MMWR™
Morbidity and Mortality Weekly Report
Weekly December 5, 2003 / Vol. 52 / No. 48

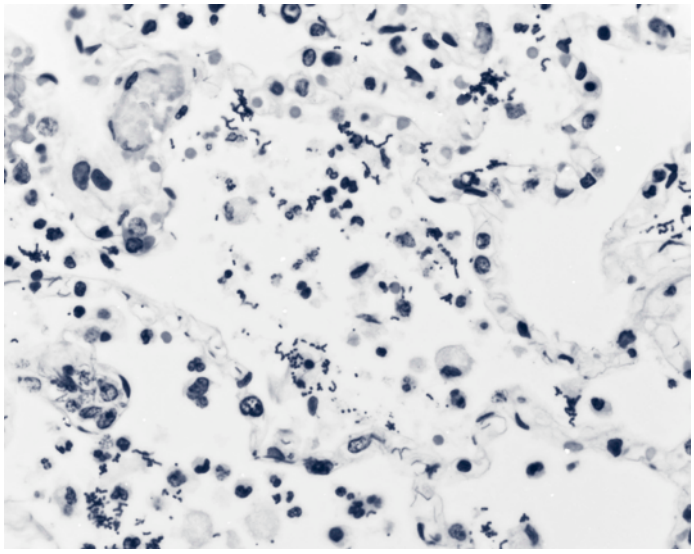
Invasive *Streptococcus pyogenes* After Allograft Implantation — Colorado, 2003

Allograft tissues are used for various orthopedic procedures (e.g., ligament reconstruction, meniscal transplantation, and spinal surgery). In 2002, approximately one million allografts were distributed for transplantation (American Association of Tissue Banks [AATB], unpublished data, 2002). Recent reports of allograft-associated infections have prompted evaluation of the processing and quality-control methods employed by tissue processors (*1,2*). This report describes a case of invasive disease with *Streptococcus pyogenes* (i.e., group A streptococcus [GAS]), after reconstructive knee surgery using contaminated allograft tissue and provides recommendations to reduce the risk for allograft-associated infections. Although allograft infections are rare, they highlight the need for improved tissue evaluation and processing standards.

In September 2003, a previously healthy male aged 17 years underwent elective anterior cruciate ligament repair with a hemi-patellar tendon allograft at an ambulatory surgical center in Colorado. Six days after the procedure, he was admitted to a local hospital with pain and erythema at the incision site, fever of 102° F (39° C), and chills. The allograft tissue was removed, and the patient underwent surgical exploration and fasciotomy of the affected thigh. Cultures of his blood, wound aspirate, and explanted tissue grew GAS. His hospital course required a stay in the intensive care unit and was complicated by persistent fever and fluid collection in the affected leg, which was managed with computerized tomography–guided needle aspiration. After 7 days of treatment with clindamycin and cefazolin, the wound aspirate again yielded GAS. The patient was discharged after 17 days and completed a course of intravenous antibiotics at home; he was later readmitted to the hospital for related complications and discharged subsequently.

The allograft received by the patient came from a cadaveric donor (Figure) and was supplied by tissue processor A (TP-A). After the patient's surgeon alerted TP-A to this case of presumptive allograft infection, TP-A contacted the Food and Drug Administration (FDA). Tendon allografts from the donor had been implanted in five other patients; as of December 1, no adverse outcomes had been detected by their surgeons. All remaining allografts recovered from the donor

FIGURE. Gram stain of lung specimen collected at autopsy from allograft tissue donor showing *Streptococcus pyogenes*



Photo/CDC

INSIDE

1176 Clostridial Endophthalmitis After Cornea Transplantation — Florida, 2003
1179 Update: Creutzfeldt-Jakob Disease Associated with Cadaveric Dura Mater Grafts — Japan, 1979–2003
1181 Partner Counseling and Referral Services to Identify Persons with Undiagnosed HIV — North Carolina, 2001
1184 Tuberculosis Outbreak in a Homeless Population — Portland, Maine, 2002–2003
1185 Notice to Readers

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 2003;52:[inclusive page numbers].

and processed by TP-A were placed on hold or recalled. According to medical examiner's records, the donor had undergone cervical spinal fusion 3 weeks before his death; autopsy findings included a generalized rash and potentially toxic levels of a muscle relaxant and an analgesic medication. On autopsy, the cause of death was attributed to the toxic effects of these drugs.

Cultures of the donor's tissues, obtained by the tissue recovery organization before distribution to two tissue processors, yielded GAS. Preprocessing cultures obtained by TP-A also yielded GAS. TP-A processed the allografts using aseptic technique and an antimicrobial solution, but no sterilization procedure (e.g., gamma irradiation) was used. After the recovered tissues were processed, all postprocessing cultures were reported as negative to TP-A, and these allografts were distributed. Other tissues recovered from the donor were distributed to a second tissue processor (TP-B) and were held for further review.

CDC, FDA, and the Colorado Department of Public Health and Environment conducted an investigation to determine whether the allograft had been the source of GAS infection in the recipient. TP-B provided CDC with donor tissues that had not undergone antimicrobial processing; GAS was identified in a specimen of fascia lata. GAS also was isolated from a specimen of the donor's blood, which had been stored by TP-A. *Emm* typing of the isolates was performed at CDC to sequence the variable region of the *emm* gene of GAS (*3*). Sequence analysis confirmed that blood and tissue isolates from both donor and recipient were a newly discovered subtype *emm3.17* that had not been identified among 108 invasive *emm3* isolates characterized recently (*4*) or among 155 *emm3* isolates recovered from children with pharyngitis (CDC, unpublished data, 2003). During the investigation, TP-A suspended distribution of all orthopedic allografts containing bone, such as the tissue implanted in the recipient.

Reported by: *J Bos, MPH, JM Crutcher, MD, Oklahoma State Dept of Health. K Gershman MD, Colorado Dept of Public Health and Environment. T Coté, MD, MA Greenwald, MD, J Polder, MPH, Center for Biologics Evaluation and Research, U.S. Food and Drug Administration. A Srinivasan, MD, M Arduino, DrPH, DB Jernigan, MD, Div of Healthcare Quality Promotion; B Beall, PhD, JA Elliott PhD, RR Facklam, PhD, A Schuchat, MD, C Van Beneden, Div of Bacterial and Mycotic Diseases; Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; E Lee, MD, D Ferguson, MD, EIS officers, CDC.*

Editorial Note: This report describes a case of invasive GAS infection associated with a contaminated musculoskeletal allograft. The uncommon strain of GAS detected in the donor's blood and tissues before processing was indistinguishable from

the strain isolated from the recipient after implantation. The implicated allograft tissue had been subjected to antimicrobial treatment and postprocessing cultures before release by TP-A.

GAS has not been reported previously in association with allograft infections. Although invasive disease caused by GAS is associated most commonly with skin and other soft tissue infections (*5*), GAS accounted for <0.4% of all surgical-site infections annually during 1998–2002 (CDC, unpublished data, 2003). During 2000–2002, approximately 350–400 annual cases of invasive GAS were classified as postsurgical (i.e., occurring during the first 7 days after surgery), representing approximately 4.0% of invasive GAS infections reported for those years (CDC, unpublished data, 2003). Among tissue donors, data suggest the prevalence of GAS in preprocessing cultures of blood and musculoskeletal tissues is low, with a range of 0.2%–0.4% (O. Martinez, Ph.D., University of Miami Tissue Bank, and S. Brubaker, LifeNet, personal communications, 2003).

GAS was detected in preprocessing cultures of all tissues recovered from the donor. These results did not prompt TP-A to reject the tissues, because all postprocessing cultures were negative. Previous reports of allograft-associated infections have highlighted several problems with aseptic tissue processing and culturing methods used to detect bacterial contamination after processing (*1,2*). In one case, antimicrobial treatment did not eradicate *Clostridium sordellii*, and postprocessing cultures failed to detect the contamination with *C. sordellii*, resulting in the death of a recipient of a bone-cartilage allograft (*2*). Although sterilization methods can further reduce the risk for contaminated allografts, tissues processed with the most common method (e.g., irradiation) have been associated with altered biomechanics. As a result, sterilization methods are not used routinely by soft-tissue processors (*6*).

This investigation implicated contaminated allograft tissue in the transmission of GAS. Given the apparent ability of the organism to endure tissue processing with antimicrobial treatment, the presence of GAS in donor tissue should prompt rejection of the tissue unless a sterilizing procedure can be used. Because GAS prevalence among donor cultures is low, this recommendation should not limit the supply of tissue available for transplantation substantially. AATB, a voluntary accreditation organization, has proposed sterilizing or discarding certain tissues if specified organisms, including GAS, are detected (S. Brubaker, AATB, personal communication, 2003).

Tissue processors should adopt processes to ensure tissue safety. If tissue is contaminated with GAS or other pathogenic, highly virulent organisms, standard protocols for sterilization should be employed by tissue processors when possible, or the tissue should be discarded. When applicable, tissue processors should validate methods used to obtain culture specimens after antimicrobial treatment or sterilization.

AATB standards require rejection of donor tissues with evidence of active infection at the time of donation, including septicemia (*7*). Assessment of infection also should occur during tissue processing. Typically, evidence of systemic infection in prospective donors is detected before tissue recovery (*8*). However, when systemic infection is not detected before tissue recovery, donor eligibility should be reconsidered if cultures of multiple allograft tissues from the same donor yield the same organism. Multiple positive cultures for the same organism, even those not specified as highly virulent by AATB, might indicate systemic disease and should be considered in the comprehensive evaluation of the donor.

CDC guidelines for prevention of GAS disease identify the occurrence of postsurgical infection with GAS as a sentinel event that should prompt an epidemiologic investigation and enhanced surveillance within the hospital (*9*). Certain postsurgical GAS infections reflect transmission from asymptomatic, colonized health-care workers who should be identified to prevent additional postsurgical infections. Contaminated allografts should be considered as potential sources of GAS when postsurgical infections are recognized. Early signs of infection with GAS are nonspecific and might include localized pain, swelling, or erythema. Pain associated with invasive GAS infections often is disproportionate to clinical findings. Diagnostic evaluation should include anaerobic and aerobic cultures of blood and other specimens (*2*). Clinicians should be aware of the possibility of allograft-associated infections in the postoperative setting and should report these infections to the tissue processor and local health department. State health departments, CDC, and FDA should be notified to assist with investigations.

Data about invasive GAS are available through CDC's Active Bacterial Surveillance system http://www.cdc.gov/ncidod/dbmd/abcs/survreports.htm. Additional information about surveillance for surgical-site infections is available through CDC's National Nosocomial Infections Surveillance System at http://www.cdc.gov/ncidod/hip/surveill/nnis.htm.

Acknowledgments

This report is based on contributions by MA Kainer, MD, Tennessee Dept of Health. PR Rigney, American Association of Tissue Banks (AATB), McLean; S Brubaker, AATB and LifeNet, Virginia Beach, Virginia. M Elledge, American Red Cross Transplantation Svcs, Washington, DC. OV Martinez, PhD, Univ of Miami Tissue Bank, Miami, Florida.

References

1. CDC. Septic arthritis following anterior cruciate ligament reconstruction using tendon allografts—Florida and Louisiana, 2000. MMWR 2001;50:1081–3.
2. CDC. Update: allograft-associated bacterial infections—United States, 2002. MMWR 2002;51:207–10.
3. CDC. *Streptococcus pyogenes emm* sequence database. Available at http://www.cdc.gov/ncidod/biotech/strep/doc.htm.
4. Li Z, Sakota V, Jackson D, Beall B. Array of M protein gene subtypes in 1064 recent invasive group A streptococcus isolates recovered from the Active Bacterial Core Surveillance. J Infect Dis 2003;188:1587–92.
5. O'Brien K, Beall B, Barrett N, et al. Epidemiology of invasive group A *Streptococcus* disease in the United States, 1995–1999. Clin Infect Dis 2002;35:268–76.
6. Barbour SA, King W. The safe and effective use of allograft tissue—an update. Am J Sports Med 2003;31:791–7.
7. American Association of Tissue Banks. Standards for Tissue Banking. McLean, Virginia: American Association of Tissue Banks, 2002.
8. Martinez OV, Buck BE, Hernandez M, Malinin T. Blood and marrow cultures as indicators of bone contamination in cadaver donors. Clin Orthop 2003;409:317–24.
9. The Prevention of Invasive Group A Streptococcal Infection Workshop Participants. Prevention of invasive group A streptococcal disease among household contacts of case patients and among postpartum and postsurgical patients: recommendations from the Centers for Disease Control and Prevention. Clin Inf Dis 2002;35:950–9.

Clostridial Endophthalmitis After Cornea Transplantation — Florida, 2003

Endophthalmitis is a severe condition caused by inflammation of the ocular cavity that often is associated with infection of the internal structures of the eye. The source of infection can include bacteria disseminated through the bloodstream and contamination of the cornea at the time of ocular surgery or trauma. Complications include rapid, irreversible vision loss that can progress quickly to panophthalmitis, requiring surgical removal of the eye (*1*). *Clostridium perfringens*, an anaerobic gram-positive bacillus found in soil and bowel flora, is an infrequent cause of endophthalmitis. Although the majority of cases are caused by penetrating injury with soil-contaminated foreign bodies, *C. perfringens* endophthalmitis has been reported in patients after cataract surgery (*2,3*). This report describes two cases of *C. perfringens* endophthalmitis that occurred within 24 hours after transplant of contaminated corneas. These cases demonstrate the potential for transmission of *Clostridium* infection from donor to recipient. Clinicians should be aware of potential infection risks associated with transplantation of corneal tissues and report any infections to the appropriate eye bank.

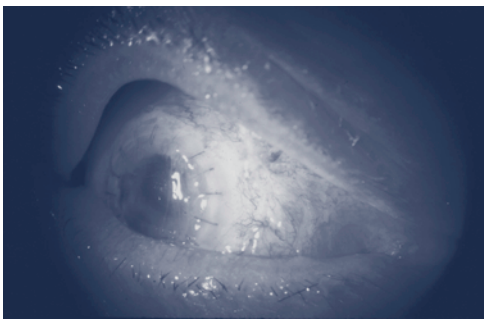
In February 2003, two patients received corneal transplant of the right eye on the same day in the same facility. The corneas used for both patients were recovered from one donor, a woman aged 55 years who died from metastatic colon cancer.

The first patient, a man aged 64 years, had severe eye pain, nausea, and vomiting within 12 hours after surgery. He had increased intraocular pressure and decreased light perception in the eye in which the cornea was transplanted. Eye examination was consistent with endophthalmitis without evidence of periorbital or orbital involvement. The patient underwent a vitrectomy and was treated with intraocular vancomycin and ceftazadime. Two days after the surgery, inflammation of the eye persisted, but no evidence of systemic illness was found. Repeat vitrectomy was performed, and clindamycin and gentamicin were injected for treatment of suspected bacillus endophthalmitis; systemic penicillin G and clindamycin were started. Cultures of fluid inside the eye yielded *C. perfringens.* With treatment, the patient's infection resolved; however, he continued to have minimal light perception and retinal detachment and necrosis.

The second patient, a man aged 80 years, was determined on routine evaluation 1 day after surgery to have decreased visual acuity (20/400) and probable early endophthalmitis in the eye in which the cornea was transplanted. Infection progressed to severe endophthalmitis; however, he had no evidence of periorbital or orbital extension of the infection and no signs of systemic illness (Figure). Intraocular vancomycin and ceftazadime were administered. Two days after surgery, the patient's visual acuity had diminished to only light perception. The patient underwent an additional vitrectomy and was administered intraocular clindamycin and gentamicin with systemic clindamycin and penicillin G. Intraocular cultures also yielded *C. perfringens*. On follow-up, he recovered 20/200 vision, which was consistent with his preexisting maculopathy.

Cultures of both donor corneas, collected immediately before transplantation, subsequently grew *C. perfringens*.

FIGURE. *Clostridium perfringens* endophthalmitis of the right eye after transplant of contaminated cornea



Photo/WT Driebe, M.D., University of Florida

rec•om•men•da•tion: *n*

("rek-ə-mən-'dā-shən) 1 : something, such as a course of action, that is recommended; see also *MMWR*.

know what matters.

MMWR™
Recommendations and Reports

Review of data from the eye bank indicated that the donor body was refrigerated within 3 hours after death; eyes were recovered approximately 8 hours after death. The corneal tissues had undergone tissue processing as recommended by the Eye Bank Association of America (EBAA) (*4*). The donor tissue had been maintained in a solution of gentamicin and streptomycin, and transplantation was completed within 48 hours of tissue recovery. The eye bank and the surgeon had evaluated the donor tissue by slit lamp examination and found no abnormalities. No other tissues were recovered from this donor. Both cases were reported by the eye bank to EBAA as recommended.

Reported by: *KG Banull, MD, JW Janelle, MD, Div of Infectious Diseases; WT Driebe, MD, Dept of Ophthalmology; LL Fauerbach, MS, Shands Hospital; L Archibald, MD, Div of Epidemiology, Univ of Florida, Gainesville. A Srinivasan, MD, D Jernigan, MD, Div of Healthcare Quality Promotion, National Center for Infectious Diseases, CDC.*

Editorial Note: This report describes the first reported cases of clostridial endophthalmitis associated with transplantation of contaminated corneal tissue. During 1991–2002, a total of 414,648 donor corneas were distributed for keratoplasty in the United States by EBAA-member eye banks (*5*). Of 230 cases of culture-positive or clinically suspected microbial endophthalmitis among corneal transplant recipients reported during 1991–2002, no cases of endophthalmitis were reported to be caused by clostridia (EBAA, unpublished data, 2003). These data indicate that corneal transplantation in the United States has a very low risk for endophthalmitis.

Clostridial infections after implantation of contaminated allografts were first reported in 2001 among recipients of musculoskeletal tissues from cadaveric donors (*6*). In that investigation, clostridia were recovered both from tissue recipients and from the donors of the tissues. Difficulties in detecting bacteria in postprocessing cultures led to release of the contaminated allografts. Cultures of the corneas collected immediately before implantation yielded *C. perfringens,* indicating that the tissue donor likely had disseminated *C. perfringens* disease. The donor's death was attributed to metastatic colon cancer; abdominal cancer is a known risk factor for *C. perfringens* bloodstream infection (*7*). Neither cornea recipient acquired systemic infection; however, both had serious complications from infection, and one experienced substantial vision loss. The findings from this investigation underscore the serious infectious complications that can occur from transplanted allografts containing clostridia.

EBAA recommends that corneal tissue should be recovered by specially trained personnel using sterile technique (*4*). Methods used by eye banks for processing corneal grafts include treatment with antimicrobials or bactericidal washes (e.g., povidone iodine) (*8*); however, these methods do not inactivate spores. Corneas used for transplant are not sterilized because existing methods (e.g., irradiation) make the tissues unsuitable for transplant. Food and Drug Administration (FDA) regulations regarding corneal tissue address the medical suitability of donors and screening for infections caused by human immunodeficiency virus types 1 and 2, hepatitis C virus, and hepatitis B virus (*9*). Neither FDA nor EBAA provide guidance specifically for detecting or inactivating clostridial spores on corneal allograft tissues.

Cultures of corneal tissue are not performed routinely by eye banks before a corneal transplant procedure. Eye banks may elect to perform presurgical (e.g., corneal-scleral rim) cultures, and positive culture reports should be reported to the receiving surgeon or recipient eye bank. Cultures may be performed either before or at the time of surgery (*4*). However, presurgical cultures might not reliably predict endophthalmitis complicating corneal transplantation (*10*). For the two cases described in this report, culture results were not available early enough in the infection to prevent disease in recipients. If a corneal culture obtained at surgery identifies a pathogen, clinicians should evaluate the patient's condition promptly and consider initiation of appropriate therapy.

Metastatic colon cancer alone is not a factor that prompts deferral of a donor; however, the medical director should evaluate information about any potential donor with metastatic colon cancer to determine whether the donation should proceed. The risk for clostridial disease from corneas should be a consideration for tissue bank directors when evaluating potential donors with metastatic colon cancer. EBAA recommends that surgeons report adverse events, including cases of *C. perfringens* endophthalmitis, to eye banks and subsequently to EBAA within 30 days of the occurrence for review by a medical advisory board (*4*). State health departments, CDC, and FDA should be notified to assist with investigations.

Acknowledgments

This report is based in part on data provided by EJ Holland, MD, KR Wilhelmus, MD, Eye Bank Association of America, Washington, DC.

References

1. Crock WC, Wilson JH, Janakiraman P, Weiner JM. Gas gangrene infection of the eyes and orbits. Br J Ophthalmol 1985;69:143–8.
2. Nangia V, Hutchinson C. Metastatic endophthalmitis caused by *Clostridium perfringens*. Br J Ophthalmol 1992;76:252–3.
3. Romsaitong DP, Grasso CM. *Clostridium perfringens* endophthalmitis following cataract surgery. Arch Ophthalmol 1999;117:970–1.
4. Eye Bank Association of America. Medical Standards. Washington, DC: Eye Bank Association of America, 2003.
5. Eye Bank Association of America. 2002 Eye Banking Statistical Report. Washington, DC: Eye Bank Association of America, 2003.

6. CDC. Update: allograft-associated bacterial infections. MMWR 2002;51:207–10.
7. Bodey GP, Rodriquez S, Fainstein V, et al. Clostridial bacteremia in cancer patients: a 12-year experience. Cancer 1991;67:1928–42.
8. Pels E, Vrensen GF. Microbial decontamination of human donor eyes with povidone-iodine: penetration, toxicity, and effectiveness. Br J Ophthalmol 1999;83:1019–26.
9. U.S. Food and Drug Administration. Human tissue intended for transplantation. Federal Register 1997;62:40429–46.
10. Everts RJ, Fowler WC, Chang DH, Reller LB. Corneoscleral rim cultures: lack of utility and implications for clinical decision-making and infection prevention in the care of patients undergoing corneal transplantation. Cornea 2001;20:586–9.

Update: Creutzfeldt-Jakob Disease Associated with Cadaveric Dura Mater Grafts — Japan, 1979–2003

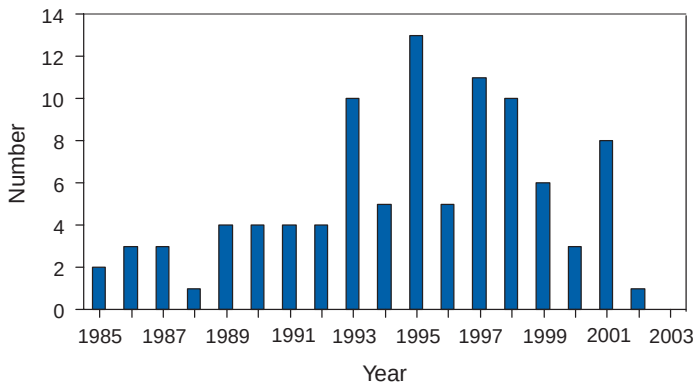
In 1997, a nongovernment surveillance group for Creutzfeldt-Jakob disease (CJD) in Japan supported financially by the Ministry of Health and Welfare* (MHW) reported 43 cases of CJD associated with receipt of cadaveric dura mater grafts (*1*). In all but one case, the most probable vehicle of transmission was a single brand of dural graft (LYODURA® [B. Braun Melsungen AG, Melsungen, Germany]) produced before May 1987. As of March 2003, ongoing surveillance in Japan had identified an additional 54 dura mater graft–associated cases. This report summarizes the investigation of the 97 cases, which indicated that during 1983–1987, the estimated minimum risk for CJD within 17 years of receipt of the implicated product in Japan was approximately one case per 1,250 grafts. No cases have been reported among patients who received their first dural graft after 1991; however, because of the long latency period between graft placement and symptom onset, additional cases of graft-associated CJD are likely to be reported.

During 1996–2003, cases of CJD were identified in Japan by using 1) a mail survey of neurologic, psychiatric, and neuropathologic institutions (overall response rate: 74%) (*1*) and 2) subsequent reporting of CJD patients by clinicians to MHW. During this period, 97 cadaveric dura mater graft–associated CJD cases were identified. A case of dura mater–associated CJD was defined as a case in which a patient received a cadaveric dura mater graft and subsequently had CJD diagnosed by a physician and reviewed and accepted as CJD by a surveillance panel of neurologists.

The 97 CJD patients had illness onset during September 1985–April 2002 (Figure 1). Median age at onset was 58 years (range: 15–80 years); mean age was 55 years. Mean age at onset was younger than that reported for sporadic CJD in Japan (66 years). A total of 58 (60%) patients were female. Neuropathologic confirmation of CJD diagnosis was obtained for 20 (21%) patients; 65 (84%) of the other 77 patients with physician-diagnosed CJD had an electroencephalogram with a periodic synchronous discharge pattern consistent with CJD.

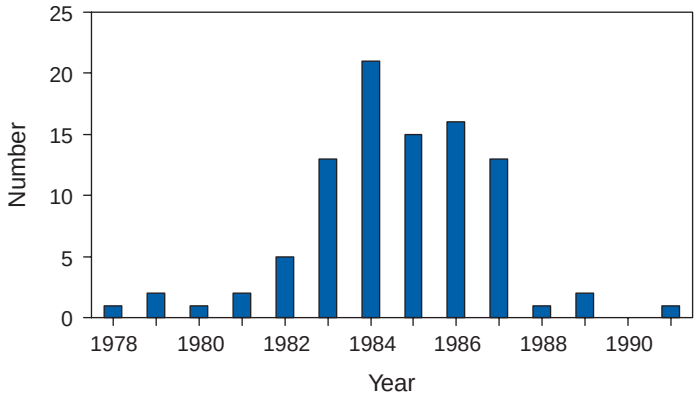
All 97 patients received dura mater grafts during 1978–1991 (Figure 2). Three patients received more than one dural graft during this period, including one patient reported previously (*1*). In all three cases, the first graft was considered to be the source of infection. Medical conditions leading to the use of dural grafts in these patients included tumor (n = 46), brain hemorrhage (n = 14), Jannetta procedure for facial palsy (n = 13) and for trigeminal neuralgia (n = six), intracranial aneurysm (n = eight), unspecified anomalies (n = five), hematoma (n = three), injury (n = one), and ossification of the spinal posterior longitudinal ligament (n = one).

FIGURE 1. Number* of cases of Creutzfeldt-Jakob disease associated with dura mater grafts, by year of illness onset — Japan, 1985–2003



* N = 97.

FIGURE 2. Number of cases of Creutzfeldt-Jakob disease associated with dura mater grafts, by year of procedure — Japan, 1978–1991



* N = 97.

* Subsequently named the Ministry of Health, Labor, and Welfare.

Latency periods ranged from 14 months (receipt in 1987 and onset in 1989) to 275 months (receipt in 1978 and onset in 2001). The median and mean latency periods were 122 and 125 months, respectively. A total of 93 patients received dural grafts during 1978–1987. In 1987, the manufacturer revised collection and processing procedures for the implicated product to reduce the risk for CJD transmission. Four patients received grafts during 1988–1991. No cases have been reported among patients who received their first dural graft after 1991. A total of 86 (89%) patients were documented to have received LYODURA®; the brand name of dural graft was unknown for 11 patients. A total of 81 (84%) of the 97 patients received their dural grafts during 1983–1987, during which time an estimated 100,000 patients received LYODURA® grafts in Japan. All 81 patients died from CJD within 17 years after receipt of the grafts. Lot numbers of the dura mater grafts used for the 97 patients could not be identified. As of September 2003, five additional cases were under investigation in Japan for suspected dural graft–associated CJD.

Reported by: *Y Nakamura, MD, M Watanabe, MD, K Nagoshi, MD, Dept of Public Health, Jichi Medical School, Minamikawachi; T Kitamoto, MD, Dept of Neuropathology, Tohuku Univ School of Medicine, Sendai; T Sato, MD, Kohnodai Hospital, National Center for Neurology and Psychiatry, Ichikawa; M Yamada, MD, Dept of Neurology, Kanazawa Univ Graduate School of Medical Science, Kanazawa; H Mizusawa, MD, Dept of Neurology, Tokyo Medical and Dental Univ School of Medicine, Tokyo, Japan. R Maddox, MPH, J Sejvar, MD, E Belay, MD, LB Schonberger, MD, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.*

Editorial Note: Dural graft–associated CJD cases continue to be identified in Japan. The estimated minimum risk within 17 years after receipt of LYODURA® is approximately one case per 1,250 recipients. The precise number of dura mater grafts used in Japan is unknown, but an estimated 20,000 grafts per year might have been used during 1983–1987. The widespread use of LYODURA® during neurosurgical procedures in Japan is the most probable source of the unusually high number of dural graft–associated CJD cases in Japan (*2*). Dural graft recipients have symptom onset at a younger age compared with age at onset in sporadic cases of CJD in Japan. The identification of additional cases over time has resulted in an expected increase in the latency period between dural graft placement and symptom onset. The mean and range for this latency of CJD from contaminated grafts is unknown, but the upper limit now exceeds 22 years. The occurrence of new cases, the increase in the mean and range of the latency period, and the identification of suspected cases under investigation all suggest that this outbreak is ongoing.

No cases in Japan were reported to be related to receipt of a dural graft other than LYODURA®. For 11 cases, the manufacturer brand name was unknown. Although LYODURA®, or in one case either LYODURA® or a dural graft from another manufacturer (Tutoplast® [Pfrimmer-Viggo GmbH & Co., Erlangen, Germany]), was suspected in these cases, documentation of a specific source was unavailable. Four patients received dural grafts after collection and processing procedures were revised by the manufacturer in 1987, but whether the implicated dural grafts were LYODURA® produced before 1987 is unknown. That all LYODURA®-associated CJD cases to date occurred among patients who received grafts before 1992 suggests that all implicated grafts likely were processed before 1987; the implicated product's expiration date is 5 years after processing.

LYODURA® never was produced by the manufacturer for distribution in the United States, and relatively few LYODURA® grafts were used in this country. In May 1987, after identification of the first dural graft–associated CJD case in a U.S. patient who had received the implicated product, the manufacturer revised its procedures for collecting and processing dura mater grafts to reduce the risk for CJD transmission (e.g., by discontinuing the commingling of dura and disinfecting them with sodium hydroxide) (*3,4*). Subsequently, numerous other dura mater graft–associated cases were identified worldwide; nearly all patients had received the implicated product, including one additional U.S. patient. In 1997, the report of 43 cases of dura mater graft–associated CJD in Japan represented the largest cluster of such cases in any one country (*1*).

In one of the CJD cases reported in Japan, the implicated graft was used in a spinal (not an intracranial) procedure. This case suggests that transmission from contaminated dura might occur in areas of the neuraxis outside of the cranial vault.

In 1997, the Food and Drug Administration's Transmissible Spongiform Encephalopathy Advisory Committee (TSEAC) recognized that the use of human dura mater in the United States carries an inherent risk for transmitting CJD. However, the committee recommended that the use of such grafts be left to the discretion of the treating neurosurgeon, provided that the human dura mater is procured and processed according to appropriate safety measures (*5*). In 1997, an estimated 4,500 dural grafts were distributed for use in the United States (*6*). After the TSEAC recommendations were issued, the number of dural grafts distributed for use in the United States declined to an estimated 900 grafts in 2002 (B.E. Buck, M.D., Miami Tissue Bank, personal communication, 2003).

The cases described in this report indicate that recipients of contaminated dura mater grafts might remain at risk for CJD for >22 years after receiving grafts. CDC continues to conduct surveillance for cases of CJD in the United States. Patients with a rapidly progressive dementia consistent with CJD and a history of dural graft implantation should be reported through local or state health departments to CDC, telephone 404-639-3091.

References

1. CDC. Creutzfeldt-Jakob disease associated with cadaveric dura mater grafts—Japan, January 1979–May 1996. MMWR 1997;46:1066–9.
2. Brown P, Preece M, Brandel JP, et al. Iatrogenic Creutzfeldt-Jakob disease at the millennium. Neurology 2000;55:1075–81.
3. Thadani V, Penar PL, Partington J, et al. Creutzfeldt-Jakob disease probably acquired from a cadaveric dura mater graft. J Neurosurg 1988;69:766–9.
4. CDC. Epidemiologic notes and reports update: Creutzfeldt-Jakob disease in a patient receiving a cadaveric dura mater graft. MMWR 1987;36:324–5.
5. U.S. Food and Drug Administration. Class II Special Controls Guidance Document: Human Dura Mater; Draft Guidance for Industry and FDA. Rockville, Maryland: U.S. Food and Drug Administration, 2002.
6. Solomon R. Methods used in human cells, tissues, and cellular and tissue-based product (HCT/P) establishments. Available at http://www.fda.gov/ohrms/dockets/ac/03/transcripts/3969t2.pdf.

Partner Counseling and Referral Services to Identify Persons with Undiagnosed HIV — North Carolina, 2001

Approximately one fourth of the 850,000–950,000 persons living with human immunodeficiency virus (HIV) in the United States are not aware of their infection and their risk for transmitting HIV (*1*). Identifying HIV-infected persons promptly after infection and directing them to medical care and prevention services is a national priority. Voluntary partner counseling and referral services (PCRS) help HIV-infected persons notify sex and needle-sharing partners of their need for HIV testing, enabling partners to receive early care and prevention counseling (*2*). To evaluate the success of these services in North Carolina, CDC analyzed PCRS data collected in 2001 by the North Carolina Department of Health and Human Services (NCDHHS). This report summarizes the results of that analysis, which determined that 125 (20.5%) of 610 tested partners of HIV index patients had HIV infections that were undiagnosed previously. These findings suggest that local and state health departments should consider PCRS an essential component of any comprehensive HIV-prevention program.

In 1989, NCDHHS began offering PCRS to clients who tested HIV positive in confidential and anonymous testing venues. HIV infections were made reportable in 1990, and

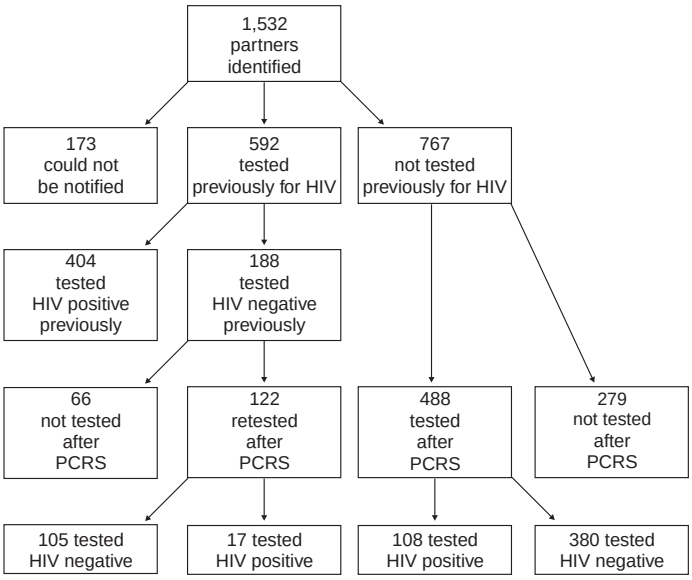
anonymous counseling and testing services were discontinued in 1997. PCRS in North Carolina is conducted by a disease intervention specialist (DIS), a trained health-care professional who 1) investigates health-care provider or laboratory reports of new HIV infections; 2) verifies that patients have not been reported as HIV positive previously; 3) contacts patients' health-care providers to initiate PCRS and obtain demographic and clinical information; 4) conducts voluntary, confidential interviews requesting information regarding all sex and needle-sharing partners during the preceding year; 5) assesses potential for partner violence; and 6) ensures that index patients receive HIV-prevention counseling, care, and case management.

After obtaining partner information, the DIS searches confidential public health records to identify partners reported previously with HIV infection and then contacts the remaining partners to inform them they might have been exposed to HIV. All notified partners receive risk-reduction counseling and appropriate referrals; partners are either referred to clinic-based HIV testing services or provided voluntary testing in the field. The DIS attempts to document that all locatable partners are notified and receive or decline HIV testing.

This analysis used data collected in 2001 regarding index-patient demographics and partner notification and testing outcomes. Pearson chi square and Fisher's exact test were used to test associations between partner outcomes and the age, race/ethnicity, HIV-exposure category, and diagnosing clinic type (i.e., public or private) of index patients. For PCRS outcomes significant at the $p<0.05$ level, pairwise comparisons were performed by using a Bonferoni adjustment for multiple comparisons.

In 2001, a total of 1,603 persons were newly reported with HIV infection in North Carolina. DIS personnel were assigned to conduct PCRS with 1,580 (99%) of these index patients; 1,379 (87%) were located and interviewed. Through PCRS, 1,532 sex or needle-sharing partners were identified; the partner index (i.e., number of identified partners divided by number of index patients interviewed) was 1.1. Of the 1,532 named partners (Figure), 173 (11%) could not be notified, 592 (39%) had been tested previously for HIV, and 767 (50%) had not been tested previously for HIV. Among the 592 partners tested previously for HIV, 404 (68%) had tested HIV positive. Among the remaining 188 partners who had tested HIV negative previously and were notified, 122 (65%) were retested; 17 (14%) of those retested were HIV positive. Among the 767 partners not tested previously for HIV infection, 488 (64%) were tested after PCRS; 108 (22%) of those newly tested partners were HIV positive.

FIGURE. Outcomes of partner counseling and referral services (PCRS) for sex and needle-sharing partners of HIV index patients — North Carolina, 2001



Overall, one new HIV case was diagnosed for every 11 index patients interviewed through PCRS. Among the 1,128 partners (i.e., 1,532 identified partners minus the 404 known positives) not known to have tested HIV positive previously, 955 (85%) were notified and counseled; 610 (64%) of those 955 were tested or retested for HIV infection; 125 (20%) of the 610 tested positive for HIV infection. Among persons testing positive, 121 (97%) received their test results; four could not be contacted.

The proportion of index patients located and interviewed did not vary significantly by age, race/ethnicity (Table 1), or HIV-exposure category. Index patients whose HIV infections were diagnosed in private facilities were slightly less likely to be located and interviewed than those with infections diagnosed in public facilities (Table 2); however, in both venue types, the yield was high (>85%). Partners of index patients whose HIV infections were diagnosed in private facilities also were less likely to have tested HIV positive previously, to have been notified and counseled by a DIS, and to have received HIV testing after PCRS (Table 2). Partners of non-Hispanic white index patients were more likely than partners of non-Hispanic black and Hispanic index patients to be notified and counseled but less likely to have received HIV testing after PCRS (Table 1). The proportion of tested partners with newly diagnosed HIV did not vary by index patient age, race/ethnicity, HIV-exposure category, or diagnosing clinic type.

TABLE 1. Outcomes of partner counseling and referral services (PCRS) for sex and needle-sharing partners of HIV patients, by race/ethnicity of index patient — North Carolina, 2001

	Index patient										
	White, non-Hispanic		Black, non-Hispanic		Hispanic		Other*		Total†		
PCRS outcomes	No.	(%)	No.	(%)	No.	(%)	No.	(%)	No.	(%)	p value§
Index patients											
Assigned	291	—	1,117	—	104	—	21	—	**1,580**	**—**	
Interviewed	243/291	(84)	982/1,117	(88)	92/104	(88)	19/21	(90)	**1,379/1,580**	**(87)**	0.2
Partners											
Elicited	242	—	1,168	—	63	—	31	—	**1,532**	**—**	
Partner index (PI)¶	242/243	PI = 1.0	1,168/982	PI = 1.2	63/92	PI = 0.7	31/19	PI = 1.6	**1,532/1,379**	**PI = 1.1**	
Previously HIV positive	54/242	(22)	310/1,168	(27)	24/63	(38)	11/31	(35)	**404/1,532**	**(26)**	<0.06
Counseled/eligible**	170/188	(90)	720/858	(84)††	29/39	(74)††	17/20	(85)	**955/1,128**	**(85)**	<0.04
Tested	93/170	(55)	468/720	(65)††	27/29	(93)††	12/17	(71)	**610/955**	**(64)**	<0.001
Found HIV positive	17/93	(18)	96/468	(21)	9/27	(33)	3/12	(25)	**125/610**	**(20)**	0.4

* Includes 16 American Indian/Alaska Natives and five Asian/Pacific Islanders.
† Includes 47 persons of unknown race/ethnicity.
§ Calculated for persons with known race/ethnicity.
¶ Number of partners elicited / number of index patients interviewed.
** Eligible partners are those not previously testing HIV positive.
†† Significant pairwise difference (reference = white, non-Hispanic) at the $\alpha<0.025$ level (using Bonferoni adjustment for multiple comparisons).

TABLE 2. Outcomes of partner counseling and referral services (PCRS) for sex and needle-sharing partners of HIV patients, by clinic type at index patient's diagnosis — North Carolina, 2001

	Public facility*		Private facility		Total		
PCRS outcomes	No.	(%)	No.	(%)	No.	(%)	p value
Index patients							
Assigned	492	—	1,088	—	**1,580**	**—**	
Interviewed	443/492	(90)	936/1,088	(86)	**1,379/1,580**	**(87)**	0.03
Partners							
Elicited	584	—	948	—	**1,532**	**—**	
Partner index (PI)†	584/443	PI = 1.3	948/936	PI = 1.0	**1,532/1,379**	**PI = 1.1**	
Previously HIV positive	198/584	(34)	206/948	(22)	**404/1,532**	**(26)**	<0.001
Counseled/eligible§	339/386	(88)	616/742	(83)	**955/1,128**	**(85)**	0.03
Tested	232/339	(68)	378/616	(61)	**610/955**	**(64)**	0.03
Found HIV positive	54/232	(23)	71/378	(19)	**125/610**	**(20)**	0.2

* North Carolina Department of Health and Human Services facilities (i.e., sexually transmitted disease clinics, HIV counseling and testing sites, and prenatal clinics).
† Number of partners elicited / number of index patients interviewed.
§ Eligible partners are those not previously testing HIV positive.

Reported by: *E Foust, MPH, P Leone, MD, T Vanhoy, J Owen-O'Dowd, M Hilton, D Williams, PhD, Div of Public Health, North Carolina Dept of Health and Human Svcs. GR Burstein, MD, HY Kim, PhD, S Dooley, MD, Div of HIV/AIDS Prevention, National Center for HIV, STD, and TB Prevention, CDC.*

Editorial Note: After receiving an HIV-positive test result, patients often reduce or discontinue behaviors that might lead to further HIV transmission (*3*). The results of this analysis indicate that PCRS can effectively identify sex and needle-sharing partners with previously undiagnosed HIV infection. Among 610 partners tested or retested for HIV infection after PCRS, 125 (20.5%) tested positive for HIV. In contrast, of the 109,172 HIV tests performed in 2001 at HIV counseling and testing sites in North Carolina, only 764 (0.7%) were positive. Among the 1,359 partners who were notified and counseled, 767 (56.4%) had not been tested previously, suggesting that PCRS can be effective in locating persons at risk for HIV infection who are not receiving HIV counseling and testing services through other programs.

Certain persons continue high-risk behaviors even after learning they are HIV positive or at risk for infection. Of the 1,532 partners identified, 404 (26.4%) had tested HIV positive previously, indicating that PCRS can locate HIV-positive persons who remain at high risk for transmitting infection and refer them to prevention case management and care. Through retesting, PCRS also identified 17 (13.9%) HIV-positive partners among 122 who had tested negative previously, suggesting that certain persons who test HIV negative continue to engage in high-risk behavior and need reassessment of HIV status and ongoing prevention services.

A new CDC initiative, Advancing HIV Prevention: New Strategies for a Changing Epidemic, is aimed at reducing

barriers to early diagnosis of HIV infection and increasing access to quality medical care, treatment, and ongoing prevention services (*4*). A key strategy in the initiative is preventing new infections by counseling HIV-positive persons and their partners. PCRS can be a cost-effective method for combating the spread of HIV infections (*5–7*). Successful programs will require 1) extensive work with the community and health-care providers to gain support for PCRS; 2) intensive DIS training, close supervision, and quality assurance; and 3) full integration of PCRS into a comprehensive program of HIV care and prevention services.

CDC helps fund comprehensive local and state programs aimed at reducing HIV transmission. Because PCRS is an effective counseling and testing strategy that targets persons at high risk for HIV, CDC requires funded health departments to include PCRS among their HIV-prevention services. Because PCRS cannot function effectively in isolation, health officials should work closely with community-based organizations and other service providers to develop strategies for integrating PCRS into a comprehensive counseling, testing, referral, and care program (*8*).

References

1. Fleming P, Byers RH, Sweeney PA, Daniels D, Karon JM, Janssen RS. HIV prevalence in the United States, 2000 [Abstract]. Presented at the 9th Conference on Retroviruses and Opportunistic Infections, Seattle, Washington, February 24–28, 2002.
2. CDC. HIV partner counseling and referral services. Atlanta, Georgia: U.S. Department of Health and Human Services, Public Health Service, CDC, 1998.
3. Colfax GN, Buchbinder SP, Cornelisse PG, Vittinghoff E, Mayer K, Celum C. Sexual risk behaviors and implications for secondary HIV transmission during and after HIV seroconversion. AIDS 2002;16: 1529–35.
4. CDC. Advancing HIV prevention: new strategies for a changing epidemic—United States, 2003. MMWR 2003;52:329–32.
5. Golden MR. HIV partner notification: a neglected prevention intervention [Editorial]. Sex Transm Dis 2002;29:472–5.
6. Holtgrave DR, Valdiserri RO, Gerber AR, Hinman AR. Human immunodeficiency virus counseling, testing, referral, and partner notification services. A cost-benefit analysis. Arch Intern Med 1993;153:1225–30.
7. Varghese B, Peterman TA, Holtgrave DR. Cost-effectiveness of counseling and testing and partner notification: a decision analysis. AIDS 1999;13:1745–51.
8. CDC. Advancing HIV prevention: interim technical guidance for selected interventions. Atlanta, Georgia: U.S. Department of Health and Human Services, Public Health Service, CDC, 2003.

Public Health Dispatch

Tuberculosis Outbreak in a Homeless Population — Portland, Maine, 2002–2003

During June 2002–July 2003, seven men with active pulmonary tuberculosis (TB) disease in Portland, Maine, were reported to the Maine Bureau of Health (MBH). Six were linked through residence at homeless shelters; four had matching *Mycobacterium tuberculosis* genotypes. Prompt investigation and identification of approximately 1,100 contacts likely prevented further spread of TB. This report summarizes preliminary results of the ongoing investigation and MBH efforts to work with health-care providers statewide to improve early detection of TB among homeless persons.

The median age of patients was 51 years (range: 39–66 years); all were U.S.-born. Six were non-Hispanic white, and one was American Indian. Culture specimens from all seven patients were positive for *M. tuberculosis,* and all isolates were susceptible to first-line drugs. Three (43%) patients had cavitary pulmonary disease, an indication of increased infectiousness (*1*). Three (43%) were infected with hepatitis C virus, and one of these also was infected with human immunodeficiency virus. Six (86%) patients had a history of alcoholism.

During the year preceding their diagnoses, five (71%) TB patients resided at the same homeless shelter in Portland; six (86%) had been incarcerated in the county jail. During the contact investigation for patient 1 in June 2002, patient 3 was screened and determined to have a productive cough and history of latent TB infection (LTBI). Medical records showed evidence consistent with active TB disease, including chest radiograph abnormalities; however, TB was not diagnosed in patient 3 until 9 months after the contact investigation. Patient 6 also had LTBI diagnosed during patient 1's contact investigation but was not treated; patient 6 had active TB disease diagnosed 1 year later. Medical records corroborated by genotyping results suggest that delayed diagnosis in patient 3 resulted in prolonged infectiousness and contributed to TB transmission to patients 4, 5, and 6. In February 2003, patient 2 had active TB disease diagnosed while residing at the shelter with patients 1, 3, and 6; patients 3 and 6 were determined to be infectious at that time. Patient 7 had active TB disease diagnosed while incarcerated in the county jail in July 2003.

M. tuberculosis isolates from all seven patients were genotyped by using spoligotyping, mycobacterial interspersed repetitive units analysis, and IS6110–based restriction fragment length polymorphism analysis. Patients 1, 2, and 7 had unique genotypes. Patient 3 (the presumed source patient) and patients 4, 5, and 6 had matching genotypes.

As of November 20, 2003, the investigation had identified 1,069 contacts, 36 (3.4%) of whom reported having a positive tuberculin skin test (TST) result previously. Among the 1,033 persons eligible for a TST, 648 (62.7%) received at least one test, and 56 (8.6%) of these had a positive result; 15 (26.7%) of the 56 are receiving, and one completed, therapy for LTBI. A total of 163 (15.2%) contacts had chest radiographs; no additional active cases were detected.

Active TB case-finding for this investigation is ongoing. MBH continues to work with health-care providers to improve early detection of TB among homeless persons and other populations at high risk, and to increase treatment for LTBI.

Reported by: *N Nickerson, MSN, J Linder, MD, D Friou, PhD, Portland Public Health Div, Portland; K Gensheimer, MD, P Kuehnert, MSN, D Hubert, MPA, S Gunston, L Crinion, Maine Bur of Health. K Ijaz, MD, D Ruggiero, MPS, Div of TB Elimination, National Center for HIV, STD, and TB Prevention; B Metchock, PhD, L Diem, L Cowan, PhD, Div of AIDS, STD, and TB Laboratory Research, National Center for Infectious Diseases; H Dale, BVSc, L Simmons, Div of Applied Public Health Training, Epidemiology Program Office; V Gammino, PhD, EIS Officer, CDC.*

Reference

1. Canetti G. Present aspects of bacterial resistance in tuberculosis. Am Rev Respir Dis 1965;92:687–703.

Notice to Readers

National Drunk and Drugged Driving Prevention Month — December 2003

December has been designated by presidential proclamation as National Drunk and Drugged Driving Prevention Month (3D Month) and is supported by hundreds of public and private sector organizations devoted to preventing impaired-driving crashes. During 2002, alcohol-related motor-vehicle crashes resulted in 17,419 deaths in the United States, accounting for 41% of all traffic fatalities (*1*). During 1993–2002, on the basis of data provided by the National Highway Traffic Safety Administration (NHTSA) (*1,2*) and the U.S. Census Bureau (*3*), the rate of fatalities in alcohol-related motor-vehicle crashes decreased 13%, from 6.9 to 6.0 per 100,000 persons (*1–3*). One of the national health objectives for 2010 is a target rate for alcohol-related traffic fatalities of no more than four per 100,000 persons (objective 26-1a) (*4*). To meet this objective, the annual rate of alcohol-related traffic fatalities must decline an additional 33%.

To achieve the national health objective, communities need comprehensive and effective strategies to prevent alcohol-impaired driving. CDC recently evaluated the effectiveness of mass media campaigns; such campaigns are effective when their messages are carefully researched and well-executed and the audience is given sufficient exposure to them (*5*). Five other interventions that have been reported previously to be effective are sobriety checkpoints, 0.08% blood alcohol concentration laws, minimum legal drinking age laws, zero tolerance laws for young or inexperienced drivers, and server intervention training programs (*6*). All six interventions have

been recommended by the Task Force on Community Preventive Services, an independent, nonfederal panel of community health consultants. Comprehensive approaches that implement effective interventions simultaneously hold the greatest promise for further reductions in alcohol-impaired driving.

The 3D Month program planner, which contains sample public service announcements, media tool kits, and program guidance for conducting 3D Month activities, is available from NHTSA at http://www.stopimpaireddriving.org. Alcohol-impaired driving also is a global health issue. The World Health Organization (WHO) has declared Road Safety as the theme for World Health Day 2004, to be held on April 7, 2004. Information about World Health Day is available from WHO at http://www.who.int/world-health-day/2004/en.

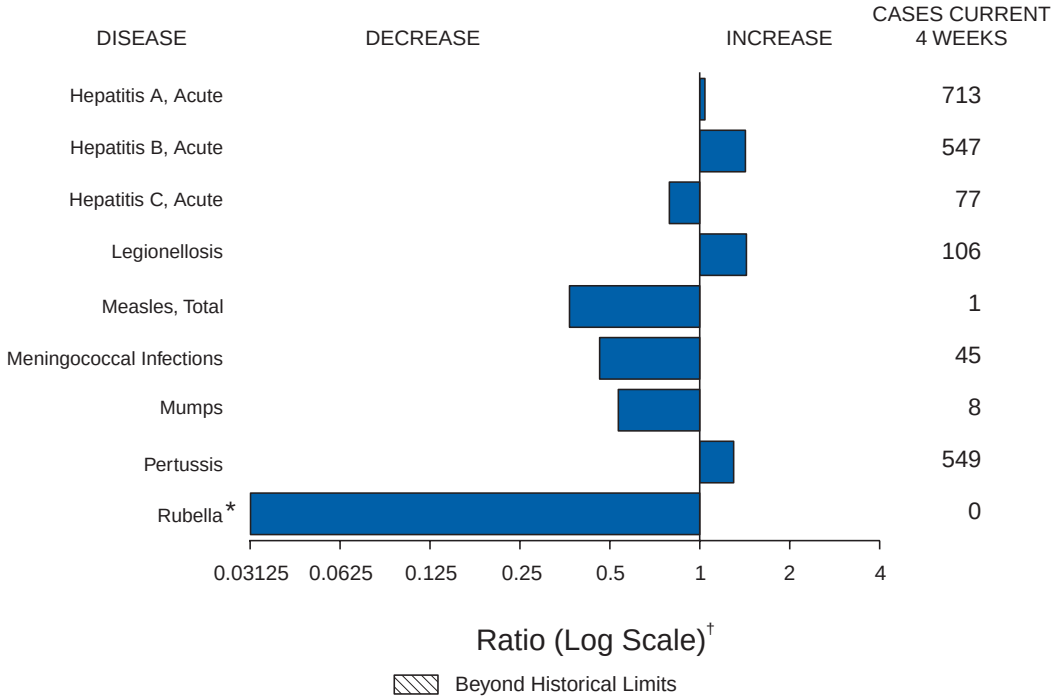
References

1. National Highway Traffic Safety Administration. Traffic safety facts 2002: alcohol. Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, 2003; publication no. DOT-HS-809-470.
2. National Highway Traffic Safety Administration. Traffic safety facts 1993. Washington, DC: U.S. Department of Transportation, National Highway Traffic Safety Administration, National Center for Statistics and Analysis, 1994; publication no. DOT-HS-808-169.
3. U.S. Census Bureau, U.S. Department of Commerce. U.S. resident population estimates. Available at http://eire.census.gov/popest.
4. U.S. Department of Health and Human Services. Healthy People 2010, 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC: U.S. Government Printing Office, 2000.
5. CDC. Mass Media Campaigns Are Effective in Preventing Alcohol-impaired Driving (Under Certain Conditions). Available at http://www.thecommunityguide.org/mvoi/mass%20media%20research%20update_website2_.pdf.
6. Shults RA, Elder RW, Sleet DA, et al. Reviews of evidence regarding interventions to reduce alcohol-impaired driving. Am J Prev Med 2001;21(suppl 4):66–88.

Erratum: Vol. 52, No. 47

In the notice to readers, "Call for Abstracts: International Conference on Emerging Infectious Diseases," an error occurred on page 1161; the wrong year was printed in four references to the conference. The correct year is 2004, not 2000.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals November 29, 2003, with historical data



* No rubella cases were reported for the current 4-week period yielding a ratio for week 48 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 November 29, 2003 (48th Week)*

	Cum. 2003	Cum. 2002		Cum. 2003	Cum. 2002
Anthrax	-	2	Hansen disease (leprosy)†	49	79
Botulism:	-	-	Hantavirus pulmonary syndrome†	16	17
foodborne	11	26	Hemolytic uremic syndrome, postdiarrheal†	142	196
infant	58	62	HIV infection, pediatric†§	187	152
other (wound & unspecified)	27	18	Measles, total	44¶	39**
Brucellosis†	78	111	Mumps	184	244
Chancroid	43	64	Plague	1	1
Cholera	1	2	Poliomyelitis, paralytic	-	-
Cyclosporiasis†	61	156	Psittacosis†	14	16
Diphtheria	1	1	Q fever†	66	52
Ehrlichiosis:	-	-	Rabies, human	3	3
human granulocytic (HGE)†	323	294	Rubella	8	16
human monocytic (HME)†	183	186	Rubella, congenital	-	1
other and unspecified	41	22	Streptococcal toxic-shock syndrome†	131	104
Encephalitis/Meningitis:	-	-	Tetanus	13	21
California serogroup viral†	82	143	Toxic-shock syndrome	117	99
eastern equine†	10	7	Trichinosis	4	14
Powassan†	-	1	Tularemia†	74	72
St. Louis†	31	20	Yellow fever	-	-
western equine†	2	-			

-: No reported cases.
* Incidence data for reporting years 2002 and 2003 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 October 26, 2003.
¶ Of 44 cases reported, 33 were indigenous, and 11 were imported from another country.
** Of 39 cases reported, 24 were indigenous, and 15 were imported from another country.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th Week)*

Reporting area	AIDS		Chlamydia†		Coccidiodomycosis		Cryptosporidiosis		Encephalitis/Meningitis West Nile	
	Cum. 2003§	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	38,482	38,707	752,483	764,792	3,805	3,822	3,030	2,781	1,741	2,588
NEW ENGLAND	1,277	1,486	24,877	25,585	-	-	163	186	6	27
Maine	49	28	1,600	1,587	N	N	19	11	-	-
N.H.	34	35	1,037	1,435	-	-	11	29	-	-
Vt.	15	12	969	862	-	-	31	33	-	-
Mass.	518	753	10,607	10,074	-	-	69	76	-	18
R.I.	90	97	2,717	2,555	-	-	16	21	-	-
Conn.	571	561	7,947	9,072	N	N	17	16	6	9
MID. ATLANTIC	9,040	9,061	101,872	86,184	-	-	372	386	170	130
Upstate N.Y.	853	1,022	18,487	15,464	N	N	126	133	7	44
N.Y. City	4,989	5,280	32,452	28,202	-	-	89	135	-	28
N.J.	1,356	1,306	11,103	13,123	-	-	7	15	16	23
Pa.	1,842	1,453	39,830	29,395	N	N	150	103	147	35
E.N. CENTRAL	3,556	4,216	128,019	140,964	7	22	905	924	117	1,479
Ohio	718	757	29,019	35,173	-	-	164	118	106	312
Ind.	482	483	15,216	15,978	N	N	97	55	1	18
Ill.	1,609	2,092	40,661	44,602	-	2	80	119	1	554
Mich.	581	706	28,553	29,491	7	20	130	126	9	545
Wis.	166	178	14,570	15,720	-	-	434	506	-	50
W.N. CENTRAL	685	712	42,732	43,368	1	1	543	386	369	188
Minn.	144	149	8,916	9,458	N	N	142	186	49	17
Iowa	72	81	3,344	5,328	N	N	118	43	78	-
Mo.	319	335	16,480	14,805	-	-	47	38	34	107
N. Dak.	2	3	1,274	1,110	N	N	13	24	9	-
S. Dak.	10	10	2,370	2,009	-	-	40	30	65	14
Nebr.¶	52	66	4,241	4,357	1	1	18	49	47	35
Kans.	86	68	6,107	6,301	N	N	165	16	87	15
S. ATLANTIC	10,692	11,380	143,001	145,295	5	4	372	307	171	68
Del.	195	181	2,764	2,481	N	N	4	3	12	-
Md.	1,285	1,670	15,341	15,336	5	4	23	19	44	21
D.C.	859	769	2,928	3,094	-	-	17	5	-	-
Va.	819	811	15,945	17,070	-	-	44	24	17	-
W. Va.	79	79	2,392	2,287	N	N	4	2	1	2
N.C.	1,006	952	24,199	23,029	N	N	47	32	-	-
S.C.¶	719	777	14,425	13,535	-	-	8	6	1	1
Ga.	1,667	1,543	28,171	29,927	-	-	120	117	46	21
Fla.	4,063	4,598	36,836	38,536	N	N	105	99	50	23
E.S. CENTRAL	1,704	1,829	47,608	48,180	N	N	114	115	44	274
Ky.	175	287	7,381	8,124	N	N	24	8	11	42
Tenn.	738	745	18,566	14,852	N	N	38	53	17	8
Ala.	390	389	11,046	14,608	-	-	42	45	16	34
Miss.	401	408	10,615	10,596	N	N	10	9	-	190
W.S. CENTRAL	4,110	3,834	93,110	99,522	4	12	87	61	480	419
Ark.	165	224	7,107	6,796	-	-	17	8	22	11
La.	522	898	16,137	17,461	N	N	2	9	47	204
Okla.	176	180	10,147	10,150	N	N	18	16	25	-
Tex.	3,247	2,532	59,719	65,115	4	12	50	28	386	204
MOUNTAIN	1,342	1,307	40,843	47,475	2,374	2,377	126	149	380	3
Mont.	13	11	1,821	2,063	N	N	18	5	216	1
Idaho	21	28	2,252	2,301	N	N	26	28	-	1
Wyo.	7	8	884	856	1	-	5	9	92	-
Colo.	328	283	9,872	13,156	N	N	34	55	-	-
N. Mex.	103	81	6,284	6,825	8	7	10	18	68	-
Ariz.	584	551	11,660	13,596	2,312	2,315	6	16	1	1
Utah	60	62	3,229	3,176	18	11	19	14	1	-
Nev.	226	283	4,841	5,502	35	44	8	4	2	-
PACIFIC	6,076	4,882	130,421	128,219	1,413	1,405	348	267	4	-
Wash.	422	441	15,240	13,656	N	N	59	36	-	-
Oreg.	229	310	6,762	6,355	-	-	38	39	4	-
Calif.	5,321	3,993	101,664	100,645	1,413	1,405	250	189	-	-
Alaska	15	30	3,304	3,394	-	-	1	1	-	-
Hawaii	89	108	3,451	4,169	-	-	-	2	-	-
Guam	6	2	-	598	-	-	-	-	-	-
P.R.	944	1,042	1,761	2,336	N	N	N	N	-	-
V.I.	31	70	208	125	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	-	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 2002 and 2003 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 October 26, 2003.

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

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th Week)*

Reporting area	*Escherichia coli*, Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped					
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	2,392	3,488	251	180	123	50	16,681	19,182	286,681	324,771
NEW ENGLAND	152	254	53	46	16	6	1,311	1,650	6,578	7,181
Maine	10	37	3	8	1	-	172	194	162	126
N.H.	12	33	2	-	-	-	22	41	76	115
Vt.	17	12	-	1	-	1	114	133	78	90
Mass.	64	116	8	19	15	5	677	894	2,817	3,018
R.I.	1	12	-	1	-	-	106	145	867	843
Conn.	48	44	40	17	-	-	220	243	2,578	2,989
MID. ATLANTIC	225	390	19	1	35	7	3,264	3,923	38,849	39,318
Upstate N.Y.	90	157	11	-	17	-	980	1,154	7,244	7,985
N.Y. City	5	18	-	-	-	-	1,045	1,347	12,794	11,787
N.J.	20	59	1	-	-	1	314	454	6,292	7,207
Pa.	110	156	7	1	18	6	925	968	12,519	12,339
E.N. CENTRAL	541	820	23	31	22	6	2,732	3,354	57,535	68,847
Ohio	127	151	17	11	21	5	855	874	16,046	20,227
Ind.	88	75	-	1	-	-	-	-	6,092	6,913
Ill.	111	181	-	6	-	-	700	954	18,380	22,405
Mich.	85	132	-	3	-	1	675	870	12,267	13,472
Wis.	130	281	6	10	1	-	502	656	4,750	5,830
W.N. CENTRAL	420	496	54	30	20	6	1,882	1,960	15,122	16,734
Minn.	132	157	23	25	1	-	735	744	2,541	2,863
Iowa	102	117	-	-	-	-	253	293	775	1,267
Mo.	84	68	18	-	1	-	471	471	7,864	8,225
N. Dak.	13	18	4	-	8	2	35	31	72	70
S. Dak.	28	40	4	2	-	-	82	74	208	253
Nebr.	33	65	4	3	-	-	110	170	1,414	1,452
Kans.	28	31	1	-	10	4	196	177	2,248	2,604
S. ATLANTIC	143	348	67	34	9	1	2,593	2,743	71,042	82,483
Del.	11	9	N	N	N	N	46	53	1,045	1,486
Md.	11	27	-	-	-	-	111	107	7,276	8,431
D.C.	1	-	-	-	-	-	49	43	2,335	2,472
Va.	37	66	11	10	-	-	335	305	7,310	9,643
W. Va.	5	9	-	-	-	1	40	57	786	901
N.C.	4	130	29	-	-	-	N	N	13,956	14,694
S.C.	2	5	-	-	-	-	130	132	7,781	8,704
Ga.	30	43	4	8	-	-	859	856	14,196	16,466
Fla.	42	59	23	16	9	-	1,023	1,190	16,357	19,686
E.S. CENTRAL	79	105	2	-	7	10	327	369	23,549	27,885
Ky.	26	30	2	-	7	10	N	N	3,298	3,476
Tenn.	34	46	-	-	-	-	168	176	7,749	8,711
Ala.	13	18	-	-	-	-	159	193	7,037	9,444
Miss.	6	11	-	-	-	-	-	-	5,465	6,254
W.S. CENTRAL	85	106	5	2	9	9	274	238	38,441	44,602
Ark.	12	11	-	-	-	-	138	160	3,612	4,294
La.	3	4	-	-	-	-	10	6	9,683	10,799
Okla.	28	22	-	-	-	-	125	69	4,168	4,377
Tex.	42	69	5	2	9	9	1	3	20,978	25,132
MOUNTAIN	315	328	24	29	5	5	1,503	1,566	8,889	10,426
Mont.	16	30	-	-	-	-	106	87	96	106
Idaho	79	42	15	18	-	-	181	122	67	87
Wyo.	4	14	1	2	-	-	21	29	40	55
Colo.	71	97	3	6	5	5	418	537	2,377	3,249
N. Mex.	10	12	4	3	-	-	48	140	1,007	1,371
Ariz.	39	33	N	N	N	N	245	189	3,201	3,396
Utah	73	72	-	-	-	-	351	310	342	335
Nev.	23	28	1	-	-	-	133	152	1,759	1,827
PACIFIC	432	641	4	7	-	-	2,795	3,379	26,676	27,295
Wash.	108	139	1	-	-	-	322	414	2,517	2,686
Oreg.	97	203	3	7	-	-	372	416	901	822
Calif.	215	256	-	-	-	-	1,937	2,357	21,935	22,529
Alaska	4	7	-	-	-	-	82	108	495	571
Hawaii	8	36	-	-	-	-	82	84	828	687
Guam	N	N	-	-	-	-	-	7	-	45
P.R.	-	1	-	-	36	-	129	81	188	323
V.I.	-	-	-	-	-	-	-	-	55	31
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 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th 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. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	1,519	1,527	20	28	84	128	169	141	6,672	8,196
NEW ENGLAND	113	113	1	-	5	10	5	2	303	282
Maine	4	1	-	-	-	-	1	-	16	8
N.H.	11	10	1	-	-	-	-	-	11	11
Vt.	9	7	-	-	-	-	-	-	6	1
Mass.	50	43	-	-	5	4	3	2	186	140
R.I.	9	10	-	-	-	-	1	-	15	30
Conn.	30	42	-	-	-	6	-	-	69	92
MID. ATLANTIC	333	279	-	2	2	15	46	22	1,616	1,058
Upstate N.Y.	122	107	-	2	2	4	13	8	136	173
N.Y. City	56	66	-	-	-	-	10	9	405	425
N.J.	55	52	-	-	-	-	7	5	137	177
Pa.	100	54	-	-	-	11	16	-	938	283
E.N. CENTRAL	220	294	4	3	11	12	32	42	651	997
Ohio	65	75	-	-	-	1	11	9	158	287
Ind.	45	38	1	1	7	7	-	-	71	46
Ill.	69	116	-	-	-	-	15	20	184	258
Mich.	21	15	3	2	4	4	1	-	195	213
Wis.	20	50	-	-	-	-	5	13	43	193
W.N. CENTRAL	113	69	2	1	7	2	15	6	183	275
Minn.	47	45	2	1	7	2	2	4	45	39
Iowa	-	1	-	-	-	-	-	-	28	64
Mo.	40	13	-	-	-	-	12	2	68	80
N. Dak.	3	4	-	-	-	-	-	-	1	3
S. Dak.	1	1	-	-	-	-	-	-	-	3
Nebr.	3	-	-	-	-	-	-	-	12	17
Kans.	19	5	-	-	-	-	1	-	29	69
S. ATLANTIC	354	335	3	5	15	16	21	27	1,680	2,257
Del.	-	-	-	-	-	-	-	-	7	15
Md.	84	84	1	2	7	4	1	1	165	292
D.C.	-	-	-	-	-	-	-	-	43	74
Va.	52	31	-	-	-	-	6	5	99	138
W. Va.	15	17	-	-	-	1	-	1	15	20
N.C.	36	31	-	-	3	3	2	-	104	202
S.C.	4	12	-	-	-	-	1	2	36	60
Ga.	59	77	-	-	-	-	5	12	817	463
Fla.	104	83	2	3	5	8	6	6	394	993
E.S. CENTRAL	73	65	1	1	2	5	10	13	245	255
Ky.	6	7	-	-	2	1	-	2	31	41
Tenn.	45	32	-	-	-	1	6	7	184	114
Ala.	20	16	1	1	-	3	3	1	15	38
Miss.	2	10	-	-	-	-	1	3	15	62
W.S. CENTRAL	66	58	2	2	8	11	5	3	362	985
Ark.	7	1	-	-	1	-	-	-	19	68
La.	12	9	-	-	-	-	5	3	53	81
Okla.	43	46	-	-	7	11	-	-	21	48
Tex.	4	2	2	2	-	-	-	-	269	788
MOUNTAIN	152	178	4	6	19	39	21	15	462	507
Mont.	-	-	-	-	-	-	-	-	8	13
Idaho	4	2	-	-	-	-	1	1	16	29
Wyo.	2	2	-	-	-	-	-	-	1	3
Colo.	36	32	-	-	-	-	7	3	68	72
N. Mex.	15	25	-	-	4	6	1	1	20	28
Ariz.	72	88	4	4	6	27	8	6	257	261
Utah	13	17	-	1	5	4	4	1	43	52
Nev.	10	12	-	1	4	2	-	3	49	49
PACIFIC	95	136	3	8	15	18	14	11	1,170	1,580
Wash.	11	3	-	2	7	1	3	-	62	145
Oreg.	41	53	-	-	-	-	4	3	56	59
Calif.	20	43	3	6	8	17	4	4	1,032	1,341
Alaska	1	1	-	-	-	-	1	1	9	10
Hawaii	22	36	-	-	-	-	2	3	11	25
Guam	-	-	-	-	-	-	-	-	-	1
P.R.	-	1	-	-	-	-	-	-	50	220
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 2002 and 2003 are provisional and cumulative (year-to-date).

† Non-serotype b: nontypeable and type other than b; Unknown serotype: type unknown or not reported. Previously, cases reported without type information were counted as non-serotype b.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th Week)*

Reporting area	Hepatitis (viral, acute), by type				Legionellosis		Listeriosis		Lyme disease	
	B		C							
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	6,560	6,828	1,761	1,670	1,846	1,181	572	606	16,442	20,827
NEW ENGLAND	238	278	6	20	96	109	43	59	3,214	6,816
Maine	1	12	-	-	2	4	7	5	212	102
N.H.	11	21	-	-	6	7	3	4	95	243
Vt.	4	6	6	13	6	35	1	3	43	33
Mass.	182	146	-	6	40	43	14	33	1,064	1,791
R.I.	18	28	-	1	15	5	-	1	564	335
Conn.	22	65	U	U	27	15	18	13	1,236	4,312
MID. ATLANTIC	816	1,435	155	103	524	335	111	180	10,668	10,702
Upstate N.Y.	122	113	40	44	146	97	33	54	4,289	4,687
N.Y. City	271	703	-	-	48	61	19	39	5	58
N.J.	165	307	-	5	62	32	15	34	1,786	2,276
Pa.	258	312	115	54	268	145	44	53	4,588	3,681
E.N. CENTRAL	376	644	148	112	366	277	68	84	788	1,240
Ohio	131	98	10	2	215	116	24	23	77	72
Ind.	34	51	8	-	24	20	9	11	21	20
Ill.	1	141	17	22	3	26	8	21	33	47
Mich.	179	309	113	84	107	79	19	21	10	26
Wis.	31	45	-	4	17	36	8	8	647	1,075
W.N. CENTRAL	311	214	252	626	61	64	21	17	418	368
Minn.	32	30	8	2	3	15	11	2	298	271
Iowa	11	20	1	1	9	12	-	2	47	42
Mo.	223	109	241	607	32	19	5	9	59	39
N. Dak.	2	5	-	-	1	1	-	1	-	1
S. Dak.	2	2	-	1	2	4	-	1	1	2
Nebr.	24	26	2	15	4	13	4	1	2	6
Kans.	17	22	-	-	10	-	1	1	11	7
S. ATLANTIC	1,996	1,603	150	196	496	205	125	80	1,086	1,361
Del.	7	13	-	-	27	10	N	N	175	184
Md.	124	121	17	12	127	47	26	19	600	710
D.C.	12	21	-	-	19	6	-	-	15	22
Va.	180	189	7	15	90	30	8	7	86	202
W. Va.	37	18	4	3	17	-	6	-	22	17
N.C.	150	216	11	26	37	11	17	6	105	127
S.C.	146	112	24	5	7	9	5	8	13	24
Ga.	740	429	5	63	32	19	32	14	16	2
Fla.	600	484	82	72	140	73	31	26	54	73
E.S. CENTRAL	402	362	78	129	89	47	30	21	60	69
Ky.	71	51	17	4	41	21	8	4	15	22
Tenn.	186	129	18	26	32	18	8	12	16	25
Ala.	57	96	7	10	13	8	12	4	5	11
Miss.	88	86	36	89	3	-	2	1	24	11
W.S. CENTRAL	1,057	976	799	326	60	33	42	35	77	138
Ark.	59	107	3	10	2	-	1	-	-	3
La.	107	125	108	94	1	4	3	4	6	5
Okla.	41	69	2	5	7	3	3	9	-	-
Tex.	850	675	686	217	50	26	35	22	71	130
MOUNTAIN	575	559	52	49	70	48	30	29	19	17
Mont.	16	9	2	1	4	3	2	-	-	-
Idaho	8	7	1	1	3	1	2	2	3	4
Wyo.	29	17	-	5	2	2	-	-	2	2
Colo.	79	74	17	6	15	8	10	6	4	1
N. Mex.	32	144	-	2	3	2	2	3	1	1
Ariz.	274	199	7	4	11	12	10	14	3	3
Utah	58	48	-	4	22	14	-	3	3	5
Nev.	79	61	25	26	10	6	4	1	3	1
PACIFIC	789	757	121	109	84	63	102	101	112	116
Wash.	64	67	15	24	10	5	5	8	3	10
Oreg.	101	120	14	12	N	N	5	9	16	12
Calif.	590	551	82	72	74	55	87	76	90	91
Alaska	11	8	1	-	-	2	-	-	3	3
Hawaii	23	11	9	1	-	1	5	8	N	N
Guam	-	1	-	-	-	-	-	-	-	-
P.R.	81	173	-	-	-	-	-	2	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 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th Week)*

Reporting area	Malaria		Meningococcal disease		Pertussis		Rabies, animal		Rocky Mountain spotted fever	
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	1,060	1,303	1,423	1,646	7,366	7,783	5,180	7,215	847	991
NEW ENGLAND	41	74	67	89	1,000	770	538	872	-	7
Maine	3	5	6	5	12	17	63	57	-	-
N.H.	4	7	3	14	60	20	13	46	-	-
Vt.	2	4	3	4	61	144	35	89	-	-
Mass.	11	33	42	47	826	547	206	291	-	3
R.I.	2	7	2	5	20	13	57	72	-	4
Conn.	19	18	11	14	21	29	164	317	-	-
MID. ATLANTIC	265	353	174	193	914	489	868	1,228	36	57
Upstate N.Y.	57	43	48	47	581	327	399	668	2	-
N.Y. City	129	224	33	35	-	21	6	19	13	10
N.J.	37	40	22	27	65	2	62	176	10	16
Pa.	42	46	71	84	268	139	401	365	11	31
E.N. CENTRAL	84	156	198	254	649	913	156	161	16	32
Ohio	22	23	52	73	272	406	53	39	10	13
Ind.	3	14	41	32	67	129	28	31	1	4
Ill.	26	61	43	56	-	160	24	31	-	12
Mich.	23	45	41	44	106	60	44	46	5	3
Wis.	10	13	21	49	204	158	7	14	-	-
W.N. CENTRAL	46	57	125	143	410	683	520	454	70	104
Minn.	22	17	26	35	141	341	38	37	1	-
Iowa	6	4	25	24	124	126	100	74	2	3
Mo.	5	15	53	48	82	136	51	50	54	96
N. Dak.	1	1	1	3	6	7	52	52	-	-
S. Dak.	3	2	1	2	5	6	67	90	5	1
Nebr.	-	5	8	23	12	8	58	-	3	4
Kans.	9	13	11	8	40	59	154	151	5	-
S. ATLANTIC	296	306	247	266	638	393	2,355	2,520	521	472
Del.	3	5	8	7	8	3	59	53	1	1
Md.	68	103	26	8	79	61	256	374	104	40
D.C.	14	20	-	-	3	2	-	-	1	2
Va.	37	32	24	41	90	133	477	554	30	40
W. Va.	4	3	6	4	24	31	81	167	5	2
N.C.	21	22	35	32	118	43	738	672	262	283
S.C.	3	8	21	29	179	44	224	138	33	71
Ga.	64	49	30	30	32	27	346	389	72	19
Fla.	82	64	97	115	105	49	174	173	13	14
E.S. CENTRAL	20	19	79	91	136	246	170	211	107	129
Ky.	9	7	19	15	45	94	37	26	3	5
Tenn.	5	3	26	36	69	110	99	108	63	81
Ala.	3	4	15	21	16	33	33	73	12	16
Miss.	3	5	19	19	6	9	1	4	29	27
W.S. CENTRAL	75	77	167	200	891	1,526	210	1,179	86	171
Ark.	4	3	13	23	37	488	25	94	33	97
La.	4	4	34	43	6	7	-	-	-	-
Okla.	4	10	17	21	87	35	185	114	42	61
Tex.	63	60	103	113	761	996	-	971	11	13
MOUNTAIN	48	48	71	89	893	1,158	165	303	10	14
Mont.	-	2	5	2	5	6	20	19	1	1
Idaho	1	-	7	4	71	127	15	38	2	-
Wyo.	1	-	2	-	125	11	6	18	2	5
Colo.	22	23	22	24	340	413	38	59	2	2
N. Mex.	3	3	10	4	65	186	5	10	1	1
Ariz.	14	12	15	30	126	269	63	135	-	-
Utah	5	5	2	5	126	99	14	13	2	-
Nev.	2	3	8	20	35	47	4	11	-	5
PACIFIC	185	213	295	321	1,835	1,605	198	287	1	5
Wash.	25	24	30	61	662	421	-	-	-	-
Oreg.	10	9	54	46	420	171	6	14	-	3
Calif.	142	171	198	202	735	980	184	247	1	2
Alaska	1	2	3	4	7	5	8	26	-	-
Hawaii	7	7	10	8	11	28	-	-	-	-
Guam	-	-	-	1	-	2	-	-	-	-
P.R.	1	1	5	7	1	3	68	85	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 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th Week)*

Reporting area	Salmonellosis		Shigellosis		Streptococcal disease, invasive, group A		*Streptococcus pneumoniae*, invasive			
							Drug resistant, all ages		Age <5 years	
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	37,751	40,368	20,142	19,848	4,844	4,200	1,885	2,232	407	342
NEW ENGLAND	1,927	2,086	302	324	349	302	40	106	8	3
Maine	126	138	6	8	26	20	-	-	-	-
N.H.	100	129	5	11	21	35	-	-	N	N
Vt.	67	73	7	1	19	10	6	5	4	2
Mass.	1,139	1,165	199	197	166	100	N	N	N	N
R.I.	125	163	20	17	15	15	10	13	4	1
Conn.	370	418	65	90	102	122	24	88	U	U
MID. ATLANTIC	4,199	5,444	2,091	1,686	841	663	119	108	89	79
Upstate N.Y.	1,068	1,447	519	302	338	260	67	82	70	65
N.Y. City	1,196	1,311	361	466	120	149	U	U	U	U
N.J.	483	1,000	240	587	134	141	N	N	N	N
Pa.	1,452	1,686	971	331	249	113	52	26	19	14
E.N. CENTRAL	4,945	5,213	1,586	2,057	980	906	395	221	166	141
Ohio	1,268	1,298	281	595	277	195	254	70	91	23
Ind.	554	519	174	104	101	48	141	149	47	60
Ill.	1,575	1,712	794	1,002	182	264	-	2	-	-
Mich.	716	826	225	177	336	282	N	N	N	N
Wis.	832	858	112	179	84	117	N	N	28	58
W.N. CENTRAL	2,379	2,438	764	1,003	311	232	149	425	57	57
Minn.	528	521	100	207	155	114	-	292	47	53
Iowa	364	472	83	119	N	N	N	N	N	N
Mo.	933	781	357	177	68	42	13	5	3	1
N. Dak.	37	41	5	18	14	3	3	1	7	3
S. Dak.	115	109	16	157	21	13	1	1	-	-
Nebr.	135	177	101	235	25	23	-	26	N	N
Kans.	267	337	102	90	28	37	132	100	N	N
S. ATLANTIC	10,314	10,626	6,715	6,659	839	681	967	1,024	18	33
Del.	89	99	154	344	6	2	1	3	N	N
Md.	803	881	549	1,121	251	113	-	-	-	23
D.C.	50	75	71	60	14	8	2	-	7	3
Va.	1,020	1,159	408	922	94	73	N	N	N	N
W. Va.	118	146	-	12	33	19	67	43	11	7
N.C.	1,263	1,452	927	419	100	112	N	N	U	U
S.C.	770	797	477	122	36	37	132	182	N	N
Ga.	2,067	1,845	1,549	1,616	111	123	225	256	N	N
Fla.	4,134	4,172	2,580	2,043	194	194	540	540	N	N
E.S. CENTRAL	2,508	3,091	870	1,416	194	110	130	124	-	-
Ky.	368	365	124	185	43	19	17	17	N	N
Tenn.	704	784	340	134	151	91	113	107	N	N
Ala.	498	814	242	763	-	-	-	-	N	N
Miss.	938	1,128	164	334	-	-	-	-	-	-
W.S. CENTRAL	4,541	4,447	4,293	3,043	325	273	58	177	64	25
Ark.	750	1,020	95	191	5	7	8	9	-	-
La.	507	771	294	468	1	1	50	168	8	9
Okla.	445	479	799	550	82	42	N	N	36	4
Tex.	2,839	2,177	3,105	1,834	237	223	N	N	20	12
MOUNTAIN	2,113	2,089	1,155	863	428	517	24	47	5	4
Mont.	108	86	2	4	2	-	-	-	-	-
Idaho	162	141	29	13	18	9	N	N	N	N
Wyo.	73	104	8	8	2	7	7	13	-	-
Colo.	443	571	277	194	126	114	-	-	-	-
N. Mex.	254	293	232	212	104	101	17	33	-	-
Ariz.	696	515	497	352	163	256	-	-	N	N
Utah	209	174	48	32	11	30	-	-	5	4
Nev.	168	205	62	48	2	-	-	1	-	-
PACIFIC	4,825	4,934	2,366	2,797	577	516	3	-	-	-
Wash.	513	483	148	167	70	60	-	-	N	N
Oreg.	390	323	207	103	N	N	N	N	N	N
Calif.	3,614	3,798	1,959	2,455	384	370	N	N	N	N
Alaska	95	79	10	5	-	-	-	-	N	N
Hawaii	213	251	42	67	123	86	3	-	-	-
Guam	-	40	-	35	-	-	-	4	-	-
P.R.	325	518	8	30	N	N	N	N	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 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending November 29, 2003, and November 30, 2002 (48th Week)*

Reporting area	Syphilis: Primary & secondary		Syphilis: Congenital		Tuberculosis		Typhoid fever		Varicella (Chickenpox)
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003
UNITED STATES	6,159	6,191	331	397	10,104	11,795	290	303	13,295
NEW ENGLAND	182	133	1	1	291	396	23	13	1,650
Maine	7	2	1	-	5	20	-	-	773
N.H.	14	6	-	-	7	15	2	-	-
Vt.	1	1	-	-	7	6	-	-	721
Mass.	123	90	-	1	194	215	12	7	151
R.I.	16	7	-	-	28	48	2	-	5
Conn.	21	27	-	-	50	92	7	6	-
MID. ATLANTIC	786	679	55	64	1,961	2,034	49	75	36
Upstate N.Y.	43	31	9	4	263	290	11	9	N
N.Y. City	454	399	31	25	1,049	981	18	40	-
N.J.	142	153	15	34	359	457	14	18	-
Pa.	147	96	-	1	290	306	6	8	36
E.N. CENTRAL	792	1,116	67	63	1,046	1,193	23	32	5,287
Ohio	190	149	3	3	182	210	2	6	1,090
Ind.	47	56	11	3	123	114	4	2	-
Ill.	314	439	20	37	500	560	7	16	-
Mich.	229	448	33	20	189	248	10	4	3,348
Wis.	12	24	-	-	52	61	-	4	849
W.N. CENTRAL	133	118	4	2	433	481	4	9	71
Minn.	41	57	-	1	175	207	-	3	N
Iowa	7	3	-	-	25	30	2	-	N
Mo.	50	32	4	1	103	121	1	2	-
N. Dak.	2	-	-	-	4	6	-	-	71
S. Dak.	2	-	-	-	16	11	-	-	-
Nebr.	8	6	-	-	18	25	1	4	-
Kans.	23	20	-	-	92	81	-	-	-
S. ATLANTIC	1,645	1,592	65	84	2,053	2,416	50	41	1,947
Del.	6	11	-	-	23	19	-	-	28
Md.	266	198	10	15	216	264	8	8	-
D.C.	52	52	-	1	-	-	-	-	28
Va.	70	63	1	1	233	247	12	7	478
W. Va.	2	2	-	-	20	28	-	-	1,176
N.C.	142	265	19	18	281	321	9	2	N
S.C.	88	125	6	12	152	146	-	-	237
Ga.	434	347	11	13	337	484	7	5	-
Fla.	585	529	18	24	791	907	14	19	N
E.S. CENTRAL	294	432	11	30	609	693	6	4	2
Ky.	32	85	1	3	113	122	1	4	N
Tenn.	124	157	3	11	198	266	3	-	N
Ala.	106	145	5	10	210	190	2	-	-
Miss.	32	45	2	6	88	115	-	-	2
W.S. CENTRAL	871	783	61	83	1,398	1,701	33	30	3,665
Ark.	49	31	-	11	87	118	-	-	-
La.	156	144	-	-	-	-	-	-	12
Okla.	59	60	1	2	133	151	1	2	N
Tex.	607	548	60	70	1,178	1,432	32	28	3,653
MOUNTAIN	275	298	22	16	335	390	5	9	637
Mont.	-	-	-	-	5	6	-	-	N
Idaho	12	8	-	-	8	14	-	-	N
Wyo.	-	-	-	-	4	3	-	-	80
Colo.	24	61	3	2	62	86	3	4	-
N. Mex.	57	36	1	-	6	34	-	1	3
Ariz.	165	172	18	14	193	204	2	-	4
Utah	7	6	-	-	35	29	-	2	550
Nev.	10	15	-	-	22	14	-	2	-
PACIFIC	1,181	1,040	45	54	1,978	2,491	97	90	-
Wash.	74	57	-	1	220	223	3	6	-
Oreg.	42	22	-	-	95	103	5	2	-
Calif.	1,063	953	45	52	1,548	1,990	88	77	-
Alaska	-	-	-	-	53	45	-	-	-
Hawaii	2	8	-	1	62	130	1	5	-
Guam	-	6	-	-	-	64	-	-	-
P.R.	183	268	1	21	86	104	-	-	402
V.I.	1	1	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-

N: Not notifiable. U: Unavailable. - : No reported cases.
* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE III. Deaths in 122 U.S. cities,* week ending November 29, 2003 (48th Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	398	270	55	21	7	8	41
Boston, Mass.	123	69	9	4	-	4	16
Bridgeport, Conn.	40	29	6	4	-	1	3
Cambridge, Mass.	14	10	2	1	1	-	2
Fall River, Mass.	18	14	4	-	-	-	1
Hartford, Conn.	U	U	U	U	U	U	U
Lowell, Mass.	14	12	2	-	-	-	1
Lynn, Mass.	6	6	-	-	-	-	-
New Bedford, Mass.	24	19	1	2	2	-	-
New Haven, Conn.	U	U	U	U	U	U	U
Providence, R.I.	32	21	6	2	1	2	4
Somerville, Mass.	4	4	-	-	-	-	-
Springfield, Mass.	53	37	9	4	2	1	6
Waterbury, Conn.	23	16	6	1	-	-	1
Worcester, Mass.	47	33	10	3	1	-	7
MID. ATLANTIC	2,266	1,588	452	144	46	32	115
Albany, N.Y.	53	40	11	2	-	-	5
Allentown, Pa.	13	9	2	1	1	-	1
Buffalo, N.Y.	96	71	14	7	1	3	9
Camden, N.J.	13	8	1	4	-	-	-
Elizabeth, N.J.	13	8	3	-	1	1	-
Erie, Pa.	48	39	5	2	2	-	2
Jersey City, N.J.	38	25	9	4	-	-	-
New York City, N.Y.	1,337	917	283	79	32	22	66
Newark, N.J.	43	18	17	5	2	1	-
Paterson, N.J.	14	5	5	1	3	-	1
Philadelphia, Pa.	300	224	54	18	3	1	12
Pittsburgh, Pa.§	23	17	5	1	-	-	-
Reading, Pa.	17	13	2	2	-	-	-
Rochester, N.Y.	104	79	18	6	-	1	7
Schenectady, N.Y.	18	13	3	2	-	-	1
Scranton, Pa.	23	17	1	3	-	2	-
Syracuse, N.Y.	56	37	14	3	1	1	9
Trenton, N.J.	14	12	1	1	-	-	-
Utica, N.Y.	21	17	2	2	-	-	1
Yonkers, N.Y.	22	19	2	1	-	-	1
E.N. CENTRAL	1,603	1,066	346	119	36	34	99
Akron, Ohio	33	26	5	-	-	2	2
Canton, Ohio	45	32	9	3	-	1	1
Chicago, Ill.	270	151	72	25	12	8	16
Cincinnati, Ohio	56	36	14	4	1	1	5
Cleveland, Ohio	217	149	51	12	4	1	12
Columbus, Ohio	150	100	34	14	1	1	12
Dayton, Ohio	80	51	22	5	-	2	3
Detroit, Mich.	128	78	23	20	3	4	8
Evansville, Ind.	34	25	3	4	1	1	1
Fort Wayne, Ind.	51	31	14	4	-	2	5
Gary, Ind.	10	9	1	-	-	-	-
Grand Rapids, Mich.	38	28	6	1	1	2	2
Indianapolis, Ind.	157	109	32	10	3	3	14
Lansing, Mich.	31	23	4	1	2	1	-
Milwaukee, Wis.	66	49	9	4	1	3	7
Peoria, Ill.	42	29	10	2	1	-	1
Rockford, Ill.	42	27	10	4	-	1	3
South Bend, Ind.	37	26	9	1	1	-	3
Toledo, Ohio	72	52	11	3	5	1	4
Youngstown, Ohio	44	35	7	2	-	-	-
W.N. CENTRAL	458	309	88	38	14	9	31
Des Moines, Iowa	1	1	-	-	-	-	-
Duluth, Minn.	25	14	9	1	-	1	1
Kansas City, Kans.	40	24	11	4	1	-	3
Kansas City, Mo.	85	53	18	7	3	4	4
Lincoln, Nebr.	30	23	4	2	1	-	3
Minneapolis, Minn.	60	42	11	5	2	-	2
Omaha, Nebr.	80	60	9	7	2	2	11
St. Louis, Mo.	U	U	U	U	U	U	U
St. Paul, Minn.	43	27	12	3	1	-	-
Wichita, Kans.	94	65	14	9	4	2	7
S. ATLANTIC	925	555	218	90	31	31	44
Atlanta, Ga.	122	65	32	16	5	4	2
Baltimore, Md.	204	129	51	19	5	-	17
Charlotte, N.C.	69	44	14	7	3	1	6
Jacksonville, Fla.	94	60	23	8	2	1	1
Miami, Fla.	78	48	17	10	2	1	3
Norfolk, Va.	39	25	8	2	2	2	2
Richmond, Va.	34	22	8	1	3	-	2
Savannah, Ga.	34	17	9	5	2	1	4
St. Petersburg, Fla.	56	39	8	5	3	1	1
Tampa, Fla.	81	50	23	6	1	1	3
Washington, D.C.	102	45	24	11	3	19	2
Wilmington, Del.	12	11	1	-	-	-	1
E.S. CENTRAL	588	391	124	39	17	15	40
Birmingham, Ala.	130	85	23	12	3	5	15
Chattanooga, Tenn.	60	38	16	4	1	1	2
Knoxville, Tenn.	72	53	13	3	3	-	1
Lexington, Ky.	45	36	4	1	3	1	5
Memphis, Tenn.	136	87	34	8	2	5	6
Mobile, Ala.	38	24	10	2	-	2	3
Montgomery, Ala.	13	8	3	2	-	-	2
Nashville, Tenn.	94	60	21	7	5	1	6
W.S. CENTRAL	1,183	754	271	94	39	25	63
Austin, Tex.	64	40	17	5	-	2	3
Baton Rouge, La.	52	34	13	3	1	1	1
Corpus Christi, Tex.	38	24	10	1	2	1	2
Dallas, Tex.	116	70	31	6	4	5	5
El Paso, Tex.	90	71	15	3	1	-	7
Ft. Worth, Tex.	62	32	21	3	5	1	-
Houston, Tex.	394	228	92	47	18	9	27
Little Rock, Ark.	46	35	6	4	1	-	3
New Orleans, La.	26	18	8	-	-	-	-
San Antonio, Tex.	174	113	36	14	7	4	8
Shreveport, La.	51	33	14	3	-	1	5
Tulsa, Okla.	70	56	8	5	-	1	2
MOUNTAIN	896	647	149	56	29	15	68
Albuquerque, N.M.	73	54	13	4	2	-	9
Boise, Idaho	44	38	5	-	-	1	7
Colo. Springs, Colo.	75	52	14	5	3	1	2
Denver, Colo.	144	74	25	20	15	10	8
Las Vegas, Nev.	216	151	50	11	4	-	19
Ogden, Utah	26	21	4	-	1	-	1
Phoenix, Ariz.	57	57	-	-	-	-	1
Pueblo, Colo.	18	11	6	1	-	-	1
Salt Lake City, Utah	102	75	15	9	2	1	14
Tucson, Ariz.	141	114	17	6	2	2	6
PACIFIC	1,403	995	267	85	33	23	130
Berkeley, Calif.	8	3	3	2	-	-	1
Fresno, Calif.	100	72	15	10	-	3	8
Glendale, Calif.	18	11	4	2	1	-	3
Honolulu, Hawaii	76	54	18	2	1	1	7
Long Beach, Calif.	52	33	15	3	-	1	6
Los Angeles, Calif.	278	188	54	24	7	5	18
Pasadena, Calif.	28	19	9	-	-	-	2
Portland, Oreg.	124	83	25	11	2	3	10
Sacramento, Calif.	242	183	37	9	10	3	28
San Diego, Calif.	110	75	24	4	5	2	10
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	176	135	31	5	4	1	21
Santa Cruz, Calif.	14	11	3	-	-	-	2
Seattle, Wash.	60	42	9	6	1	2	3
Spokane, Wash.	45	32	9	4	-	-	2
Tacoma, Wash.	72	54	11	3	2	2	9
TOTAL	9,720¶	6,575	1,970	686	252	192	631

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.

☆U.S. Government Printing Office: 2004-633-140/69160 Region IV ISSN: 0149-2195