality Weekly Report
Weekly June 4, 2004 / Vol. 53 / No. 21

Nonfatal and Fatal Drownings in Recreational Water Settings — United States, 2001–2002

Drowning is the seventh leading cause of unintentional injury deaths for all ages and the second leading cause of all injury deaths in children aged 1–14 years (*1*). Many of these injuries occur in recreational water settings, including pools, spas/hot tubs, and natural water settings (e.g., lakes, rivers, or oceans). To examine the incidence and characteristics of nonfatal and fatal unintentional drownings in recreational water settings, CDC analyzed 2001–2002 data from the National Electronic Injury Surveillance System All Injury Program (NEISS-AIP) and National Vital Statistics System (NVSS) death certificate data from 2001. This report summarizes that analysis, which indicated that, during 2001–2002, an estimated 4,174 persons on average per year were treated in U.S. hospital emergency departments (EDs) for nonfatal unintentional drowning injuries in recreational water settings. Approximately 53% of persons required hospitalization or transfer for more specialized care. During 2001, a total of 3,372 persons suffered fatal unintentional drownings in recreational settings. Nonfatal and fatal injury rates were highest for children aged ≤4 years and for males of all ages. To reduce the number of drownings, environmental protections (e.g., isolation pool-fences and lifeguards) should be adopted; alcohol use should be avoided while swimming, boating, or water skiing or while supervising children; and all participants, caregivers, and supervisors should be knowledgeable regarding water-safety skills and be trained in cardiopulmonary resuscitation (CPR) (Box).

NEISS-AIP is operated by the U.S. Consumer Product Safety Commission and collects data about initial visits for all types and causes of injuries treated in U.S. EDs (*2*). Data are drawn from a nationally representative subsample of 66 hospitals out of 100 NEISS hospitals that were selected as a stratified probability sample of hospitals in the United States and its territories; the hospitals have a minimum of six beds and a 24-hour ED. NEISS-AIP provides data on approximately 500,000 injury- and consumer product–related ED cases each year. Death certificate data were obtained from NVSS (*3*). Rates were calculated by using 2001 and 2002 U.S. Census bridged-race population estimates from the National Center for Health Statistics (*1*).

Nonfatal cases were identified in the NEISS-AIP data if they had a precipitating or immediate cause of "drowning/near-drowning," a diagnosis of "submersion," or the mention of "drown" or "submersion" in the comment field. Cases were reviewed, and any intentional or nonrecreational drownings (e.g., in bathtub, bucket, toilet, or related to motor-vehicle crash) were excluded. In addition, because deaths are not captured completely by NEISS-AIP, persons who were dead on arrival or who died in the ED also were excluded. Each case was assigned a sample weight on the basis of the inverse probability of selection; these weights were summed to provide national estimates of nonfatal drownings. Estimates were based on weighted data for 206 patients with drowning injuries in recreational water settings treated at NEISS-AIP hospital EDs during 2001–2002. Two years of data were necessary to provide stable rates. Confidence intervals (CIs) were calculated

INSIDE

DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION

The *MMWR* series of publications is published by the Epidemiology Program Office, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

SUGGESTED CITATION
Centers for Disease Control and Prevention. [Article Title]. MMWR 2004;53:[inclusive page numbers].

BOX. Strategies for drowning prevention in recreational water settings*

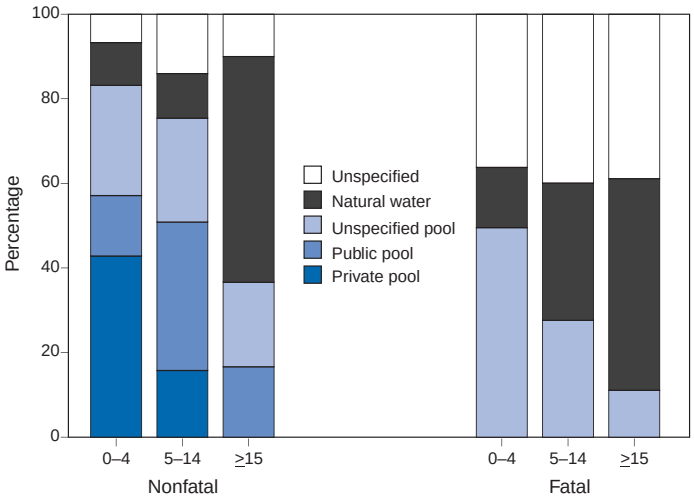
- Make sure an adult is constantly watching children swimming or playing in or around the water. Do not read, play cards, talk on the phone, mow the lawn, or engage in any other distracting activity while supervising children.
- Never swim alone or in unsupervised places and always swim with a buddy. Select swimming sites that have lifeguards whenever possible.
- Avoid drinking alcohol before or during swimming, boating, or water skiing. Avoid drinking alcohol while supervising children around water.
- Learn to swim. Enroll yourself and your children in swimming classes. The American Academy of Pediatrics does not recommend swimming classes as a means of drowning prevention for children aged <4 years.
- Learn cardiopulmonary resuscitation (CPR). Because of the time it might take for paramedics to arrive, your CPR skills can make a difference in someone's life.
- Do *not* use air-filled or foam toys, such as "water wings," "noodles," or inner-tubes, in place of life jackets (personal flotation devices). These are toys and are not designed to keep swimmers safe.
- If you have a swimming pool at your home:
  - — Install a four-sided, isolation pool-fence. The fence should be ≥4 feet high and should completely separate the pool from the house and play area of the yard. Use self-closing and self-latching gates in the fence with the latches out of children's reach. Consider additional barriers such as automatic door locks and door alarms to prevent access by small children to the yard or pool.
  - — Toys should be removed from the pool immediately after use. Floats, balls, and other toys might encourage children to enter the pool on their own or to lean over the pool and potentially fall in.
- Tips for recreation in natural bodies of water:
  - — Know the local weather conditions and forecast before swimming or boating. Strong winds and thunderstorms with lightning strikes are dangerous to swimmers and boaters.
  - — Use U.S. Coast Guard–approved life jackets when boating, regardless of distance to be traveled, size of boat, or swimming ability of boaters.
  - — Heed colored beach warning flags.
  - — Watch for dangerous waves and signs of rip currents (e.g., water that is discolored and unusually choppy, foamy, or filled with debris). If you are caught in a rip current, swim parallel to the shore. Once out of the current, swim toward the shore.

* Adapted from SafeUSA. Additional information is available at http://www.safeusa.org.

by using a direct variance estimation procedure that accounted for the sample weights and complex sample design. Estimates for the 2 years were annualized by dividing the sample weights by two. Because of the small sample size, percentages of nonfatal injuries by location (Figure) were based on unweighted data for NEISS-AIP cases and, thus, are not nationally representative. Drowning deaths in recreational water settings were defined as those for which the underlying cause recorded on death certificates by a physician or coroner was one of the following *International Classification of Diseases, Tenth Revision* (ICD-10) codes: W67–W74, V90, or V92. Because NVSS is a complete census of all deaths, it is not subject to sampling error; however, CIs were calculated to account for random error (*3*). This report uses the terms "nonfatal drowning" and "fatal drowning" to describe the events captured by using these methods.

During 2001–2002, an estimated 4,174 persons on average were treated annually in U.S. EDs for nonfatal unintentional drowning injuries in recreational settings, and 3,372 persons died in 2001 (Table). Children aged ≤4 years accounted for nearly 50% of the ED visits, and children aged 5–14 years an additional 25%. Fatal rates also were highest in children aged ≤4 years. The nonfatal drowning rate for males was nearly twice that for females, and the fatal rate for males

FIGURE. Distribution* of nonfatal and fatal recreation-related drownings, by location and age group for reported cases — United States, 2001–2002



* Distribution for nonfatal recreation-related drownings based on unweighted data for 206 National Electronic Injury Surveillance System All Injury Program cases (119 cases in persons aged 0–4 years, 57 in persons aged 5–14 years, and 30 cases in persons aged ≥15 years) and therefore are not nationally representative; distribution for fatal recreation-related drownings based on 3,372 deaths from 2001 only.

TABLE. Estimated annual number*, percentage, and rate† of persons treated in emergency departments for nonfatal recreation-related and fatal recreation-related drownings§, by selected characteristics — United States, 2001–2002

	Nonfatal				Fatal			
Characteristic	Estimated no.	(%)	Rate	(95% CI¶)	No.	(%)	Rate	(95% CI)
Age (yrs)								
0–4	2,168**	(52.0)	11.13	(3.56–18.69)	442	(13.1)	2.28	(2.07–2.50)
5–14	1,058	(25.3)	2.58	(1.13–4.02)	333	(9.9)	0.81	(0.72–0.90)
≥15	948	(22.7)	0.42	(0.20–0.64)	2,563	(76.0)	1.14	(1.10–1.18)
Unknown	—	—	—	—	34	(1.0)	—	—
Sex								
Male	2,721	(65.2)	1.93	(1.16–2.70)	2,789	(82.7)	1.99	(1.92–2.06)
Female	1,452††	(34.8)	1.00	(0.27–1.72)	583	(17.3)	0.40	(0.37–0.43)
Location								
Pool	2,751	(65.9)	0.96	(0.40–1.51)	596	(17.7)	0.21	(0.19–0.23)
Natural water	909	(21.8)	0.32	(0.14–0.49)	1,467	(43.5)	0.51	(0.49–0.54)
Other/Unspecified	513	(12.3)	—	—	1,309	(38.8)	—	—
Disposition								
Treated and released	1,925	(46.1)	0.67	(0.29–1.05)	—	—	—	—
Hospitalized/Transferred	2,233	(53.5)	0.78	(0.44–1.12)	—	—	—	—
Other/Unknown	16	(0.4)	—	—	—	—	—	—
Total	**4,174**	**(100.0)**	**1.46**	**(0.77–2.14)**	**3,372**	**(100.0)**	**1.18**	**(1.14–1.22)**

* Numbers might not add to totals because of rounding.
† Per 100,000 persons.
§ Data for fatal recreation-related drownings are for 2001 only.
¶ Confidence interval.
** Although this estimate is based on 119 cases, it might be unstable. The coefficient of variation is 35% because of an over-representation of children treated in National Electronic Injury Surveillance System All Injury Program (NEISS-AIP) children's hospitals, affecting the variance of the estimate.
†† Although this estimate is based on 71 cases, it might be unstable. The coefficient of variation is 37% because small NEISS-AIP hospitals are underrepresented in this subgroup, affecting the variance of the estimate.

was almost five times that for females. These injuries in recreational settings occurred most commonly on weekends (Friday–Sunday), accounting for 56% of nonfatal injuries, and in summer months (June–August), accounting for 56% of nonfatal injuries and 51% of fatalities. For those cases that were known to occur either in a pool or natural water setting, an estimated 75% of nonfatal injuries occurred in pools, whereas 70% of the fatalities occurred in natural water settings. Nearly 40% of reported nonfatal injuries to children aged ≤4 years occurred in private pools; both nonfatal and fatal injuries in natural water settings increased with age (Figure). Approximately 53% of ED-treated patients required hospitalization or transfer to another hospital for more specialized care.

Reported by: *J Gilchrist, MD, Div of Unintentional Injury Prevention; K Gotsch, MPH, G Ryan, PhD, Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.*

Editorial Note: Drownings have been a leading cause of injury death in the United States for decades (*1*). The findings in this report are consistent with previous reports of fatal drownings, indicating that small children are at highest risk, particularly around residential pools (*4*). In addition, males are at higher risk than females, possibly because of their choices of activities with higher risk and increased use of alcohol (*5*).

This report is the first to provide national estimates of the number and characteristics of nonfatal unintentional drowning injuries in recreational settings treated in EDs. During 2001–2002, approximately 4,000 persons were treated annually for nonfatal drownings, with approximately 50% requiring hospitalization or transfer for more specialized care, compared with 5% hospitalized or transferred for all unintentional injuries (*1*). Nonfatal drownings put victims at risk for infection of the respiratory tract and complications associated with lack of oxygen, including permanent brain damage.

Because treatment measures such as advanced in-hospital care do not seem to substantially affect the outcome of drowning injuries (*6*), primary and secondary prevention strategies are critical to reducing morbidity and mortality associated with these injuries. Primary prevention aims to decrease unintentional entry into the water, which is especially important in preventing drowning injuries in children aged ≤4 years that commonly occur when unintended access to residential pools is possible (*4*). Four-sided isolation pool-fencing and other barriers (e.g., weight-bearing pool covers, automatic door locks, and alarms) are necessary to prevent drownings when lapses in supervision occur (*7*).

Once a person is in the water, secondary prevention measures can avert drownings. Strategies such as consistently using personal flotation devices when on or around the water and avoiding use of alcoholic beverages are especially relevant for those involved in boating (*8*). In addition, swimming instruction and water-safety training can prepare a participant to deal with hazardous aquatic environments (e.g., rip currents, waves, and underwater obstacles like riverbed rocks). Participants can further reduce risk by choosing swimming sites that have lifeguard services (*9*); however, lifeguard services often are not feasible at natural water sites. Environmental modifications (e.g., lakefront slope gradients to prevent sudden, unseen underwater drop-offs) at natural water sites can help prevent drownings (*9*). Finally, immediate bystander-initiated CPR, before the arrival of first responders, has been associated with improved outcomes (*10*).

The findings in this report are subject to at least four limitations. First, whereas fatalities occurring in EDs are excluded from the nonfatal data presented, those occurring during or after hospitalization were not excluded; data for fatal and nonfatal drownings might not be mutually exclusive. Second, limited data were available regarding circumstances and possible use of prevention strategies (e.g., life jackets, fencing, or CPR). Third, although drowning risks vary at the state and local levels, NEISS-AIP is designed to provide only national estimates and does not provide state or local estimates. Finally, although the extent of exposure to recreational water settings might vary by age, sex, season, skill level, or other factors, these data were not available; as a result, the analysis did not account for exposure.

Because even nonfatal drownings can be serious, with many requiring hospitalization and some resulting in brain damage or other long-term adverse effects, prevention is critical. Participants, parents, caregivers, and supervisors should be aware of the hazards, use appropriate prevention strategies, and be prepared with the skills to save lives in the event of emergencies.

Acknowledgments

This report is based on data contributed by T Schroeder, MS, C Downs, A McDonald, MA, Div of Hazard and Injury Data Systems, U.S. Consumer Product Safety Commission. E Sogolow, PhD, Div of Unintentional Injury Prevention; JL Annest, PhD, Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.

References

1. CDC. Web-based Injury Statistics Query and Reporting System (WISQARS). Available at http://www.cdc.gov/ncipc/wisqars.
2. CDC. National estimates of nonfatal injuries treated in hospital emergency departments—United States, 2000. MMWR 2001;50:340–6.
3. National Center for Health Statistics. Deaths: final data for 2001. Rockville, Maryland: U.S. Department of Health and Human Services, CDC, 2003 (National vital statistics report; vol. 52, no. 3).

a•ware: *adj*

(ə-'wâr) 1 : marked by comprehension, cognizance, and perception; see also *MMWR*.

know what matters.

MMWR™
Weekly

4. Brenner RA, Trumble AC, Smith GS, Kessler EP, Overpeck MD. Where children drown, United States, 1995. Pediatrics 2001;108:85–9.
5. Howland J, Hingson R, Mangione TW, Bell N, Bak S. Why are most drowning victims men? Sex differences in aquatic skills and behaviors. Am J Public Health 1996;86:93–6.
6. Cummings P, Quan L. Trends in unintentional drowning: the role of alcohol and medical care. JAMA 1999;281:2198–202.
7. Thompson DC, Rivara FP. Pool fencing for preventing drowning in children. Cochrane Database Syst Rev 2000;CD001047.
8. Howland J, Smith GS, Mangione T, Hingson R, DeJong W, Bell N. Missing the boat on drinking and boating. JAMA 1993;270:91–2.
9. Branche CM, Stewart S, eds. Lifeguard effectiveness: a report of the working group. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, National Center for Injury Prevention and Control, 2001.
10. Kyriacou DN, Arcinue EL, Peek C, Kraus JF. Effect of immediate resuscitation on children with submersion injury. Pediatrics 1994; 94:137–42.

Enhanced Enforcement of Laws to Prevent Alcohol Sales to Underage Persons — New Hampshire, 1999–2004

In 1984, the National Minimum Drinking Age Act (Public Law 98-363) was passed, requiring states to raise to 21 years the minimum age to purchase and publicly possess alcohol. Although the law has contributed to substantial reductions in underage drinking and alcohol-related motor-vehicle crashes (*1*), alcohol use and binge drinking rates among youths remain high in the United States, and efforts by youths to purchase alcohol from licensed establishments frequently are successful (*2,3*). To reduce alcohol sales to persons aged <21 years in Concord (2000 population: 40,687), New Hampshire, the Concord Police Department (CPD) and New Hampshire Liquor Commission (NHLC) conducted a pilot program of enhanced law enforcement with quarterly compliance checks of alcohol licensees during March 2002–February 2004. This report summarizes the results of that program, which indicated that enhanced enforcement 1) resulted in a 64% reduction in retail alcohol sales to underage youths and 2) was temporally associated with declines in alcohol use and binge drinking among Concord high school students. These findings emphasize the potential effectiveness of enhanced enforcement of minimum drinking age laws to reduce consumption of alcohol by underage youths.

NHLC routinely conducts statewide compliance checks by using persons aged 17–19 years to attempt purchases of beer or wine. If questioned, buyers are instructed to state their true age and, if asked, to present their driver's license to verify their age. During October 1999–February 2004, routine compliance checks were conducted at 29% (539 of 1,839) of "off-sale" alcohol licensees (i.e., businesses that sell alcohol to be consumed off-premises, such as convenience, grocery, and state liquor stores) outside of Concord each year. In Concord, during October 1999–February 2002, routine compliance checks were conducted one to two times per year at all off-sale alcohol licensees.

During March 2002–February 2004, CPD conducted a campaign of increased enforcement of the minimum drinking age. The campaign included three components: 1) quarterly compliance checks of all off-sale alcohol licensees; 2) enhanced administrative penalties for noncompliance, including a mandatory fine levied against the alcohol licensee, temporary suspension of retailers' alcohol licenses beginning with the first offense, and increasing penalties for subsequent offenses (Table); and 3) media coverage of enhanced enforcement activities, such as reporting the number of citations issued for noncompliance. Quarterly compliance checks were conducted throughout the intervention period; however, mandatory licensee fines and suspensions were in effect only during August 2002–July 2003. The enhanced administrative penalties were announced by CPD in a letter sent to all Concord alcohol licensees in June 2002. Under New Hampshire state law, store clerks who sold alcoholic beverages to underage buyers also were subject to fines and penalties, which were issued at the discretion of the local judicial system throughout the study period.

To estimate the number of youths who drank alcohol, the New Hampshire Department of Health and Human Services analyzed data from the Youth Risk Behavior Survey (YRBS) conducted at Concord High School among students in grades 9–12 in 2001 and 2003. In 2001, a total of 1,131 (62.0%) of 1,824 high school students participated in the Concord YRBS. In 2003, a total of 1,274 (74.0%) of 1,721 students participated. Statewide data on alcohol consumption by high school students were obtained from the 1995 and 2003 YRBS conducted by New Hampshire. Because of low response rates in 1997, 1999, and 2001, data from New Hampshire YRBS surveys in those years were not weighted, and therefore were not used for comparison. In 1995, a total of 2,092 students participated in the New Hampshire YRBS; the overall response rate was 65.0%. In 2003, a total of 1,322 students partici-

TABLE. Mandatory penalties to licensees for sale of alcohol to persons aged <21 years during compliance checks, by severity — Concord, New Hampshire, August 2002–July 2003

Offense	Fine/Penalty	License/Suspension (days)
First	$250	3
Second	$500	5
Third	$750	10
Fourth	$1,500	30
Fifth	Revocation of license	

pated in the New Hampshire YRBS; the overall response rate was 61.8%. Current alcohol use was defined as having at least one drink of alcohol on ≥1 day during the preceding 30 days. Binge drinking was defined as having five or more drinks of alcohol in a row during the preceding 30 days.

In Concord, before enhanced enforcement activities, 62 (28.2%) of 220 licensees sold alcohol to underage youths during compliance checks (Figure 1). During enhanced enforcement, 39 (10.2%) of 383 licensees sold alcohol to underage youths during compliance checks (relative risk [RR] = 0.4; 95% confidence interval [CI] = 0.3–0.5). During enforcement checks elsewhere in New Hampshire, outside of Concord, 308 (30.5%) of 1,007 licensees sold alcohol to underage youths in compliance checks during October 1999–February 2002 (Figure 2). During March 2002–February 2004, a total of 231 (27.7%) of 832 licensees sold alcohol to underage youths (RR = 0.9; 95% CI = 0.8–1.1).

Among Concord high school students, statistically significant declines occurred in the proportion of students who reported current alcohol use (from 49.8% in 2001 to 39.9% in 2003; RR = 0.8; 95% CI = 0.7–0.9) and binge drinking (from 32.0% in 2001 to 25.0% in 2003; RR = 0.8; 95% CI = 0.7–0.9). Statewide, no statistically significant decreases occurred in the proportion of New Hampshire high school students who reported current alcohol use in 1995 (53.1% [95% CI = 50.2%–56.0%]) versus 2003 (47.1% [95% CI = 41.8%–52.4%]) or binge drinking in 1995 (32.9% [95% CI = 30.2%–35.6%]) versus 2003 (30.6% [95% CI = 25.9%–35.3%]).

Reported by: *R Barry, Concord Police Dept; E Edwards, New Hampshire Liquor Commission; A Pelletier, MD, New Hampshire Dept of Health and Human Svcs. R Brewer, MD, J Miller, MD, T Naimi, MD, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion; A Redmond, MPH, Div of Applied Public Health Training, Epidemiology Program Office; L Ramsey, PhD, EIS Officer, CDC.*

FIGURE 1. Percentage of licensees selling alcohol to persons aged <21 years during compliance checks, by month and year — Concord, New Hampshire, October 1999–February 2004

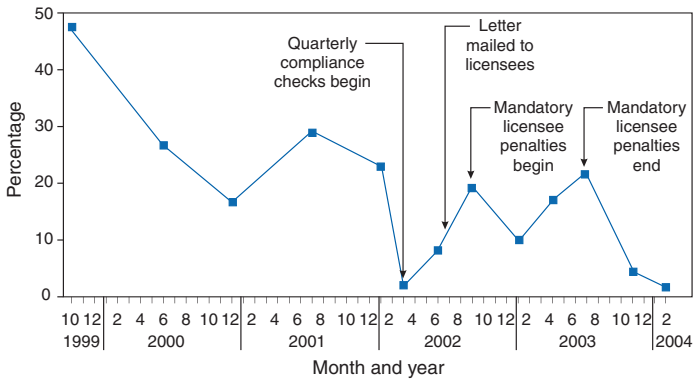
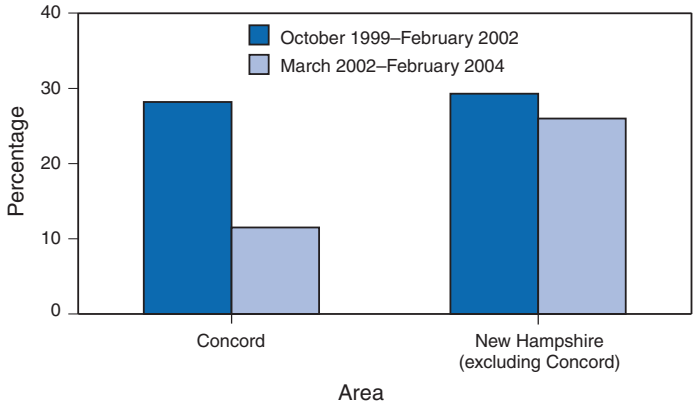


FIGURE 2. Percentage of licensees selling alcohol to persons aged <21 years during compliance checks before and during enchanced enforcement, by area — Concord, New Hampshire, October 1999–February 2004



Editorial Note: In Concord, New Hampshire, quarterly compliance checks and mandatory penalties were associated with substantial reductions in retail alcohol sales to underage buyers. During this same period, retail alcohol sales to underage buyers in the rest of the state remained unchanged. In addition, both current alcohol use and binge drinking by Concord high school students decreased during 2001–2003. These findings are consistent with other studies that determined compliance checks can reduce alcohol sales to underage youths and, when combined with other activities, might reduce youth consumption of alcohol (*2,4,5*).

This report is subject to at least four limitations. First, during the study period, other efforts to reduce underage access to alcohol in Concord were conducted (e.g., roving park patrols and surveillance outside retail stores), reducing the likelihood that reduction in alcohol sales to underage youths was associated only with enhanced enforcement. Second, because quarterly compliance checks were instituted for a longer period than mandatory penalties, the contributions of the checks and penalties relative to the decrease in alcohol sales to underage youths were difficult to assess. Third, because statewide compliance checks were conducted by using a convenience sample, statistical comparisons could not be made between compliance check data for Concord and the rest of New Hampshire. Finally, the absence of weighted data from the 2001 New Hampshire YRBS limited the ability to compare recent changes in current alcohol use and binge drinking between Concord and the rest of the state.

State and local governments often lack adequate resources to enforce minimum drinking age laws (*6*). CPD was able to partially fund its program through a grant from the New Hampshire Department of Justice. Alcohol excise taxes might be another resource for funding enforcement efforts. In addition,

raising alcohol taxes is an effective policy intervention for reducing underage drinking and alcohol-related problems (*6,7*).

The findings in this report support recommendations of the Institute of Medicine in its 2003 report, *Reducing Underage Drinking: A Collective Responsibility* (*2*). These recommendations call for 1) regular compliance checks; 2) administrative penalties, including fines and license suspensions that increase with each offense; 3) enhanced media coverage of the purposes and results of compliance checks; and 4) training for alcohol retailers regarding their legal responsibility to avoid selling alcohol to underage youths. These recommendations have been supported by previous studies (*4,8,9*). In another effort to prevent underage drinking, the New Hampshire state legislature in August 2003 approved a new driver's license that will display photo and driver information vertically for persons aged <21 years and horizontally for persons aged ≥21 years, making it easier for store clerks to identify underage youths.

Acknowledgements

This report is based in part on contributions by E Crane, J Madden, D Reilly, Concord Police Dept; A Moore, JD, New Hampshire Liquor Commission. J Magri, MD, Div of Applied Public Health Training, Epidemiology Program Office, CDC.

References

1. Wagenaar AC, Wolfson M. Deterring sales and provision of alcohol to minors: a study of enforcement in 295 counties in four states. Public Health Rep 1995;110:419–27.
2. Institute of Medicine. Reducing underage drinking: a collective responsibility. Washington, DC: Institute of Medicine, 2003.
3. Wagenaar AC, Toomey TL, Murray DM, Short BJ, Wolfson M, Jones-Webb R. Sources of alcohol for underage drinkers. J Stud Alcohol 1996; 57:325–33.
4. Pacific Institute for Research and Evaluation. Regulatory strategies for preventing youth access to alcohol: best practices. Berkeley, California: Pacific Institute for Research and Evaluation, 1999.
5. Grube J. Preventing sales of alcohol to minors: results from a community trial. Addiction 1997;92:S251–60.
6. Babor TF. Alcohol: No Ordinary Commodity—Research and Public Policy. Oxford, England: Oxford University Press, 2003.
7. Chaloupka, FJ, Grossman M, Saffer H. The effects of price on alcohol consumption and alcohol-related problems. Alcohol Res Health 2002; 26:22–34.
8. Preusser D, Williams A, Weinstein H. Policing underage alcohol sales. Journal of Safety Research 1994;25:127–33.
9. Lewis R, Paine-Andrews A, Fawcett S, et al. Evaluating the effects of a community coalition's efforts to reduce illegal sales of alcohol and tobacco products to minors. J Community Health 1996;21:429–36.

Breast Cancer–Screening Data for Assessing Quality of Services — New York, 2000–2003

The New York State Breast and Cervical Cancer Screening Program (NYSBCCSP) is funded in part through the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) (*1,2*). A total of 292 mammography facilities participate in NYSBCCSP. In 1998, NYSBCCSP began reviewing the clinical outcomes of clients screened through the program to identify facilities that might need more intensive assessment of quality assurance and corrections of deficiencies. This report describes the quality assurance process of NYSBCCSP, which provides methods for monitoring and assessing the quality of clinical care by program providers. These outcome-based methods can be useful to other programs and providers of breast cancer screening.

NYSBCCSP routinely compares the proportion of abnormal clinical breast examinations (CBE), abnormal screening mammography outcomes, and positive predictive values of breast cancer biopsies (ppvB) for individual program facilities with overall figures generated by the state and national programs (NYSBCCSP and NBCCEDP, unpublished data, 1995–2003). Facilities with proportions of abnormal mammography*, abnormal CBEs†, or ppvB§ significantly¶ different from the lower or upper bounds of expected ranges (i.e., outliers) are identified for further evaluation. The expected ranges for abnormal CBEs are based on the NBCCEDP Data Quality Indicator Guide, a program management tool; the ranges for abnormal mammography and ppvB are commonly accepted parameters in mammography (*4*).

NYSBCCSP compiles additional patient data for the facilities identified with outlier results, including the age, race/ethnicity, and previous screening history of clients served; the proportion of abnormal screenings or ppvB over time; and the diagnostic procedures performed after abnormal screening results. The cancer detection rate also is calculated and compared with rates in the state and national programs. In addition, cross tabulations of screening mammography results by CBE results are reviewed.

The facility and local screening project responsible for coordinating screening and related services in a community are contacted to determine potential explanations for the outliers. A random sample of medical records is reviewed to identify data-reporting errors. If data-reporting errors cannot explain the outlier results, the clinical interpretive skills of providers at the facility are assessed. A board-certified radiologist performs the mammography assessment by evaluating the technical and interpretive quality of the mammograms. A clinician performs the CBE assessment by reviewing the position of patients during examinations, areas of breast tissue examined, search pattern used, and quality of documentation and communication skills of providers.

NYSBCCSP collaborates with the facility and local screening project to develop, implement, and evaluate an action plan to correct any deficiencies identified. The following two examples describe this quality assessment process.

Case Reports

Case 1. During 1996–1999, facility A, a medium-sized hospital (300–400 inpatient beds), provided mammography screening to 544 NYSBCCSP-enrolled women. A total of 73 (13.4%) of the 544 mammograms performed at facility A were classified as Breast Imaging Reporting and Data System (BI-RADS®) category 4 (i.e., suspicious abnormalities that indicating biopsy should be considered), whereas 3,750 (1.5%) of an estimated 250,000 mammograms performed at other facilities in NYSBCCSP during the same period were classified as category 4. Five (3.0%) of 166 women at facility A with abnormal mammograms underwent additional imaging, compared with 13,500 (45.0%) of approximately 30,000 women with abnormal mammograms screened at other NYSBCCSP facilities. In addition, the 166 women at facility A with abnormal mammograms were more than three times as likely to receive a breast biopsy as women at other facilities (52.0% versus 15.0%, respectively). The ppvB for detecting breast cancer from imaging at facility A was 6.9%, compared with 23.9% at other facilities.

On the basis of review of medical records and independent review of mammograms at facility A, two staff radiologists had higher biopsy recommendation rates and use of stereotactic biopsy than those of three other readers at the facility. Facility A agreed to the following corrective plan of action: 1) conduct in-service training for all five radiologists on the use of the BI-RADS® reporting system; 2) obtain a second reading by a different radiologist of all mammograms reported as a BI-RADS® category 4 for 6 months, with final resolutions by the chief of radiology; and 3) obtain facility accreditation for its stereotactic biopsy program.

---

* A screening mammogram with a reported result of 4, 5, or 0 based on the American College of Radiology's Breast Imaging Reporting and Data System (BI-RADS®) classification system (i.e., suspicious abnormality, highly suggestive of malignancy, and assessment is incomplete) (*3*).

† A palpable mass, nipple discharge, unilateral nipple inversion, or skin abnormality or unilateral area of thickening that requires immediate diagnostic evaluation.

§ The proportion of breast biopsies that result in a diagnosis of in situ or invasive breast cancer.

¶ One-sided $p<0.002$ for abnormal CBE and mammogram and one-sided $p<0.05$ for ppvB.

During January 2001–December 2002 (approximately 4–28 months after completion of the action plan), the proportion of mammograms reported at facility A classified as BI-RADS® category 4 decreased from 13.4% to 4.3%, the proportion of women with abnormal mammograms receiving additional imaging increased from 3.0% to 7.0%, the proportion of women undergoing breast biopsies decreased from 52.0% to 28.0%, and the ppvB increased from 6.9% to 19.0%.

Case 2. During April 1995–March 2000, facility B, a private radiology practice, provided 11,972 CBEs and screening mammograms to 9,094 women through NYSBCCSP. The proportion of abnormal CBEs among clients with normal mammography results classified as BI-RADS® categories 1–3 (i.e., negative, benign finding, and probably benign finding, with initial short interval follow-up suggested) was 0.1%, compared with 2.4% for clients screened by other facilities in the program. Among a random sample of 50 clients who received a CBE at facility B, three (9.7%) of 31 women interviewed by program staff reported having received a CBE. Further data analyses determined that the breast cancer detection rate among women screened at facility B during the same period was 1.3 per 1,000 screenings, compared with 5.2 per 1,000 at other facilities. The cancer detection rate did not change after adjustment for age, race/ethnicity, and client previous-screening history. Because the difference between the cancer detection rate at facility B and the rest of the program was greater than what would be expected on the basis of CBE quality concerns alone, an assessment of the technical quality and interpretation of mammograms was conducted. The review identified inadequate technical quality and interpretation of mammograms.

The New York state health commissioner ordered facility B to cease operations immediately. The American College of Radiology also revoked the facility's mammography accreditation.

A total of 9,094 women evaluated previously at facility B were identified as possibly needing repeat breast cancer screenings. The New York State Department of Health (NYSDOH) contacted women by mail and telephone to determine current screening status and the need for rescreening appointments. Of 3,125 women who were rescreened, 734 (23.5%) had abnormal screening results that warranted additional diagnostic evaluation. Among these women, eight (1.1%) had breast cancer diagnosed. Among 1,160 other women screened initially at facility B and later screened at other facilities, 15 (1.3%) women had confirmed diagnoses of breast cancer.

The detection rate among screenings performed or identified through the follow-up rescreening effort was 5.3 cases per 1,000 screenings, approximately the detection rate in the rest of NYSBCCSP. Overall, NYSDOH identified 25 women with breast cancer, including two women screened previously at facility B outside of NYSBCCSP.

Reported by: *BJ Hutton, MPH, EK Bradt, MPH, JH Chen, MD, P Gobrecht, J O'Connell, A Pedulla, MPH, T Signorelli, S Bisner, DP Hoffman, MEd, New York State Dept of Health. HW Lawson, MD, Div of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, CDC.*

Editorial Note: NBCCEDP was implemented to increase screening among low-income, uninsured women and to reduce racial/ethnic disparities in health-related outcomes. Improvements made after applying the quality assurance process described in this report improved patient care not only for women screened through NBCCEDP, but also for women evaluated at participating facilities. The quality assurance activities undertaken by NYSBCCSP were initiated to improve clinical provider skill and have resulted in positive outcomes for facility A and NYSBCCSP.

Locating women evaluated at facility B and scheduling repeat breast cancer screening and other quality assurance efforts served as a basis for media reports about mammography quality, and stimulated discussions about ensuring adequate skill level among radiologists interpreting mammograms during reauthorization hearings for the Mammography Quality Standards Act. Mammography continues to be a highly effective tool for the early detection of breast cancer (*5–7*). Although neither the benefits of CBE alone nor the incremental benefits of adding CBE to mammography have been determined, CBE remains a common screening practice and detects certain cancers missed by mammography (*8–10*).

The quality assurance interventions described in this report are a key component of an organized cancer screening program and raise the standards of breast cancer screening throughout the provider community. Efforts to improve the technical quality and interpretation of mammography and CBE will further facilitate increasing the proportion of women whose breast cancers are identified at an early stage, which can further reduce mortality from breast cancer.

References

1. True S. Community-based breast health partnerships. J Public Health Manag Pract 1995;1:67–72.
2. Henson RM, Wyatt SW, Lee NC. The National Breast and Cervical Cancer Early Detection Program: a comprehensive public health response to two major health issues for women. J Public Health Manag Pract 1996;2:36–47.
3. Kopans DB, D'Orsi CJ, Adler DD, et al. Breast Imaging Reporting and Data System. Reston, Virginia: American College of Radiology, 1993.
4. Agency for Health Care Policy and Research. Quality determinants of mammography. Clinical practice guidelines. no. 13. Rockville, Maryland: Agency for Health Care Policy and Research, October 1994; publication no. 95-0632.

5. Olsen O, Gotzsche PC. Cochrane review on screening for breast cancer with mammography. Lancet 2001;358:1340–2.
6. Tabar L, Yen MF, Vitak B, Chen HH, Smith RA, Duffy SW. Mammography service screening and mortality in breast cancer patients: 20-year follow-up before and after introduction of screening. Lancet 2003;361:1405–10.
7. Kopans DB. The most recent breast cancer screening controversy about whether mammographic screening benefits women at any age: nonsense and nonscience. American Journal of Radiology 2003;180:21–6.
8. Humphrey LL, Helfand M, Chan BKS. Breast cancer screening: a summary of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med 2002;137:347–60.
9. Bobo JK, Lee NC, Thames SF. Findings from 752,081 clinical breast examinations reported to a national screening program from 1995 through 1998. J Natl Cancer Inst 2000;92:971–6.
10. Barton MB, Harris R, Fletcher SW. Does this patient have breast cancer? The screening clinical breast examination: Should it be done? How? JAMA 1999;282:1270–80.

National Laboratory Inventory for Global Poliovirus Containment — United States, November 2003

In anticipation of the interruption of wild poliovirus (WPV) transmission, the United States has joined 122 other poliomyelitis-free countries in taking steps to minimize the risk for reintroducing WPV from laboratories to communities. In October 2002, a nationwide survey of laboratories and biomedical institutions (e.g., universities) that oversee multiple laboratories was conducted to identify those that might be holding WPV-containing materials and to establish a national inventory of institutions and laboratories retaining such materials (*1*). A total of 32,429 laboratories and biomedical institutions listed in multiple databases were mailed letters to alert laboratories of the impending global eradication of polio and encourage disposal of unneeded WPV-containing materials. The national inventory is a list of institutions and laboratories whose staff will be kept informed of eradication progress and appropriate WPV-containment procedures. This report summarizes use of the survey to create the national inventory.

In the survey, institutions and laboratories were categorized as 1) those most likely to possess WPV-containing materials (i.e., academic institutions, federal government departments, industrial facilities, and state and local health departments), 2) those that may possess such materials (i.e., clinical laboratories certified* for complex testing in microbiology), and 3) those least likely to possess such materials (i.e., clinical laboratories certified for noncomplex testing in microbiology). The least likely to possess category was included to establish whether stored WPV-containing materials existed in small clinical laboratories (e.g., private physicians' offices) licensed to perform noncomplex tests. Institutions and laboratories were asked to review records, search storage areas, and provide electronically (i.e., by e-mail or fax) the numbers of laboratories included in the search and names of laboratories storing WPV-containing materials, along with types of materials and amounts; those that did not respond by the requested date were mailed follow-up letters and contacted by telephone.

Total responses in the three categories accounted for 105,356 individual laboratories. A total of 5,585 (100%) institutions and laboratories in the categories of most likely to possess and may possess WPV-containing materials responded to the survey. A total of 24,206 (90%) of 26,844 institutions and laboratories categorized as least likely to possess such materials also responded (Table 1). Because none of the 24,206 respondents reported storing WPV-containing materials, follow-up

* The Clinical Laboratory Improvement Act of 1988 established quality standards for all laboratories to ensure accuracy, reliability, and timeliness of clinical tests (*2*).

TABLE 1. Number and percentage of institutions that potentially possess wild poliovirus–containing materials, by category — United States, 2003

Category	No. in database*	No. responded†	
		No.	(%)
Most likely to possess			
Academic institutions	437	437	(100)
Federal government departments	13	13	(100)
Industrial facilities	668	668	(100)
State and local health departments	98	98	(100)
Total	**1,216**	**1,216**	**(100)**
May possess			
CLIA§ certified to perform complex tests in microbiology	4,369	4,369	(100)
Least likely to possess			
CLIA certified to perform noncomplex tests in microbiology	26,844	24,206	(90)
Total	**32,429**	**29,791**	**(92)**

* Number of institutions (e.g., universities) listed in multiple databases and listservs (e.g., U.S. Department of Education database of post-secondary colleges and universities and biotechnology and pharmaceutical institutions on the website of the Biotechnology Industry Organization).
† Represents 105,356 laboratories.
§ Clinical Laboratory Improvement Act of 1988; established quality standards for all laboratories to ensure accuracy, reliability, and timeliness of clinical tests.

of the remaining 2,638 (many of which were no longer in business) was discontinued.

The quality and completeness of the survey and inventory were validated by a search of scientific literature published by U.S. laboratories during 1993–2003 that referred to 1) polioviruses of any origin; 2) enteric diseases in countries where polio is endemic; or 3) viruses that share common enteric origins, replicate on poliovirus-permissive systems, or both (e.g., picornaviruses, rhinoviruses, and rotaviruses). The search identified six institutions and laboratories not included in the 2002 survey database; none stored WPV-containing materials.

A report on the national inventory was endorsed and accepted by the National Vaccine Advisory Committee Workgroup on Poliovirus Laboratory Containment. As of November 2003, the national inventory consisted of 122 institutions and 180 laboratories retaining WPV-containing materials. Of the 180 laboratories, 87 are listed as storing infectious materials[†]; 56, potentially infectious materials[§]; and 37, both types of materials (Table 2).

Reported by: *Task Force for Child Survival and Development, Decatur, Georgia. National Vaccine Program Office, U.S. Dept of Health and Human Svcs. Office of the Director, National Center for Infectious Diseases; Global Immunization Div, National Immunization Program, CDC.*

[†] Clinical materials from confirmed WPV and vaccine-derived poliovirus (VDPV) infections, environmental sewage, or water samples in which such viruses or replication products of such viruses are present (*3*).

[§] Feces, respiratory secretions, environmental sewage, and untreated water samples of unknown origin or collected for any purpose at a time and in a geographic area where it was suspected that WPVs or VDVPs were present, and products of such materials in poliovirus-permissive cells or animals (*3*).

Editorial Note: The goal of the Global Polio Eradication Initiative is to interrupt transmission of WPV in all countries by the end of 2005. In 2003, six countries remained endemic for polio, the lowest number ever. The Global Commission for the Certification of the Eradication of Poliomyelitis will declare the world free of WPV transmission when all regions of the World Health Organization (WHO) have documented the absence of WPV transmission for a period of ≥3 years and when all WPV-containing materials in laboratories are contained adequately (*4*).

Completion of the national inventory of institutions and laboratories retaining WPV-containing materials is phase I of the containment program (*3*). The United States joins 81 other countries in the polio-free WHO Western Pacific, European, and Americas Regions with completed inventories. The remaining countries of these regions and many polio-free countries in regions where polio is endemic are expected to complete inventories during 2004.

Phase II of containment will begin after 1 year has elapsed without isolation of WPV worldwide (*3*). At that time, the U.S. Department of Health and Human Services (DHHS) will notify laboratories that poliovirus transmission has been interrupted and instruct institutions and laboratories listed on the national inventory to destroy WPV infectious and potentially infectious materials or implement biosafety measures appropriate for laboratory procedures being performed (biosafety level [BSL]-2/polio or BSL-3/polio [*3*]). DHHS will submit documentation of laboratory containment to the American Regional Commission for Certification of Poliovirus Laboratory Containment and Verification of Polio-Free Status.

TABLE 2. Number of institutions* and laboratories retaining wild poliovirus (WPV)–containing materials, by category — United States, 2003

Category	No. institutions	No. laboratories			
		Infectious[†]	Potentially infectious[§]	Both	Total
Most likely to possess					
Academic institutions	63	49	29	16	**94**
Federal government agencies	10	9	17	3	**29**
Industrial facilities	24	22	6	2	**30**
State and local health departments	17	4	4	10	**18**
Total	**114**	**84**	**56**	**31**	**171**
May possess					
CLIA[¶] certified to perform complex tests in microbiology	8	3	0	6	**9**
Least likely to possess					
CLIA certified to perform noncomplex tests in microbiology	0	0	0	0	**0**
Total	**122**	**87**	**56**	**37**	**180**

* Examples are universities.
† Clinical materials from confirmed WPV and vaccine-derived poliovirus (VDPV) infections, environmental sewage, or water samples in which such viruses or replication products of such viruses are present (*3*).
§ Feces, respiratory secretions, environmental sewage, and untreated water samples of unknown origin or collected for any purpose at a time and in a geographic area where it was suspected that WPVs or VDVPs were present, and products of such materials in poliovirus-permissive cells or animals (*3*).
¶ Clinical Laboratory Improvement Act of 1988; established quality standards for all laboratories to ensure accuracy, reliability, and timeliness of clinical tests.

Successful completion of the national inventory was possible through support of the biosafety community, professional organizations, departments of the federal Executive Branch, and the nation's biomedical institutions and laboratories. Continued support and cooperation will ensure the inventory remains current. Institutions and laboratories with any change in storage status of WPV-containing materials should notify CDC's Poliovirus Laboratory Containment Program, e-mail plcp@cdc.gov.

References

1. CDC. National laboratory inventory as part of global poliovirus containment—United States, June 2002. MMWR 2002;51:646–7.
2. U.S. Department of Health and Human Services. Medicare, Medicaid, and CLIA programs; laboratory requirements relating to quality systems and certain personnel qualifications. Federal Register 2003; 68:3639–714. Available at http://www.gpoaccess.gov/fr/retrieve.html.
3. World Health Organization. Global action plan for laboratory containment of wild polioviruses, 2nd ed. Geneva, Switzerland: World Health Organization, 2003; document no. WHO/V7B/03.11.
4. Department of Vaccines and Biologicals. Report of the third meeting of the Global Commission for the Certification of the Eradication of Polio, July 9, 1998. Geneva, Switzerland: World Health Organization, 1999; document no. WHO/EPI/Gen/981.17.

Update: Measles Among Children Adopted from China

As of May 24, 2004, investigators have identified 10 confirmed measles cases associated with adoptees who traveled to the United States from China during March 2004 (*1,2*). No cases have been reported since April 18, and all the ill persons have recovered without complications. CDC is now recommending that the temporary suspension of adoptions from the affected orphanage in China be ended and standard adoption procedures be resumed.

The 10 cases included nine imported cases among adopted children aged 12–18 months who acquired their infections while still in China and then traveled to three states (Maryland, New York, and Washington) during March 26–27, and one importation-linked case in a female student aged 19 years from California. The student had close contact with an adoptee aged 18 months during a visit to Washington when the child was infectious with measles. The student had a nonmedical exemption and had not received measles-containing vaccine; upon her return to California, she was quarantined in her off-campus home. She had onset of rash 14–16 days after contact with the adopted child, and measles was diagnosed. No other cases linked to this outbreak have been identified.

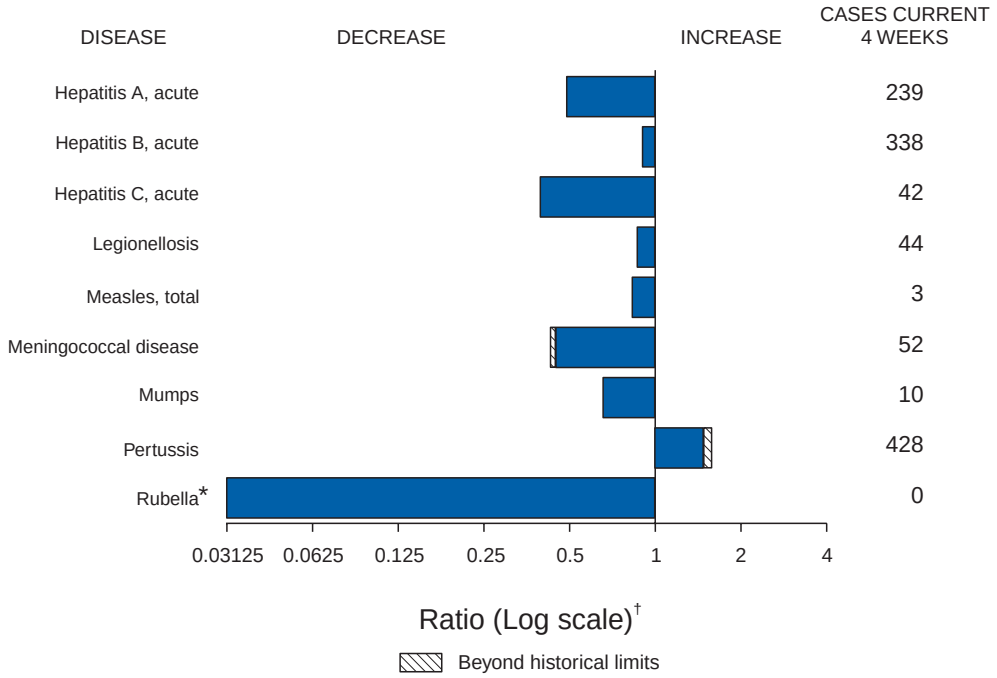
The cases in adoptees were associated with the Zhuzhou Child Welfare Institute in Hunan Province. On May 24, Chinese authorities reported that the last patient with measles at the orphanage had rash onset on April 23, and that the recommended vaccination campaign for all eligible children at the orphanage had been completed. Because no cases of measles were reported from the orphanage during the next 21 days (i.e., one incubation period), the outbreak appears to have been controlled. As a result, CDC is recommending that standard adoption procedures for children from the orphanage be resumed.

Reported by: *Div of Global Migration and Quarantine, National Center for Infectious Diseases; Epidemiology and Surveillance Div, National Immunization Program, CDC.*

References

1. CDC. Multistate investigation of measles among adoptees from China—April 9, 2004. MMWR 2004;53:309–10.
2. CDC. Multistate investigation of measles among adoptees from China—April 16, 2004. MMWR 2004;53:323–4.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals May 29, 2004, with historical data



* No rubella cases were reported for the current 4-week period yielding a ratio for week 21 of zero (0).
† 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 29, 2004 (21st Week)*

	Cum. 2004	Cum. 2003		Cum. 2004	Cum. 2003
Anthrax	-	-	Hemolytic uremic syndrome, postdiarrheal†	26	44
Botulism:	-	-	HIV infection, pediatric†§	72	93
foodborne	6	6	Measles, total	12¶	23**
infant	23	29	Mumps	67	88
other (wound & unspecified	3	7	Plague	-	-
Brucellosis†	32	36	Poliomyelitis, paralytic	-	-
Chancroid	14	25	Psittacosis†	2	5
Cholera	2	1	Q fever†	15	28
Cyclosporiasis†	48	16	Rabies, human	-	-
Diphtheria	-	-	Rubella	10	4
Ehrlichiosis:	-	-	Rubella, congenital syndrome	-	1
human granulocytic (HGE)†	27	30	SARS-associated coronavirus disease† ††	-	5
human monocytic (HME)†	19	24	Smallpox† §§	-	NA
human, other and unspecified	-	5	*Staphylococcus aureus*:	-	-
Encephalitis/Meningitis:	-	-	Vancomycin-intermediate (VISA)† §§	4	NA
California serogroup viral†	1	-	Vancomycin-resistant (VRSA)† §§	1	1
eastern equine†	-	-	Streptococcal toxic-shock syndrome†	42	91
Powassan†	-	-	Tetanus	4	3
St. Louis†	-	1	Toxic-shock syndrome	45	58
western equine†	-	-	Trichinosis	3	-
Hansen disease (leprosy)†	28	32	Tularemia†	14	8
Hantavirus pulmonary syndrome†	4	7	Yellow fever	-	-

-: No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).
† 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. Last update May 2, 2004.
¶ Of 12 cases reported, seven were indigenous, and five were imported from another country.
** Of 23 cases reported, 16 were indigenous, and seven were imported from another country.
†† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (notifiable as of July 2003).
§§ Not previously notifiable.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	AIDS		Chlamydia†		Coccidiodomycosis		Cryptosporidiosis		Encephalitis/Meningitis West Nile	
	Cum. 2004§	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	12,299	16,844	325,557	347,904	1,812	1,347	861	760	3	-
NEW ENGLAND	370	566	10,890	11,132	-	-	54	51	-	-
Maine	5	27	719	760	N	N	10	4	-	-
N.H.	20	15	642	633	-	-	14	7	-	-
Vt.	10	6	401	410	-	-	6	8	-	-
Mass.	117	277	5,513	4,230	-	-	16	23	-	-
R.I.	44	47	1,357	1,297	-	-	1	7	-	-
Conn.	174	194	2,258	3,802	N	N	7	2	-	-
MID. ATLANTIC	2,398	3,661	44,116	41,784	-	-	142	117	-	-
Upstate N.Y.	185	184	8,945	7,602	N	N	32	28	-	-
N.Y. City	1,134	1,844	12,403	13,943	-	-	32	43	-	-
N.J.	521	698	5,316	6,079	-	-	9	5	-	-
Pa.	558	935	17,452	14,160	N	N	69	41	-	-
E.N. CENTRAL	1,279	1,424	53,987	64,451	5	3	194	185	-	-
Ohio	235	229	12,082	17,566	-	-	53	24	-	-
Ind.	166	226	6,929	6,928	N	N	30	17	-	-
Ill.	602	598	14,127	19,875	-	-	13	32	-	-
Mich.	208	278	15,642	13,147	5	3	48	34	-	-
Wis.	68	93	5,207	6,935	-	-	50	78	-	-
W.N. CENTRAL	309	333	19,232	20,020	4	2	98	68	1	-
Minn.	68	56	3,409	4,398	N	N	40	34	-	-
Iowa	19	34	1,087	2,050	N	N	14	10	-	-
Mo.	134	179	8,074	7,338	3	1	17	6	1	-
N. Dak.	11	1	555	561	N	N	-	2	-	-
S. Dak.	5	6	1,043	984	-	-	11	12	-	-
Nebr.¶	17	22	2,082	1,828	1	1	5	3	-	-
Kans.	55	35	2,982	2,861	N	N	11	1	-	-
S. ATLANTIC	4,239	4,930	61,109	64,839	-	1	176	102	2	-
Del.	55	80	1,198	2,510	N	N	-	1	-	-
Md.	478	547	7,350	6,574	-	1	9	8	-	-
D.C.	150	478	1,389	1,362	-	-	2	-	-	-
Va.	213	452	8,970	7,346	-	-	23	11	-	-
W. Va.	30	32	1,132	1,021	N	N	2	1	-	-
N.C.	246	504	11,166	10,198	N	N	34	14	-	-
S.C.¶	267	325	6,579	5,363	-	-	7	2	2	-
Ga.	688	610	6,903	13,602	-	-	51	36	-	-
Fla.	2,112	1,902	16,422	16,863	N	N	48	29	-	-
E.S. CENTRAL	566	735	21,257	22,389	-	-	38	49	-	-
Ky.	71	69	2,235	3,344	N	N	10	9	-	-
Tenn.¶	210	340	9,046	7,765	N	N	12	16	-	-
Ala.	173	185	4,327	6,061	-	-	10	21	-	-
Miss.	112	141	5,649	5,219	N	N	6	3	-	-
W.S. CENTRAL	1,723	2,081	42,802	43,313	2	-	23	17	-	-
Ark.	87	63	3,140	2,946	1	-	8	2	-	-
La.	342	365	10,660	7,992	1	-	-	1	-	-
Okla.	68	89	4,331	4,419	N	N	8	4	-	-
Tex.	1,226	1,564	24,671	27,956	-	-	7	10	-	-
MOUNTAIN	495	624	16,683	20,776	1,163	932	43	34	-	-
Mont.	-	8	781	934	N	N	8	7	-	-
Idaho	3	10	1,191	1,035	N	N	4	6	-	-
Wyo.	4	4	455	408	-	-	2	1	-	-
Colo.	98	157	3,042	5,284	N	N	20	6	-	-
N. Mex.	52	51	2,298	3,006	9	2	1	1	-	-
Ariz.	207	273	5,794	6,193	1,118	912	6	2	-	-
Utah	29	29	1,317	1,479	12	3	1	8	-	-
Nev.	102	92	1,805	2,437	24	15	1	3	-	-
PACIFIC	920	2,490	55,481	59,200	638	409	93	137	-	-
Wash.	166	179	6,982	6,362	N	N	9	12	-	-
Oreg.	92	108	2,069	3,106	-	-	11	15	-	-
Calif.	610	2,148	44,174	46,022	638	409	72	110	-	-
Alaska	11	9	1,505	1,537	-	-	-	-	-	-
Hawaii	41	46	751	2,173	-	-	1	-	-	-
Guam	1	1	-	311	-	-	-	-	-	-
P.R.	209	437	1,002	824	N	N	N	N	-	-
V.I.	4	13	20	132	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	32	U	-	U	-	U	-	U

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

* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

† Chlamydia refers to genital infections caused by *C. trachomatis*.

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update March 26, 2004.

¶ Contains data reported through National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	*Escherichia coli*, Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped					
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	398	441	59	79	51	33	5,536	6,105	112,282	129,619
NEW ENGLAND	30	25	17	13	8	2	499	448	2,533	2,789
Maine	-	3	-	-	-	-	54	47	106	88
N.H.	4	6	3	1	-	-	14	19	51	49
Vt.	-	-	-	-	-	-	42	35	32	33
Mass.	12	7	2	5	8	2	261	219	1,286	1,044
R.I.	3	1	-	-	-	-	47	44	365	389
Conn.	11	8	12	7	-	-	81	84	693	1,186
MID. ATLANTIC	36	52	2	6	12	11	1,280	1,272	13,972	16,328
Upstate N.Y.	14	17	1	3	4	5	407	309	2,964	2,866
N.Y. City	4	3	-	-	-	-	398	471	3,938	5,327
N.J.	6	5	1	-	4	-	123	179	2,105	3,647
Pa.	12	27	-	3	4	6	352	313	4,965	4,488
E.N. CENTRAL	73	118	12	16	7	6	676	1,105	21,485	27,862
Ohio	19	26	1	9	7	6	285	317	5,762	9,024
Ind.	8	14	-	-	-	-	-	-	2,385	2,594
Ill.	15	21	-	1	-	-	84	329	5,882	8,511
Mich.	14	21	2	-	-	-	207	262	6,037	5,374
Wis.	17	36	9	6	-	-	100	197	1,419	2,359
W.N. CENTRAL	72	57	9	7	9	6	644	606	6,222	6,667
Minn.	26	21	3	6	2	-	205	211	1,218	1,072
Iowa	12	7	-	-	-	-	96	80	160	488
Mo.	11	18	6	1	2	-	182	183	3,258	3,394
N. Dak.	2	1	-	-	3	1	11	16	50	25
S. Dak.	3	2	-	-	-	-	22	17	108	73
Nebr.	9	4	-	-	-	-	55	50	412	598
Kans.	9	4	-	-	2	5	73	49	1,016	1,017
S. ATLANTIC	38	31	13	25	8	1	859	907	26,859	31,755
Del.	-	-	N	N	N	N	20	15	388	976
Md.	4	1	-	-	1	1	34	46	3,111	3,064
D.C.	1	1	-	-	-	-	26	14	950	985
Va.	1	10	6	1	-	-	144	110	3,597	3,430
W. Va.	1	1	-	-	-	-	12	10	340	333
N.C.	-	-	4	11	-	-	N	N	5,648	5,874
S.C.	3	-	-	-	-	-	24	49	3,003	3,092
Ga.	12	6	1	2	-	-	192	291	3,078	6,576
Fla.	16	12	2	11	7	-	407	372	6,744	7,425
E.S. CENTRAL	19	22	1	-	6	4	122	120	9,113	10,870
Ky.	9	8	1	-	4	4	N	N	946	1,404
Tenn.	3	10	-	-	2	-	55	52	3,199	3,173
Ala.	3	3	-	-	-	-	67	68	2,522	3,635
Miss.	4	1	-	-	-	-	-	-	2,446	2,658
W.S. CENTRAL	18	19	1	2	1	-	103	96	15,961	17,214
Ark.	7	2	-	-	-	-	46	53	1,493	1,532
La.	1	1	-	-	-	-	14	6	4,771	4,513
Okla.	4	3	-	-	-	-	43	37	1,848	1,658
Tex.	6	13	1	2	1	-	-	-	7,849	9,511
MOUNTAIN	46	48	3	8	-	3	459	487	3,943	4,343
Mont.	2	1	-	-	-	-	15	24	32	55
Idaho	12	13	1	4	-	-	64	59	34	32
Wyo.	-	1	-	-	-	-	6	6	23	19
Colo.	8	15	1	1	-	3	148	144	998	1,184
N. Mex.	4	1	-	3	-	-	21	20	267	500
Ariz.	7	10	N	N	N	N	72	83	1,636	1,632
Utah	8	4	-	-	-	-	97	103	183	142
Nev.	5	3	1	-	-	-	36	48	770	779
PACIFIC	66	69	1	2	-	-	894	1,064	12,194	11,791
Wash.	19	21	-	1	-	-	102	94	1,058	1,180
Oreg.	11	8	1	1	-	-	155	132	265	388
Calif.	29	39	-	-	-	-	580	765	10,454	9,586
Alaska	1	1	-	-	-	-	25	34	247	215
Hawaii	6	-	-	-	-	-	32	39	170	422
Guam	N	N	-	-	-	-	-	-	-	-
P.R.	-	1	-	-	-	-	9	51	91	92
V.I.	-	-	-	-	-	-	-	-	4	37
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	3	U

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	*Haemophilus influenzae*, invasive								Hepatitis (viral, acute), by type	
	All ages		Age <5 years							
	All serotypes		Serotype b		Non-serotype b		Unknown serotype		A	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	816	782	7	11	43	57	90	99	2,140	2,520
NEW ENGLAND	78	56	1	1	4	5	3	3	371	106
Maine	7	2	-	-	-	-	-	1	8	1
N.H.	12	5	-	-	2	-	-	-	7	6
Vt.	5	6	-	-	-	-	1	-	5	4
Mass.	30	29	1	1	-	5	2	1	315	56
R.I.	2	3	-	-	-	-	-	1	7	10
Conn.	22	11	-	-	2	-	-	-	29	29
MID. ATLANTIC	167	136	-	-	3	1	24	21	250	532
Upstate N.Y.	60	44	-	-	3	1	3	6	34	41
N.Y. City	33	23	-	-	-	-	7	5	83	195
N.J.	25	31	-	-	-	-	2	4	52	86
Pa.	49	38	-	-	-	-	12	6	81	210
E.N. CENTRAL	119	131	-	1	10	4	17	26	196	243
Ohio	59	34	-	-	2	-	10	7	23	40
Ind.	20	21	-	-	4	2	1	-	15	20
Ill.	19	56	-	-	-	-	5	16	72	77
Mich.	9	8	-	1	4	2	-	-	68	78
Wis.	12	12	-	-	-	-	1	3	18	28
W.N. CENTRAL	43	53	1	-	2	6	3	6	67	72
Minn.	14	21	-	-	2	6	-	1	10	20
Iowa	1	-	1	-	-	-	-	-	20	13
Mo.	15	21	-	-	-	-	2	5	21	21
N. Dak.	3	1	-	-	-	-	-	-	1	-
S. Dak.	-	1	-	-	-	-	-	-	2	-
Nebr.	5	-	-	-	-	-	-	-	7	5
Kans.	5	9	-	-	-	-	1	-	6	13
S. ATLANTIC	200	151	-	-	10	6	16	9	415	575
Del.	7	-	-	-	-	-	2	-	4	4
Md.	35	37	-	-	2	4	-	-	59	55
D.C.	-	-	-	-	-	-	-	-	4	17
Va.	18	15	-	-	-	-	1	3	39	36
W. Va.	10	5	-	-	-	-	3	-	2	8
N.C.	25	10	-	-	3	-	-	-	30	26
S.C.	2	2	-	-	-	-	-	-	17	23
Ga.	50	31	-	-	-	-	10	4	153	233
Fla.	53	51	-	-	5	2	-	2	107	173
E.S. CENTRAL	31	42	-	1	-	2	7	4	69	69
Ky.	-	3	-	-	-	1	-	-	9	11
Tenn.	21	23	-	-	-	1	5	3	42	37
Ala.	10	16	-	1	-	-	2	1	6	10
Miss.	-	-	-	-	-	-	-	-	12	11
W.S. CENTRAL	34	42	1	1	3	6	1	3	152	250
Ark.	1	4	-	-	-	1	-	-	32	12
La.	7	15	-	-	-	2	1	3	11	21
Okla.	25	22	-	-	3	3	-	-	16	5
Tex.	1	1	1	1	-	-	-	-	93	212
MOUNTAIN	109	90	2	5	11	13	14	12	206	167
Mont.	-	-	-	-	-	-	-	-	3	2
Idaho	4	2	-	-	-	-	2	1	10	7
Wyo.	-	-	-	-	-	-	-	-	1	1
Colo.	24	16	-	-	-	-	3	4	20	23
N. Mex.	20	12	-	-	3	3	3	1	5	8
Ariz.	45	49	-	5	7	6	1	4	135	94
Utah	9	7	2	-	-	2	3	2	27	12
Nev.	7	4	-	-	1	2	2	-	5	20
PACIFIC	35	81	2	2	-	14	5	15	414	506
Wash.	3	3	2	-	-	2	1	1	26	28
Oreg.	22	20	-	-	-	-	1	2	30	30
Calif.	3	34	-	2	-	12	2	7	347	439
Alaska	2	18	-	-	-	-	1	5	4	5
Hawaii	5	6	-	-	-	-	-	-	7	4
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	-	-	-	-	-	-	-	-	7	35
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

N: Not notifiable. U: Unavailable. -: No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	Hepatitis (viral, acute), by type				Legionellosis		Listeriosis		Lyme disease	
	B		C							
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	2,417	2,597	480	439	368	415	163	194	2,964	3,275
NEW ENGLAND	91	128	3	1	8	16	10	7	280	386
Maine	1	-	-	-	-	-	2	-	45	-
N.H.	20	5	-	-	-	2	1	2	17	5
Vt.	1	1	1	1	-	1	-	-	10	4
Mass.	65	94	2	-	3	6	2	3	100	203
R.I.	2	3	-	-	1	1	1	-	28	84
Conn.	2	25	U	U	4	6	4	2	80	90
MID. ATLANTIC	380	349	48	48	88	88	36	38	2,297	2,397
Upstate N.Y.	41	29	4	7	19	27	12	8	812	775
N.Y. City	39	119	-	-	4	10	3	10	-	3
N.J.	179	94	-	-	23	5	9	7	535	594
Pa.	121	107	44	41	42	46	12	13	950	1,025
E.N. CENTRAL	196	201	28	66	84	92	21	23	37	110
Ohio	61	60	2	4	42	37	9	3	31	12
Ind.	8	10	2	1	7	5	4	1	-	6
Ill.	21	11	2	11	2	14	-	7	-	2
Mich.	106	98	22	47	31	27	7	8	-	-
Wis.	-	22	-	3	2	9	1	4	6	90
W.N. CENTRAL	159	116	181	95	8	18	4	5	44	35
Minn.	12	14	1	2	-	2	2	2	12	19
Iowa	6	4	-	-	2	5	1	-	6	4
Mo.	124	77	180	92	4	6	1	1	20	9
N. Dak.	1	-	-	-	1	1	-	-	-	-
S. Dak.	-	1	-	-	1	-	-	-	-	-
Nebr.	9	12	-	1	-	2	-	2	3	1
Kans.	7	8	-	-	-	2	-	-	3	2
S. ATLANTIC	745	676	78	72	91	116	25	44	251	252
Del.	14	4	-	-	3	-	N	N	28	48
Md.	59	45	6	5	13	20	4	4	144	156
D.C.	12	1	1	-	1	1	-	-	2	3
Va.	83	45	10	1	8	8	3	5	12	11
W. Va.	2	7	10	1	2	-	1	2	2	1
N.C.	74	53	6	3	9	9	5	9	37	17
S.C.	47	70	7	17	1	4	-	2	1	1
Ga.	233	215	6	6	6	14	4	11	2	7
Fla.	221	236	32	39	48	60	8	11	23	8
E.S. CENTRAL	296	165	43	38	15	18	9	6	16	18
Ky.	21	35	12	7	4	3	3	-	5	3
Tenn.	78	57	17	8	9	8	5	1	9	6
Ala.	25	32	-	4	2	5	1	3	-	-
Miss.	172	41	14	19	-	2	-	2	2	9
W.S. CENTRAL	68	435	55	81	20	22	14	23	1	41
Ark.	22	40	-	3	-	-	-	-	-	-
La.	25	62	33	47	1	1	1	1	-	4
Okla.	16	19	2	-	2	2	-	1	-	-
Tex.	5	314	20	31	17	19	13	21	1	37
MOUNTAIN	192	242	20	13	27	23	7	12	8	3
Mont.	1	8	2	1	1	1	-	1	-	-
Idaho	6	2	-	1	1	2	1	-	2	1
Wyo.	3	13	-	-	4	1	-	-	1	-
Colo.	20	38	4	4	4	3	1	4	-	-
N. Mex.	5	17	3	-	-	2	-	2	-	-
Ariz.	105	122	2	4	5	6	-	4	1	-
Utah	20	15	1	-	10	5	-	1	4	1
Nev.	32	27	8	3	2	3	5	-	-	1
PACIFIC	290	285	24	25	27	22	37	36	30	33
Wash.	23	29	7	10	5	2	6	3	3	-
Oreg.	41	-	5	5	N	N	4	1	11	8
Calif.	212	247	9	9	22	20	27	32	16	24
Alaska	12	3	-	-	-	-	-	-	-	1
Hawaii	2	6	3	1	-	-	-	-	N	N
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	11	60	-	-	1	-	-	-	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

N: Not notifiable. U: Unavailable. -: No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	Malaria		Meningococcal disease		Pertussis		Rabies, animal		Rocky Mountain spotted fever	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	383	382	649	830	3,276	2,615	1,476	2,792	212	130
NEW ENGLAND	37	9	32	40	706	258	193	180	10	-
Maine	3	1	8	5	2	2	22	15	-	-
N.H.	-	2	3	3	20	14	6	9	-	-
Vt.	1	-	1	-	30	28	6	11	-	-
Mass.	22	6	19	24	636	195	85	69	10	-
R.I.	2	-	-	2	9	4	11	24	-	-
Conn.	9	-	1	6	9	15	63	52	-	-
MID. ATLANTIC	82	91	81	95	854	246	162	332	17	11
Upstate N.Y.	14	18	19	16	639	95	129	122	1	-
N.Y. City	32	47	14	24	-	32	4	4	2	4
N.J.	18	12	18	12	81	40	-	62	5	4
Pa.	18	14	30	43	134	79	29	144	9	3
E.N. CENTRAL	25	42	94	132	391	197	14	19	10	6
Ohio	9	6	40	34	166	90	7	6	6	2
Ind.	-	-	10	21	23	24	2	2	1	1
Ill.	2	21	9	37	-	14	4	2	-	2
Mich.	9	12	29	22	40	18	1	9	3	1
Wis.	5	3	6	18	162	51	-	-	-	-
W.N. CENTRAL	22	15	37	64	191	116	178	269	11	5
Minn.	9	9	9	15	40	33	19	11	-	-
Iowa	1	2	9	10	30	33	23	28	-	1
Mo.	3	1	9	27	98	26	7	2	10	4
N. Dak.	2	-	1	-	6	2	23	25	-	-
S. Dak.	1	-	1	1	7	2	10	58	-	-
Nebr.	1	-	1	5	-	1	53	55	1	-
Kans.	5	3	7	6	10	19	43	90	-	-
S. ATLANTIC	115	95	121	148	197	176	701	1,134	104	90
Del.	3	-	1	8	5	1	9	19	-	-
Md.	26	25	6	13	36	25	50	156	7	16
D.C.	6	5	4	1	2	-	-	-	-	-
Va.	10	7	8	9	57	33	187	216	1	1
W. Va.	-	3	4	1	3	4	29	28	-	-
N.C.	8	6	18	16	33	62	267	299	87	47
S.C.	7	1	12	12	25	9	58	75	5	8
Ga.	13	19	7	19	8	17	99	153	1	14
Fla.	42	29	61	69	28	25	2	188	3	4
E.S. CENTRAL	13	9	26	35	45	49	53	84	34	16
Ky.	1	1	3	3	7	11	11	11	-	-
Tenn.	3	4	9	8	26	23	17	63	21	8
Ala.	7	2	6	12	6	10	22	9	5	3
Miss.	2	2	8	12	6	5	3	1	8	5
W.S. CENTRAL	31	44	59	105	130	147	75	657	20	1
Ark.	3	3	12	9	7	8	24	25	4	-
La.	2	2	16	30	2	4	-	-	3	-
Okla.	1	2	3	8	13	14	51	106	13	-
Tex.	25	37	28	58	108	121	-	526	-	1
MOUNTAIN	13	11	28	39	406	443	40	39	2	1
Mont.	-	-	1	2	12	-	5	6	-	-
Idaho	1	1	4	3	17	9	-	1	1	-
Wyo.	-	-	2	2	3	119	-	-	-	1
Colo.	5	8	9	8	222	166	4	2	-	-
N. Mex.	1	-	4	4	46	21	-	2	-	-
Ariz.	1	1	5	16	68	78	31	27	1	-
Utah	3	1	3	-	28	37	-	1	-	-
Nev.	2	-	-	4	10	13	-	-	-	-
PACIFIC	45	66	171	172	356	983	60	78	4	-
Wash.	2	10	18	15	172	169	-	-	-	-
Oreg.	8	5	36	29	136	146	-	1	2	-
Calif.	34	49	112	119	35	665	52	72	2	-
Alaska	-	-	1	2	8	-	8	5	-	-
Hawaii	1	2	4	7	5	3	-	-	-	-
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	-	-	2	5	1	1	18	25	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	Salmonellosis		Shigellosis		Streptococcal disease, invasive, group A		*Streptococcus pneumoniae*, invasive			
							Drug resistant, all ages		Age <5 years	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	9,780	10,893	3,777	8,422	2,130	3,047	1,142	1,172	239	266
NEW ENGLAND	490	539	88	110	101	291	13	51	4	1
Maine	30	34	1	4	3	17	1	-	-	-
N.H.	31	35	4	3	11	15	-	-	N	N
Vt.	18	16	2	4	5	14	6	5	1	1
Mass.	262	316	56	72	66	132	N	N	N	N
R.I.	39	25	4	3	16	5	6	-	3	-
Conn.	110	113	21	24	-	108	-	46	U	U
MID. ATLANTIC	1,308	1,403	456	790	357	525	83	71	51	47
Upstate N.Y.	330	279	212	124	123	193	38	33	37	34
N.Y. City	353	411	127	154	48	77	U	U	U	U
N.J.	210	227	68	158	66	107	N	N	N	N
Pa.	415	486	49	354	120	148	45	38	14	13
E.N. CENTRAL	1,328	1,537	276	715	383	769	253	247	77	95
Ohio	369	432	71	106	135	171	192	165	51	53
Ind.	132	165	47	48	44	64	61	82	16	13
Ill.	321	499	87	400	35	210	-	-	-	-
Mich.	264	230	35	104	154	224	N	N	N	N
Wis.	242	211	36	57	15	100	N	N	10	29
W.N. CENTRAL	706	604	142	270	162	185	114	95	22	23
Minn.	178	160	19	36	73	87	-	-	18	20
Iowa	140	115	29	20	N	N	N	N	N	N
Mo.	201	159	54	116	40	40	6	6	4	1
N. Dak.	13	14	1	3	6	8	-	3	-	2
S. Dak.	25	27	6	8	8	14	2	-	-	-
Nebr.	49	56	7	58	8	19	-	-	N	N
Kans.	100	73	26	29	27	17	106	86	N	N
S. ATLANTIC	2,179	2,510	1,106	2,616	446	472	537	566	7	5
Del.	15	32	3	127	2	5	3	1	N	N
Md.	189	252	42	217	95	135	-	4	-	-
D.C.	14	12	20	24	4	4	3	-	3	-
Va.	258	255	36	121	38	47	N	N	N	N
W. Va.	46	25	-	-	13	22	63	35	4	5
N.C.	279	375	133	273	65	36	N	N	U	U
S.C.	128	136	183	148	35	21	50	87	N	N
Ga.	309	365	223	569	91	100	117	141	N	N
Fla.	941	1,058	466	1,137	103	102	301	298	N	N
E.S. CENTRAL	547	657	220	408	113	98	63	76	-	-
Ky.	105	110	31	46	36	24	17	6	N	N
Tenn.	156	216	88	139	77	74	46	70	N	N
Ala.	169	180	78	142	-	-	-	-	N	N
Miss.	117	151	23	81	-	-	-	-	-	-
W.S. CENTRAL	807	1,151	745	2,271	108	146	30	48	50	63
Ark.	121	130	20	27	6	3	5	17	7	4
La.	129	194	92	194	1	1	25	31	8	14
Okla.	101	86	196	289	31	42	N	N	24	26
Tex.	456	741	437	1,761	70	100	N	N	11	19
MOUNTAIN	775	730	267	353	265	273	15	16	28	32
Mont.	51	37	3	2	-	1	-	-	-	-
Idaho	56	71	5	8	4	11	N	N	N	N
Wyo.	20	40	1	1	5	1	4	2	-	-
Colo.	175	193	50	56	72	78	-	-	26	30
N. Mex.	68	61	38	71	42	68	5	13	-	-
Ariz.	255	205	134	179	118	95	N	N	N	N
Utah	81	67	16	19	23	18	4	1	2	2
Nev.	69	56	20	17	1	1	2	-	-	-
PACIFIC	1,640	1,762	477	889	195	288	34	2	-	-
Wash.	140	191	33	78	24	26	-	-	N	N
Oreg.	133	161	24	35	N	N	N	N	N	N
Calif.	1,217	1,302	402	761	134	217	N	N	N	N
Alaska	32	36	3	4	-	-	-	-	N	N
Hawaii	118	72	15	11	37	45	34	2	-	-
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	50	253	1	4	N	N	N	N	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	3	U	-	U	-	U	-	U	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 29, 2004, and May 24, 2003 (21st Week)*

Reporting area	Syphilis				Tuberculosis		Typhoid fever		Varicella (Chickenpox)	
	Primary & secondary		Congenital							
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	2,733	2,848	100	189	3,129	4,762	86	120	7,559	8,096
NEW ENGLAND	63	84	1	-	103	145	9	10	374	1,757
Maine	-	4	-	-	-	10	-	-	44	532
N.H.	2	12	-	-	6	6	-	-	-	-
Vt.	-	-	-	-	-	3	-	-	330	383
Mass.	44	54	-	-	77	64	9	5	-	85
R.I.	9	6	-	-	10	19	-	2	-	3
Conn.	8	8	1	-	10	43	-	3	-	754
MID. ATLANTIC	408	319	19	32	733	812	20	21	29	9
Upstate N.Y.	39	13	1	3	86	89	2	3	-	-
N.Y. City	201	173	6	19	370	434	5	11	-	-
N.J.	71	69	12	10	153	148	9	6	-	-
Pa.	97	64	-	-	124	141	4	1	29	9
E.N. CENTRAL	298	391	30	36	419	429	4	15	3,247	3,092
Ohio	94	86	1	2	71	73	1	-	906	792
Ind.	21	18	7	7	56	49	-	4	-	-
Ill.	90	155	1	11	196	200	-	5	-	-
Mich.	83	122	21	16	72	86	2	6	2,229	1,829
Wis.	10	10	-	-	24	21	1	-	112	471
W.N. CENTRAL	56	80	-	3	146	179	2	2	112	23
Minn.	7	23	-	-	62	65	1	1	-	-
Iowa	2	6	-	-	13	11	-	1	N	N
Mo.	30	28	-	3	37	54	1	-	2	-
N. Dak.	-	-	-	-	3	-	-	-	67	23
S. Dak.	-	-	-	-	4	9	-	-	43	-
Nebr.	4	3	-	-	6	8	-	-	-	-
Kans.	13	20	-	-	21	32	-	-	-	-
S. ATLANTIC	732	744	11	39	651	893	17	26	1,217	1,146
Del.	3	8	-	-	-	-	-	-	4	9
Md.	136	109	2	6	81	82	2	7	-	-
D.C.	30	18	-	-	-	-	-	-	17	7
Va.	32	35	1	1	79	84	3	11	317	290
W. Va.	2	1	-	-	10	8	-	-	667	720
N.C.	61	67	1	9	82	95	2	4	-	-
S.C.	44	48	-	4	72	53	-	-	212	120
Ga.	120	184	-	8	11	203	8	2	-	-
Fla.	304	274	7	11	316	368	2	2	-	-
E.S. CENTRAL	148	138	4	7	184	267	4	2	2	-
Ky.	23	21	-	1	29	45	2	-	-	-
Tenn.	56	57	1	1	48	83	2	1	-	-
Ala.	56	49	2	4	74	101	-	1	-	-
Miss.	13	11	1	1	33	38	-	-	2	-
W.S. CENTRAL	441	333	18	28	185	749	3	5	1,172	1,804
Ark.	16	19	-	1	55	42	-	-	-	-
La.	91	41	-	-	-	-	-	-	34	8
Okla.	12	19	2	-	55	54	-	-	-	-
Tex.	322	254	16	27	75	653	3	5	1,138	1,796
MOUNTAIN	142	124	14	18	140	143	4	4	1,406	265
Mont.	-	-	-	-	-	-	-	-	-	-
Idaho	10	4	-	-	-	1	-	-	-	-
Wyo.	1	-	-	-	1	2	-	-	18	22
Colo.	8	18	-	3	36	37	1	3	1,076	-
N. Mex.	25	25	1	4	-	22	-	-	29	-
Ariz.	89	70	13	11	85	61	1	1	-	-
Utah	2	2	-	-	18	11	1	-	283	243
Nev.	7	5	-	-	-	9	1	-	-	-
PACIFIC	445	635	3	26	568	1,145	23	35	-	-
Wash.	34	31	-	-	80	96	1	2	-	-
Oreg.	9	16	-	-	28	36	1	1	-	-
Calif.	400	582	3	26	406	948	15	32	-	-
Alaska	-	-	-	-	9	26	-	-	-	-
Hawaii	2	6	-	-	45	39	6	-	-	-
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	54	79	2	8	14	33	-	-	122	249
V.I.	-	1	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	-	U	10	U	-	U	-	U

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).

TABLE III. Deaths in 122 U.S. cities,* week ending May 29, 2004 (21st Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	440	332	63	28	9	8	45
Boston, Mass.	99	80	3	9	5	2	15
Bridgeport, Conn.	37	25	8	3	-	1	4
Cambridge, Mass.	12	11	1	-	-	-	-
Fall River, Mass.	22	18	3	-	1	-	3
Hartford, Conn.	38	23	11	4	-	-	6
Lowell, Mass.	26	23	3	-	-	-	-
Lynn, Mass.	7	7	-	-	-	-	-
New Bedford, Mass.	21	16	5	-	-	-	3
New Haven, Conn.	U	U	U	U	U	U	U
Providence, R.I.	72	53	12	4	-	3	3
Somerville, Mass.	3	2	-	1	-	-	-
Springfield, Mass.	35	24	5	4	2	-	3
Waterbury, Conn.	14	12	2	-	-	-	3
Worcester, Mass.	54	38	10	3	1	2	5
MID. ATLANTIC	945	620	219	61	18	27	59
Albany, N.Y.	36	23	8	3	-	2	1
Allentown, Pa.	10	8	1	1	-	-	-
Buffalo, N.Y.	47	31	12	3	-	1	3
Camden, N.J.	20	10	4	3	2	1	-
Elizabeth, N.J.	16	13	3	-	-	-	2
Erie, Pa.	32	21	7	3	-	1	4
Jersey City, N.J.	42	28	12	2	-	-	-
New York City, N.Y.	U	U	U	U	U	U	U
Newark, N.J.	58	20	24	5	-	9	4
Paterson, N.J.	20	12	5	1	2	-	-
Philadelphia, Pa.	302	198	70	19	10	5	17
Pittsburgh, Pa.§	13	6	5	2	-	-	1
Reading, Pa.	20	18	1	-	-	1	5
Rochester, N.Y.	138	97	25	9	2	5	11
Schenectady, N.Y.	25	21	3	1	-	-	4
Scranton, Pa.	25	20	4	1	-	-	-
Syracuse, N.Y.	62	42	16	2	2	-	1
Trenton, N.J.	47	24	15	6	-	2	-
Utica, N.Y.	17	15	2	-	-	-	2
Yonkers, N.Y.	15	13	2	-	-	-	4
E.N. CENTRAL	1,892	1,328	391	102	37	33	121
Akron, Ohio	54	37	11	2	2	2	1
Canton, Ohio	28	20	6	2	-	-	4
Chicago, Ill.	344	225	71	30	10	7	36
Cincinnati, Ohio	U	U	U	U	U	U	U
Cleveland, Ohio	218	152	46	12	5	3	8
Columbus, Ohio	177	129	38	7	-	3	18
Dayton, Ohio	134	95	30	5	1	3	7
Detroit, Mich.	153	88	43	15	7	-	7
Evansville, Ind.	44	33	9	1	-	1	2
Fort Wayne, Ind.	49	37	7	3	-	2	3
Gary, Ind.	12	7	3	1	1	-	-
Grand Rapids, Mich.	71	53	13	1	2	2	3
Indianapolis, Ind.	154	104	35	9	4	2	5
Lansing, Mich.	52	40	10	1	-	1	1
Milwaukee, Wis.	102	66	27	4	1	4	7
Peoria, Ill.	36	26	7	1	1	1	3
Rockford, Ill.	56	45	7	3	1	-	3
South Bend, Ind.	49	39	8	1	-	1	-
Toledo, Ohio	92	74	13	3	1	1	3
Youngstown, Ohio	67	58	7	1	1	-	10
W.N. CENTRAL	481	316	108	29	14	13	32
Des Moines, Iowa	60	38	18	3	1	-	5
Duluth, Minn.	35	25	6	1	1	2	3
Kansas City, Kans.	12	9	2	1	-	-	2
Kansas City, Mo.	115	69	33	6	3	4	7
Lincoln, Nebr.	36	31	2	1	1	1	2
Minneapolis, Minn.	51	30	14	5	1	1	6
Omaha, Nebr.	U	U	U	U	U	U	U
St. Louis, Mo.	69	42	14	6	4	2	2
St. Paul, Minn.	56	35	13	6	1	1	2
Wichita, Kans.	47	37	6	-	2	2	3
S. ATLANTIC	1,210	752	298	96	37	27	63
Atlanta, Ga.	154	89	45	10	7	3	3
Baltimore, Md.	167	98	40	18	8	3	15
Charlotte, N.C.	106	59	28	10	4	5	7
Jacksonville, Fla.	156	102	35	10	4	5	4
Miami, Fla.	130	79	38	10	2	1	8
Norfolk, Va.	52	32	9	6	2	3	2
Richmond, Va.	69	49	11	7	1	1	4
Savannah, Ga.	39	18	12	5	1	3	3
St. Petersburg, Fla.	56	44	6	4	2	-	5
Tampa, Fla.	180	122	46	9	2	1	11
Washington, D.C.	101	60	28	7	4	2	1
Wilmington, Del.	U	U	U	U	U	U	U
E.S. CENTRAL	767	489	193	49	22	13	59
Birmingham, Ala.	172	108	42	14	3	4	16
Chattanooga, Tenn.	79	59	16	4	-	-	11
Knoxville, Tenn.	93	61	16	6	7	3	-
Lexington, Ky.	U	U	U	U	U	U	U
Memphis, Tenn.	150	83	53	9	4	1	7
Mobile, Ala.	75	47	16	9	2	1	10
Montgomery, Ala.	45	33	9	-	3	-	6
Nashville, Tenn.	153	98	41	7	3	4	9
W.S. CENTRAL	1,094	709	271	70	27	17	59
Austin, Tex.	77	50	24	2	-	1	5
Baton Rouge, La.	14	13	-	-	1	-	-
Corpus Christi, Tex.	38	29	5	3	-	1	3
Dallas, Tex.	219	128	60	16	10	5	14
El Paso, Tex.	79	59	15	4	1	-	5
Ft. Worth, Tex.	101	70	23	6	1	1	4
Houston, Tex.	352	213	98	27	9	5	14
Little Rock, Ark.	77	50	16	5	4	2	10
New Orleans, La.	36	22	11	3	-	-	-
San Antonio, Tex.	U	U	U	U	U	U	U
Shreveport, La.	101	75	19	4	1	2	4
Tulsa, Okla.	U	U	U	U	U	U	U
MOUNTAIN	854	548	169	84	32	21	47
Albuquerque, N.M.	U	U	U	U	U	U	U
Boise, Idaho	U	U	U	U	U	U	U
Colo. Springs, Colo.	80	54	17	3	2	4	-
Denver, Colo.	102	48	28	14	8	4	2
Las Vegas, Nev.	232	145	52	23	9	3	20
Ogden, Utah	28	20	1	3	2	2	3
Phoenix, Ariz.	112	69	20	13	6	4	2
Pueblo, Colo.	28	24	4	-	-	-	-
Salt Lake City, Utah	113	82	12	14	1	4	11
Tucson, Ariz.	159	106	35	14	4	-	9
PACIFIC	834	584	170	39	23	17	46
Berkeley, Calif.	16	12	4	-	-	-	2
Fresno, Calif.	99	72	16	6	4	1	7
Glendale, Calif.	U	U	U	U	U	U	U
Honolulu, Hawaii	78	55	16	6	1	-	4
Long Beach, Calif.	U	U	U	U	U	U	U
Los Angeles, Calif.	U	U	U	U	U	U	U
Pasadena, Calif.	U	U	U	U	U	U	U
Portland, Oreg.	130	93	24	6	4	3	6
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	157	113	31	2	6	5	10
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	149	100	31	11	3	4	6
Santa Cruz, Calif.	24	18	4	2	-	-	1
Seattle, Wash.	81	57	18	4	-	2	4
Spokane, Wash.	U	U	U	U	U	U	U
Tacoma, Wash.	100	64	26	2	5	2	6
TOTAL	8,517¶	5,678	1,882	558	219	176	531

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.

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 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 *MMWR* references are available on the Internet at http://www.cdc.gov/mmwr. Use the search function to find specific articles.

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

References to non-CDC sites on the Internet 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 these sites. URL addresses listed in *MMWR* were current as of the date of publication.

☆U.S. Government Printing Office: 2004-633-140/00017 Region IV ISSN: 0149-2195