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Exophiala Infection from Contaminated Injectable Steroids Prepared by a Compounding Pharmacy — United States, July-November 2002

In the United States, pharmacists compound medications to meet unique patient drug requirements or to prepare drug products that are not available commercially (1). In September 2002, the North Carolina Division of Public Health (NCDPH) was notified of two cases of meningitis caused by a rare fungus in patients who had received epidural injections at outpatient pain management clinics. This report describes five cases of fungal infection associated with contaminated drugs prepared at a compounding pharmacy. Clinicians should consider the possibility of improperly compounded medications as a source of infection in patients after epidural or intra-articular injections.

Case Reports

Case 1. On July 5, 2002, a woman aged 77 years with chronic low back pain was admitted to hospital A in North Carolina with a 4-day history of progressive diffuse headache, fever, chills, and malaise with subsequent development of vertigo, nausea, and vomiting. She was febrile (100.4° F [38.0°C]) and had slight nuchal rigidity. Analysis of cerebrospinal fluid (CSF) was consistent with meningitis: 979 white blood cells (WBC)/mm³ (normal: <10 WBC/mm³) with 63% neutrophils, protein of 134 mg/dL (normal: 15-45 mg/dL), and glucose of 38 mg/dL (normal: 40-80 mg/dL). The patient showed no improvement on antibacterial drugs, and a follow-up CSF analysis on July 18 revealed yeast-like elements on microscopic examination. The patient was treated with amphotericin B and transferred to hospital B in North Carolina. On July 24, a fungus cultured from CSF was identified as Exophiala (Wangiella) dermatitidis. Amphotericin B was discontinued, and voriconazole and flucytosine were started. The patient's condition continued to deteriorate, and she died 51 days after hospitalization. The patient had been treated at pain management clinic A in North Carolina and had received lumbar epidural injections with methylprednisolone acetate 100 and 35 days before hospital admission. The injectable methylprednisolone had been prepared by compounding pharmacy A in South Carolina.

Case 2. On August 14, 2002, a woman aged 61 years who was being treated for chronic low back pain at pain management clinic A was admitted to hospital A after CSF obtained during a myelogram was consistent with meningitis (820 WBC/mm³ with 52% neutrophils, protein of 108 mg/dL, and glucose of 57 mg/dL). The patient had a 3–5 day history of mild headache, subjective fever, chills, sweats, and mild neck stiffness. The patient had received lumbar epidural injections at pain management clinic A 84 and 34 days before hospital admission. The injections contained methylprednisolone acetate prepared by compounding pharmacy A. CSF grew yeast, later identified as *E. dermatitidis*, 27 days after collection. The patient was begun on intravenous voriconazole and later switched to oral voriconazole; as of December 5 (70 days into therapy), she has improved.

Additional cases. Clinicians from hospital A notified NCDPH of the two cases of *E. dermatitidis* meningitis; three additional cases have been identified. Case 3 occurred in a woman aged 71 years who had *E. dermatitidis* meningitis. She was admitted to hospital B in North Carolina on July 8 and had received epidural methylprednisolone acetate injections at pain management clinic B 82, 55, and 35 days before

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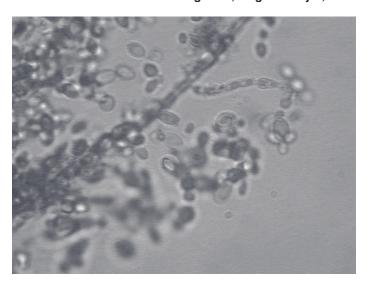
Robert F. Fagan Deborah A. Adams Felicia J. Connor Lateka Dammond Patsy A. Hall Pearl C. Sharp hospitalization. Case 4 occurred in a woman aged 65 years who had *E. dermatitidis* meningitis. She was admitted to hospital C in North Carolina on October 8 and had received epidural methylprednisolone acetate injections at pain management clinic A 116 days before hospitalization. Case 5 occurred in a woman aged 52 years who had *E. dermatitidis* sacroiliitis. She was admitted to hospital D in North Carolina on November 4 and had received intra-articular methylprednisolone acetate injections at pain management clinic B 103 and 152 days before hospitalization.

Investigation of Compounding Pharmacy A

Compounding pharmacy A was the source of the methylprednisolone acetate administered to all five patients with Exophiala infections. The pharmacy had been supplying the compounded product to hospitals and pain management clinics in five states after a proprietary form of methylprednisolone acetate injectable suspension (Depo Medrol®, Pharmacia Corp., Peapack, New Jersey) became difficult to obtain from the manufacturer. An investigation of compounding pharmacy A by the South Carolina Board of Pharmacy (SCBP) found improper performance of an autoclave with no written procedures for autoclave operation, no testing for sterility or appropriate checking of quality indicators, and inadequate clean-room practices as outlined in the American Society of Health-System Pharmacists (ASHP) guidance for pharmacyprepared sterile products (2). Microbiologic culture at CDC and the Food and Drug Administration (FDA) of unopened vials from three separate lots of injectable methylprednisolone obtained from compounding pharmacy A yielded E. dermatitidis (Figure). On September 27, SCBP ordered the pharmacy to halt further sale of compounded drug products. Injectable drugs had been distributed to physicians, hospitals, clinics, and consumers in 11 states (Connecticut, Illinois, Indiana, Kentucky, Louisiana, Massachusetts, Mississippi, New Hampshire, North Carolina, South Carolina, and Virginia). FDA inspection of the compounding facility revealed that the firm failed to have adequate controls to ensure necessary sterility, including the absence of appropriate testing for potency and sterility before distribution. On November 15, based on the lack of assurance that the pharmacy's products were sterile, FDA announced a nationwide alert about all injectable drug products prepared by the pharmacy.

All sites that received injectable methylprednisolone prepared by compounding pharmacy A have been contacted and have returned all unused products for testing. Treating clinicians were informed of the investigation of the adulterated product. In two states, patients who might have received the product were sent letters directing them to seek medical

FIGURE. Slide culture of *Exophiala (Wangiella) dermatitidis* stained with lactophenol blue demonstrating conidial structure and numerous budding cells, magnified by 1,000



attention if they developed symptoms, and laboratories were instructed to notify state officials if they isolated *E. dermatitidis* from clinical specimens.

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Editorial Note: As of December 5, five cases of *Exophiala* infection associated with injectable medication from compounding pharmacy A had occurred. Cases occurred up to 152 days following an injection.

Pharmacy compounding is the process of combining drug ingredients to prepare medications that are not commercially available or to alter commercially available medications to meet specific patient needs such as dye-free or liquid formulations (3). The practice of compounding has been reported to be increasing with an estimated 43,000 compounded medications prepared daily in the United States (4,5). Pharmacists traditionally have prepared medications to fulfill individual prescription requests or manipulated reasonable quantities of

human drugs on receipt of a valid prescription for an individually identified patient from a licensed practitioner. Some compounding is legal under state laws, and, when appropriate, FDA can exercise its enforcement discretion regarding new drugs and certain other requirements of the federal Food, Drug, and Cosmetic Act (6).

On-site investigation of compounding pharmacy A by state and federal regulators identified several instances of nonadherence to sterile technique. Microbiologic cultures at CDC and FDA of methylprednisolone from unopened vials prepared by compounding pharmacy A yielded isolates of E. dermatitidis. This fungus caused the death from meningitis in one patient, sacroiliitis in another, and meningitis in three other patients who had received either epidural or intraarticular injections of methylprednisolone compounded at pharmacy A. Other recent clusters of infections associated with products prepared by compounding pharmacies include Serratia meningitis from epidural injections of betamethasone in California (Contra Costa Health Services, unpublished data, 2002) and Chryseomonas meningitis from epidural injections of methylprednisolone in Michigan (CDC, unpublished data, 2002). These meningitis clusters all occurred among patients who received epidural injections for chronic pain management.

E. dermatitidis is a neurotropic, dark pigment-forming fungus found in soil and is an uncommon cause of human illness (7). Limited data are available on treatment; however, in vitro data suggest that amphotericin B, itraconazole, terbinafine, and voriconazole might be effective (8). Isolates from four of the five infected persons reported were tested in vitro and were susceptible to voriconazole, itraconazole, and amphotericin B. Voriconazole was chosen for treating the five persons reported because of in vitro susceptibility results and availability of an oral form of the drug.

Clinicians or laboratorians diagnosing any cases of Exophiala should determine if the patient had received injections of methylprednisolone in the last year. Although the implicated product has been recalled, clinicians should be aware that cases might still occur because of the possible long incubation period of the fungal infection. Patients with possible injection-associated Exophiala infections should be reported to their state health department and to CDC, telephone 800-893-0485; such information should be exchanged rapidly with other state and local health departments. Clinicians should consider the possibility of contaminated medication as a source of infection in patients after epidural or intra-articular injections. Compounding pharmacies should ensure that pharmacy staff are trained appropriately and that proper sterile technique is followed in accordance with existing standards from ASHP (2) and the United States Pharmacopeia (http://www.usp.org). FDA has outlined specific activities that

help distinguish the role of compounding pharmacies from pharmaceutical manufacturing (4).

Some health-system pharmacists might not realize that they are purchasing injectables prepared through compounding (1). Purchasers of pharmaceuticals should determine if supplies are provided from a compounding pharmacy that is licensed in their state and that follows appropriate measures to ensure that injectable products are free of contamination. In most states, compounding pharmacies are not required to report adverse events associated with their products to state or federal agencies. Such reporting to FDA is required for pharmaceutical manufacturing companies. Health-care professionals and compounding pharmacies are urged to report contaminated compounded drug products or adverse events associated with compounded drug products to their state boards of pharmacy and health departments. To help prevent further cases, practitioners also are encouraged to submit such reports to FDA's MedWatch program by telephone at 1-800-332-1088 or at http://www.fda.gov/medwatch/report.htm.

References

- Young D. Outsourced compounding can be problematic: community pharmacies linked to contaminated injectables. Available at http:// www.ashp.org/public/pubs/ajhp/current/12a-news_oursourced.pdf.
- American Society of Health-System Pharmacists. ASHP guidelines on quality assurance for pharmacy-prepared sterile products. Am J Health Sys Pharm 2000; 57:1150–69.
- International Academy of Compounding Pharmacists. About compounding. Available at http://www.iacprx.org/about_compounding/ index.html.
- Smith LK. Regulatory and operational issues of founding a compounding pharmacy. International Journal of Pharmaceutical Compounding 2002;6:434–7.
- 5. Professional Compounding Centers of America. History of compounding. Available at http://www.pccarx.com/about_comp.asp.
- 6. U.S. Food and Drug Administration. Compliance policy guidance for Food and Drug Administration staff and industry. Section 460-200, pharmacy compounding. Available at http://www.fda.gov/ora/ compliance_ref/cpg/cpgdrg/cpg460-200.html.
- 7. Matsumoto T, Matsuda T, McGinnis MR, Ajello L. Clinical and mycological spectra of *Wangiella dermatitidis* infections. Mycoses 1993;36:145–55.
- 8. Meletiadis J, Meis JF, de Hoog GS, Verweij PE. *In vitro* susceptibilities of 11 clinical isolates of *Exophiala* species to six antifungal drugs. Mycoses 2000;43:309–12.

Outbreaks of Gastroenteritis Associated with Noroviruses on Cruise Ships — United States, 2002

During January 1–December 2, 2002, CDC's Vessel Sanitation Program (VSP), which conducts surveillance for acute gastroenteritis (AGE) on cruise ships with foreign itineraries sailing into U.S. ports (1), received reports of 21 outbreaks of

AGE* on 17 cruise ships. Of the 21 outbreaks, nine were confirmed by laboratory analysis of stool specimens from affected persons to be associated with noroviruses, three were attributable to bacterial agents, and nine were of unknown etiology. Seven outbreaks were reported in 2001, and of these, four were confirmed to be associated with norovirus (CDC, unpublished data, 2002). This report describes five of the norovirus outbreaks that occurred during July 1–December 2, 2002, on cruise ships.

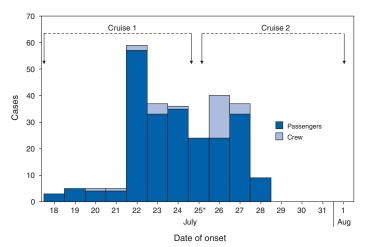
Outbreaks

Cruise Ship A. On July 18, cruise ship A, owned by cruise line A, embarked 1,318 passengers and 564 crew members for a 7-day cruise from Vancouver to Alaska. On July 19, five passengers reported to the ship's infirmary with symptoms of AGE (Figure 1). By July 25, a total of 167 (13%) passengers and nine (2%) crew members had reported illness. Among the 176 patients, the predominant symptoms were vomiting (76%) and diarrhea (73%). Five of 10 stool specimens from ill passengers were positive for norovirus by reverse transcriptase polymerase chain reaction (RT-PCR). On July 25, when passengers disembarked, the ship was disinfected in accordance with CDC recommendations, and the same day, a new group of passengers embarked for another 7-day cruise. During the cruise, 189 (14%) of 1,336 passengers and 30 (5.3%) of 571 crew members had AGE with diarrhea (91%) and vomiting (85%) (Figure 1). An environmental health inspection conducted by CDC revealed no sanitary deficiencies. Cruise line A cancelled a subsequent cruise and voluntarily took the ship out of service for 1 week for aggressive cleaning and sanitizing. No outbreaks were reported on subsequent cruises.

Cruise Ship B. On October 1, cruise ship B, also owned by cruise line A, embarked 1,281 passengers and 598 crew members for a 21-day cruise from Washington to Florida. By October 16, a total of 101 (8%) passengers and 14 (2%) crew members reported to the infirmary with AGE symptoms. On October 18, CDC investigators boarded the ship to conduct an epidemiologic and environmental investigation. Of 972 surveyed passengers, 399 (41%) met the case definition for AGE. Investigators found no association between illness and water, specific meals served on the ship, or with offshore excursions. Stool specimens from 12 of 13 patients tested posi-

^{*}An outbreak of AGE was defined as one in which ≥3% of passengers or crew members report illness (defined as three or more episodes of loose stools in a 24-hour period or as vomiting with one additional symptom such as abdominal cramps, headache, myalgia, or fever). The evaluation of an outbreak might consist of environmental, epidemiologic, and laboratory investigative components, including an epidemic survey distributed to passengers and crew members, environmental sampling, and collection of stool specimens from patients.

FIGURE 1. Number of passengers and crew members reporting to the ship's infirmary with symptoms of acute gastroenteritis during two consecutive 7-day cruises on cruise ship A, by date of illness onset — Vancouver to Alaska, July 18-August 1, 2002



^{*} Passenger disembarkation at 8:00 a.m.; (cruise 1) embarkation (cruise 2) at 2:00 p.m.

tive for norovirus. Characterization of the strain by sequence analysis of RT-PCR products matched those from cruise ship A. Despite implementation of control measures that included disinfection of the vessel and quarantine of ill passengers and crew members, a total of 264 passengers and 41 crew members reported illness on three subsequent 10-day cruises. Cruise line A voluntarily withdrew cruise ship B from service for 10 days for aggressive cleaning and sanitizing. No outbreaks were reported on subsequent voyages.

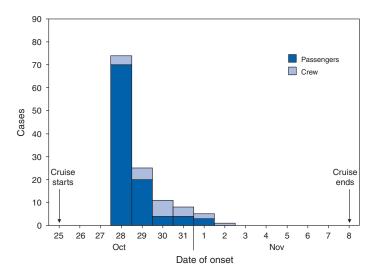
Cruise Ship C. On September 28, cruise ship C, owned by cruise line B, embarked 1,984 passengers and 941 crew members for a 7-day round-trip cruise from Florida to the Caribbean. Several passengers had AGE within 24 hours of embarkation, and by October 1, a total of 70 (4%) passengers and two (0.2%) crew members reported illness. On October 3, CDC investigators boarded the ship to conduct an epidemiologic and environmental investigation. Questionnaires completed by 1,879 (95%) passengers and 860 (91%) crew members identified 356 (19%) passengers and 13 (1.5%) crew members who met the AGE case definition. The epidemiologic investigation suggested a point source of infection, followed by cases associated with person-to-person transmission. The investigation identified an association between illness among passengers and lunch served at embarkation (odds ratio=2.4; 95% confidence interval=1.1–5.2; p value=0.02). Four of 11 stool specimens from patients were positive for norovirus by RT-PCR. Characterization of the strain by sequence analysis of RT-PCR products matched those from

an outbreak on the same ship that occurred 3 weeks previously but was not identical to the outbreak strain on cruise ships A and B. CDC recommended reinforcing sanitation practices and excluding ill foodhandlers from the work place. Cruise ship C continued service, and no new cases were reported on subsequent cruises.

Cruise Ship D. On October 25, cruise ship D, owned by cruise line C, embarked 2,882 passengers and 944 crew members in Spain for a 14-day cruise to Florida. On October 28, a total of 70 (2.5%) passengers reported to the infirmary with AGE; the number of ill passengers declined rapidly during the following days (Figure 2). By November 2, a total of 106 (5%) passengers and 25 (3%) crew members had reported illness. Stool specimens from four of six patients tested positive for norovirus by RT-PCR. Characterization of the strain by sequence analysis of RT-PCR products identified a strain distinct from the other cruise-ship outbreaks. With passengers aboard, control measures included quarantine of ill crew members until symptom-free for 72 hours, disinfection of the ship, and reinforcement of sanitation practices. No new outbreaks were reported on subsequent cruises.

Cruise Ship E. On November 16, cruise ship E, owned by cruise line D, embarked 2,318 passengers and 988 crew members for a 7-day cruise from Florida to the Caribbean. By November 20, a total of 28 (1%) passengers and seven (1%) crew members had reported to the ship's infirmary with AGE. By disembarkation on November 23, a total of 260 (12%) passengers and 17 (2%) crew members had reported illness. On November 23, CDC investigators boarded the ship and

FIGURE 2. Number of passengers and crew members reporting to the ship's infirmary with symptoms of acute gastroenteritis during a 14-day cruise on cruise ship D, by date of illness onset — Spain to Florida, October 25-November 8, 2002



collected questionnaires that had been distributed to all passengers before disembarkation. A total of 1,280 (55%) passengers returned a questionnaire; of these, 492 (21%) met the case definition for AGE. Seven of 12 specimens from patients were positive for norovirus by RT-PCR. Characterization of the strain by sequence analysis of RT-PCR products identified a perfect match with those products from the outbreaks on cruise ships A and B. Despite implementation of disinfection and sanitation measures, the outbreak continued on the subsequent cruise. On November 30, cruise line D removed the ship from service for 1 week for aggressive cleaning and sanitizing.

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Editorial Note: Cruise-ship outbreaks demonstrate how easily noroviruses can be transmitted from person to person in a closed environment, resulting in large outbreaks (2–4). The continuation of these outbreaks on consecutive cruises with new passengers and the resurgence of outbreaks caused by the same virus strains during previous cruises on the same ship, or even on different ships of the same company, suggests that environmental contamination and infected crew members can serve as reservoirs of infection for passengers.

The increase in reported norovirus outbreaks on cruise ships in 2002 might reflect an actual increase in norovirus outbreaks or it might be attributable to improved surveillance with an electronic reporting format implemented January 1, 2001, and increased application of sensitive molecular assays. The surveillance system captures cases of illness reported to the ship's infirmary or to designated staff on board the ship. Other cases of AGE among passengers and crew members are not reported. In 2002, CDC has confirmed 26 land-based outbreaks of AGE attributable to norovirus; three were caused by strains closely related to the strain detected from cruise ships A, B, and E. Although several land-based outbreaks are linked to norovirus strains with unique sequence types, strains with identical sequence types are identified commonly in outbreaks with no obvious epidemiologic link. Further genetic characterization of common outbreak strains associated with epidemiologic data might help establish possible links among these outbreaks.

Noroviruses (i.e., Norwalk-like viruses or NLV) are members of the family *Caliciviridae* and are well-recognized etiologic agents of nonbacterial AGE (5). Noroviruses cause

approximately 23 million cases of AGE each year and are the leading cause of outbreaks of gastroenteritis (5,6). Illness caused by norovirus infection lasts 12-60 hours and is characterized by sudden onset of nausea, vomiting, and watery diarrhea (7); the incubation period is 12–48 hours. The virus is transmitted by hands contaminated through the fecal-oral route, directly from person to person, through contaminated food or water, or by contact with contaminated surfaces or fomites (8). Aerosolized vomitus also has been implicated as a transmission mode (9). Because of high infectivity and persistence in the environment, transmission of noroviruses is difficult to control through routine sanitary measures (3,4,9). Although norovirus causes a self-limited AGE, elderly passengers, children, and those with severe underlying medical conditions might be at increased risk for complications because of volume depletion and electrolyte disturbances. Hospitalization of adults with norovirus who are otherwise healthy is rare. Neither specific antiviral treatment nor a vaccine has been developed for noroviruses.

In addition to emphasizing basic food and water sanitation measures, control efforts should include thorough and prompt disinfection of ships during cruises, and isolation of ill crew members and, if possible, passengers for 72 hours after clinical recovery. Suitable disinfectants include freshly prepared chlorine solutions at concentrations of $\geq 1,000$ ppm, phenol-based compounds, and accelerated hydrogenperoxide products (10). Cruise ships also should promote frequent, rigorous hand washing with soap and water by passengers and crew members.

Rapid implementation of control measures at the first sign of a suspected AGE outbreak is critical in preventing additional cases. When routine disinfection measures are unsuccessful at interrupting the spread of virus during an outbreak, more extensive disinfection and a period of time without passengers aboard a ship might facilitate elimination of the virus.

CDC encourages local and state health departments to test for noroviruses when investigating outbreaks of suspected viral AGE. For assistance in testing for noroviruses and for strain characterization, local and state health departments should contact CDC's Viral Gastroenteritis Section, telephone 404-639-3577 or by e-mail: CaliciNet@cdc.gov.

References

- CDC. Vessel Sanitation Program Operations Manual 2000. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2000.
- Addiss DG, Yashuk JC, Clapp DE, Blake PA. Outbreaks of diarrheal illness on passenger cruise ships, 1975–85. Epidemiol Infect 1989;103:63–72.
- Gunn AG, Terranova WA, Greenberg HB, et al. Norwalk virus gastroenteritis aboard a cruise ship: an outbreak on five consecutive cruises. Am J Epidemiol 1980;112:820–7.

- 4. CDC. Gastroenteritis outbreaks on two Caribbean cruise ships. MMWR 1986;35:383-4.
- 5. Fankhauser RL, Monroe SS, Noel JS, et al. Epidemiologic and molecular trends of "Norwalk-like viruses" associated with outbreaks of gastroenteritis in the United States. J Infect Dis 2002;186:1–7.
- 6. Mead PS, Slutsker L, Dietz V, et al. Food-related illness and death in the United States. Emerg Infect Dis 1999;5:607–25.
- 7. Kaplan JE, Gary GW, Baron RC, et al. Epidemiology of Norwalk gastroenteritis and the role of Norwalk virus in outbreaks of acute, non-bacterial gastroenteritis. Ann Int Med 1982;96:756–61.
- CDC. "Norwalk-like viruses": public health consequences and outbreak management. MMWR 2001;50(No. RR-9).
- 9. Marks PJ, Vipond IB, Carlisle D, Deakin D, Fey RE, Caul ED. Evidence for airborne transmission of Norwalk-like virus (NLV) in a hotel restraurant. Epidemiol Infect 2000;124:481–7.
- Gulati BR, Allwood PB, Hedberg CW, Goyal SM. Efficacy of commonly used disinfectants for the inactivation of calicivirus on strawberry, lettuce, and a food-contact surface. J Food Prot 2001;64:1430–4.

Measles Outbreak Among Internationally Adopted Children Arriving in the United States, February–March 2001

On February 16, 2001, the Texas Department of Health was notified about a child aged 10 months adopted from orphanage A in China who was taken to a Texas hospital with fever, conjunctivitis, coryza, Koplik spots, and a maculopapular rash. Measles was confirmed by serologic testing. Public health authorities in Texas notified CDC, which then collaborated with health officials in other states to contact other recently adopted children from China and their adoptive families. This report summarizes the results of multistate contact investigations that identified 14 U.S. measles cases and outlines measures taken in the United States and China to control and prevent measles transmission.

The index patient had traveled with prodromal fever on international (China to Los Angeles) and domestic (Los Angeles to Houston) flights on commercial airlines and had been part of a cohort of adopted children from China who had resided in orphanage A. These children and their adoptive families had spent ≥2 weeks together in China while the families were visiting the orphanage and completing the immigrant visa process. The index patient potentially exposed multiple persons during the communicable period, including members of 63 families who had traveled to China to adopt children, representatives from 16 international adoption agencies who accompanied the families, staff at the local medical facility in China at which the patient was examined as a requirement for a U.S. immigrant visa, staff at the U.S. Consulate, passengers and crew members of the international and

domestic flights on which the patient traveled, and adoptionagency representatives who met the returning family.

By February 22, consulate staff in China, staff at the medical facility, administrators at orphanage A, and all adoption agencies involved received information from CDC about measles exposure and prevention. Through the U.S. Consulate in China, the Central China Adoption Agency (CCAA) and CDC developed a collaborative strategy to control and prevent further spread of measles. The strategy included nine steps: 1) retrospective notification of families of adopted children from orphanage A who were interviewed at the U.S. Consulate during January 30-February 12; 2) prospective notification of families planning to travel to orphanage A advising them to delay travel to China until further notice; 3) distribution of alerts to adoptive families already in China; 4) notification of international adoption agencies in China to advise prospective adoptive families to verify and update the vaccination status of household members; 5) active screening for febrile and rash illnesses among adopted children examined at the medical facility in China; 6) isolation of children suspected to have measles and restriction of their travel on commercial conveyances; 7) temporary suspension of adoption proceedings at orphanage A until no new measles cases were identified; 8) evaluation of children at orphanage A for measles; and 9) initiation of a vaccination campaign in orphanage A under the direction of CCAA.

Contact investigations identified 14 U.S. measles cases (13 confirmed serologically and one linked epidemiologically) among children who were recently adopted from China and their family members and close contacts in eight states, including 10 recently adopted children aged 9–12 months from seven states (New York [three], Ohio [two], Illinois [one], Indiana [one], Minnesota [one], Missouri [one], and Texas [one]), two U.S.-born adoptive mothers (Indiana [aged 46 years] and Missouri [aged 39 years]), a U.S.-born caretaker (Connecticut [aged 47 years]) who had lived for a week in the same household as an adopted child with measles, and a sibling (Georgia [aged 28 months]) of a healthy adopted child from China. Thirteen U.S. measles cases were imported; the case of the U.S.-born caretaker was an indigenous, importlinked case.

All 14 cases of measles were identified during multistate investigations during February–March 2001. Among the 13 imported cases in adopted children and their family members, dates of onset of measles rash ranged from February 15 to March 7, 2001. These dates suggest incubation periods consistent with measles exposure in China, most likely at orphanage A but possibly during the medical screening or travel. The one indigenous, epidemiologically linked measles

case was consistent with secondary transmission of measles in the United States from an adopted child. During the investigation, representatives of orphanage A retrospectively identified cases of suspected measles that preceded the index patient's illness and reported that newly arrived children at orphanage A had not been vaccinated adequately against measles. After completion of a measles vaccine campaign at orphanage A, no additional cases were reported, and the adoption of children from the orphanage resumed on March 29, a total of 3 weeks after the onset of the last known case of measles.

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Editorial Note: During 1997–2001, the annual number of reported measles cases in the United States ranged from 86 to 138, with imported cases accounting for 26%–47% of the total (Table). The proportion of imported cases of measles among internationally adopted children increased from 2% in 1997 to 20% in 2001; 10 of the 11 imported cases of measles among internationally adopted children in 2001 were associated with this outbreak. During fiscal year 2001, the U.S. Immigration and Naturalization Service reported that 19,230 internationally adopted children, of whom 4,681 (24%) were from China, were admitted to the United States.

Imported cases of measles continue to infect susceptible U.S. residents. The current high level of immunity to measles in U.S. residents and the coordinated efforts of numerous agencies in responding to imported cases has limited indigenous

spread. Three (23%) of 13 imported measles cases in this investigation were in U.S. residents returning from abroad and constituted 6% of all imported cases for 2001, underscoring the need for U.S. residents to verify their immunity against measles before international travel. The criteria for immunity to measles are 1) having been born before 1957, 2) a history of physician-diagnosed measles, 3) documentation of having received 2 doses of measles-containing vaccine, or 3) serologic evidence of measles immunity. Travelers who are not immune should be vaccinated (1).

Since 1996, all persons seeking a U.S. immigrant visa are required to show proof of having received at least the first vaccine of each series of vaccinations recommended by the Advisory Committee on Immunization Practices (ACIP), which includes measles (2). However, internationally adopted children who are aged ≤10 years are exempted from the Immigration and Nationality Act vaccination requirements with a signed statement from the adopting parent(s) indicating that the child will receive vaccination within 30 days of entry into the United States. Parents of internationally adopted children should be aware of the importance of confirming that they and their family members are current in their vaccinations and that, soon after arrival in the United States, their adopted children's vaccination status is updated according to ACIP guidelines (1). In addition, persons who will be in contact with internationally adopted children during their first 3 weeks in the United States, especially household members and caretakers, should be immune to measles or be vaccinated before the adoption.

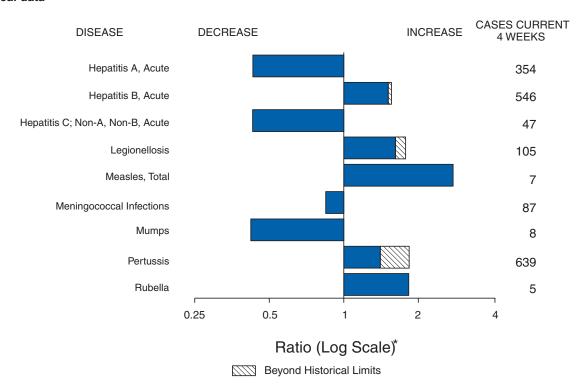
References

- CDC. Measles, mumps, and rubella—vaccine use and strategies for elimination of measles, rubella, and congenital rubella syndrome and control of mumps: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1998;47(No. RR-8).
- 2. Illegal Immigration Reform and Immigrant Responsibility Act. Public Law no. 10-208, 110 Stat 3009 (1996).

TABLE. Number and percentage of imported measles cases, by travel/immigration status and year — United States, 1997–2001

	19	1998		1999		2000		2001		
Travel/Immigration status	No.	(%)								
Returning U.S. residents	19	(33)	12	(46)	19	(58)	14	(54)	20	(37)
Foreign visitors	35	(61)	10	(38)	9	(47)	8	(57)	21	(39)
Immigrants	2	(3)	0	(0)	0	(0)	0	(0)	1	(2)
Refugees	0	(0)	3	(11)	1	(3)	0	(0)	1	(2)
Internationally adopted children	1	(2)	1	(4)	4	(12)	4	(15)	11	(20)
Total	57		26		33		26		54	

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending December 7, 2002, with historical data



^{*} Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending December 7, 2002 (49th Week)*

		Cum. 2002	Cum. 2001		Cum. 2002	Cum. 2001
Anthrax		2	22	Encephalitis: West Nile [†]	1,528	56
Botulism:	foodborne	13	33	Hansen disease (leprosy)†	66	68
	infant	51	89	Hantavirus pulmonary syndrome†	14	7
	other (wound & unspecified)	27	18	Hemolytic uremic syndrome, postdiarrheal†	183	173
Brucellosis†	, , , , ,	73	121	HIV infection, pediatric ^{†§}	116	190
Chancroid		67	32	Plague	1	2
Cholera		5	5	Poliomyelitis, paralytic	-	-
Cyclosporiasi	s [†]	162	143	Psittacosis†	17	22
Diphtheria		1	2	Q fever [†]	48	23
Ehrlichiosis:	human granulocytic (HGE)†	348	218	Rabies, human	2	1
	human monocytic (HME)†	169	111	Streptococcal toxic-shock syndrome†	82	71
	other and unspecified	12	6	Tetanus	21	31
Encephalitis:	California serogroup viral†	125	115	Toxic-shock syndrome	107	112
	eastern equine [†]	5	8	Trichinosis	13	21
	Powassan [†]	1	-	Tularemia [†]	58	126
	St. Louis†	12	76	Yellow fever	1	-
	western equine [†]	2	-			

^{-:} No reported cases.

 $_{\scriptscriptstyle \perp}^{\scriptscriptstyle \star}$ Incidence data for reporting year 2001 and 2002 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 (NCHSTP). Last update October 31, 2002.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

Reporting Area UNITED STATES NEW ENGLAND Maine N.H. Vt. Mass. R.I. Conn.	24,713 1,011 23 20 8 519 71	Cum. 2001 38,400 1,390 44 37	Cum. 2002 724,657 25,570	nydia [†] Cum. 2001 728,832	Cryptos Cum. 2002	poridiosis Cum.	O15	57:H7 Cum.	Serogroup	in Positive, p non-O157
UNITED STATES NEW ENGLAND Maine N.H. vt. Mass. R.I.	Cum. 2002 [§] 24,713 1,011 23 20 8 519 71	Cum. 2001 38,400 1,390 44 37	Cum. 2002 724,657 25,570	Cum. 2001	Cum.	. 				
UNITED STATES NEW ENGLAND Maine N.H. vt. Mass. R.I.	1,011 23 20 8 519 71	1,390 44 37	25,570	728,832		2001	2002	2001	Cum. 2002	Cum. 2001
Maine N.H. Vt. Mass. R.I.	23 20 8 519 71	44 37			2,685	3,596	3,415	3,099	155	155
N.H. Vt. Mass. R.I.	20 8 519 71	37	4 - 4 -	22,900	171	144	255	241	32	40
Vt. Mass. R.I.	8 519 71		1,649	1,269	11	18	38	27	5	1
Mass. R.I.	519 71		1,458	1,300	29	16	32	34	-	3
R.I.	71	15 694	884 10,268	598 9,729	32 62	32 53	14 113	14 113	1 9	1 10
		93	2,617	2,775	21	8	14	16	-	1
	370	507	8,694	7,229	16	17	44	37	17	24
MID. ATLANTIC	5,619	10,582	79,372	81,081	330	337	235	229	-	-
Jpstate N.Y.	404	1,296	15,840	14,049	136	104	173	144	-	-
N.Y. City	3,210	6,169	25,681	28,127	124	118	14	16	-	-
N.J. Pa.	925 1,080	1,584 1,533	10,764 27,087	13,957 24,948	10 60	22 93	48 N	69 N	-	-
E.N. CENTRAL	2,494	2,796			864	1,555	815	792	19	12
Ohio	2,494 453	2,796 531	126,432 29,995	135,581 35,883	120	1,555	149	792 224	15	10
nd.	347	342	16,095	14,511	55	81	75	83	1	-
II.	1,170	1,251	35,172	40,800	88	479	166	168	-	-
Mich.	398	497	30,032	28,771	118	180	134	99	3	2
Wis.	126	175	15,138	15,616	483	641	291	218	-	-
W.N. CENTRAL	421	805	40,040	37,285	401	515	498	495	37	40
Minn.	90	130	9,209	7,801	211	177	161	205	32	30
owa Mo.	54 189	86 394	4,986 14,342	4,796 13,290	45 32	81 50	122 69	79 65	N	N
N. Dak.	1	2	801	970	20	13	17	19	-	3
S. Dak.	3	23	2,089	1,703	30	7	40	42	2	6
Nebr.	43	77	2,456	3,010	47	184	54	59	3	1
Kans.	41	93	6,157	5,715	16	3	35	26	-	-
S. ATLANTIC	7,537	11,422	140,126	139,867	339	359	417	244	40	38
Del.	131	230	2,513	2,650	3	6	8	4	-	1
Md. D.C.	1,066 371	1,685 777	15,744 3,202	14,374 3,105	21 5	39 12	26 1	29	-	-
Va.	538	954	16,036	16,888	24	26	63	50	10	6
W. Va.	58	93	2,151	2,217	2	2	9	10	-	-
N.C.	555	817	23,309	20,601	35	28	191	55	-	-
S.C. Ga.	547 1,160	633 1,520	11,311 28,507	14,277	6 143	7 153	5 55	22 44	10	10
sa. Fla.	3,111	4,713	37,353	30,505 35,250	100	86	59	30	20	21
E.S. CENTRAL	1,128	1,646	45,386	46,846	114	51	107	138	_	1
Ky.	173	315	8,310	8,493	8	5	30	64	-	i
Ténn.	483	519	15,040	13,571	54	14	46	44	-	-
Ala.	197	415	12,391	13,557	43	17	20	18	-	-
Miss.	275	397	9,645	11,225	9	15	11	12	-	-
W.S. CENTRAL	2,696	3,801	101,007	100,394	36	127	71	213	-	-
Ark.	163	188 795	6,701	6,916	8	9 7	12	16 7	-	-
La. Okla.	693 133	214	17,762 10,227	17,065 10,062	6 16	15	2 22	33	-	-
Tex.	1,707	2,604	66,317	66,351	6	96	35	157	-	-
MOUNTAIN	790	1,291	45,310	43,692	156	234	354	282	19	18
Mont.	8	15	2,139	1,798	6	37	30	20	-	-
daho	18	19	2,375	1,902	29	22	50	72	8	4
Wyo.	6 157	4	876 12.046	775 12 502	9 57	7	14	10 97	2 5	2 6
Colo. N. Mex.	157 53	281 141	12,946 5,870	12,503 5,824	57 19	41 29	100 12	87 16	5 3	6
Ariz.	327	489	13,741	13,595	17	9	34	29	1	-
Utah	43	107	2,621	2,661	15	82	86	32	-	-
Nev.	178	235	4,742	4,634	4	7	28	16	-	-
PACIFIC	3,017	4,667	121,414	121,186	274	274	663	465	8	6
Wash.	302	473	13,972	12,795	43	U	138	125	-	-
Oreg. Calif.	216 2,416	215 3,865	6,516 93,537	6,877 95,186	40 188	54 216	222 255	81 236	8	6
Jaiii. Alaska	2,416 17	3,865	3,397	2,509	1	216 1	∠55 7	236 4	-	-
Hawaii	66	95	3,992	3,819	2	3	41	19	-	-
Guam	2	11	· -	377	_	-	N	N	-	_
P.R.	668	1,111	1,997	2,585	-	-	-	2	-	-
V.I.	66	11	125	141			-	-		
Amer. Samoa C.N.M.I.	U 2	U U	U 144	U U	U	U	U	U U	U	U

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

* Incidence data for reporting year 2001 and 2002 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 31, 2002.

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*	Eschei	richia coli				Haemophilus influenzae, Invasive						
	Enterohe Shiga To	emorrhagic kin Positive,	Giardiasis	Gono	rrhea	All	Ages, erotypes	Age <5 Serot	уре			
Demanting Asses	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.	Cum.			
Reporting Area UNITED STATES	2002 35	2001 19	2002 16,191	2002 306,678	2001 337,453	2002 1,403	2001 1,373	2002 25	2001 22			
NEW ENGLAND	1	1	1,572	7,181	6,511	122	104	-	1			
Maine	-	-	200	132	137	2	2	-	-			
N.H. Vt.	1	1	41 137	118 93	170 69	10 7	6 4	-	-			
Mass.	-	-	806	3,070	2,996	51	41	-	1			
R.I. Conn.	-	-	145 243	891 2,877	788 2,351	10 42	5 46	-	-			
MID. ATLANTIC	-	3	3,494	36,458	40,852	245	213	6	3			
Upstate N.Y. N.Y. City	-	-	1,183 1,258	8,155 10,790	8,238 11,943	109 60	74 57	2	-			
N.J.	-	-	342	6,130	8,114	49	45	-	-			
Pa.	-	3	711	11,383	12,557	27	37	4	3			
E.N. CENTRAL Ohio	13 12	7 7	3,091 900	61,752 16,817	71,119 20,087	199 76	261 73	3	2 1			
Ind.	-	-	-	6,924	6,577	41	46	1	-			
III. Mich.	- 1	-	714 882	18,817 13,640	22,424 16,254	58 16	96 13	2	-			
Wis.	-	-	595	5,554	5,777	8	33	-	1			
W.N. CENTRAL	2	4	1,958	15,639	15,962	69	71	1	1			
Minn. Iowa	-	-	791 296	2,814 1,180	2,509 1,253	47 1	40	1 -	-			
Mo.	N	N	469	8,105	8,246	12	19	-	-			
N. Dak. S. Dak.	2	4	28 72	47 258	53 267	-	7	-	-			
Nebr.	-	-	133	713	1,092	1	3	-	1			
Kans.	-	-	169	2,522	2,542	8	2	-	-			
S. ATLANTIC Del.	1	-	2,760 51	79,191 1,503	86,861 1,640	343	339	4	1 -			
Md.	-	-	108	8,363	8,667	82	83	2	-			
D.C. Va.	-	-	42 308	2,575 9,187	2,735 10,008	32	- 27	-	-			
W. Va.	1	-	57	849	685	15	14	-	1			
N.C. S.C.	-	-	- 121	14,867 6,864	15,868 10,140	31 13	46 8	-	-			
Ga.	-	-	859	15,813	16,948	86	93	-	-			
Fla.	-	-	1,214	19,170	20,170	84	68	2	-			
E.S. CENTRAL Ky.	8 8	3 3	369	26,106 3,571	30,462 3,408	63 6	74 2	1	-			
Tenn.	-	-	172	8,800	9,122	32	43	.	-			
Ala. Miss.	-	-	197	8,067 5,668	10,574 7,358	16 9	27 2	1	-			
W.S. CENTRAL	4	_	236	45,175	49,282	59	54	2	2			
Ark.	-	-	162	4,237	4,297	1	2	-	-			
La. Okla.	-	-	4 70	10,981 4,409	11,723 4,545	9 45	9 41	-	-			
Tex.	4	-	-	25,548	28,717	4	2	2	2			
MOUNTAIN	6	1	1,591	9,920	9,809	182	136	5	8			
Mont. Idaho	-	-	92 127	108 91	99 71	2	2	-	-			
Wyo.	-	-	29	57	76	1	1	-	-			
Colo. N. Mex.	6 -	1 -	548 137	3,199 1,226	3,009 964	33 25	38 24	-	1			
Ariz.	-	-	192	3,417	3,709	91	52	3	4			
Utah Nev.	-	-	316 150	268 1,554	188 1,693	18 12	8 11	1 1	1 2			
PACIFIC	-	_	1,120	25,256	26,595	121	121	3	4			
Wash.	-	-	391	2,738	2,823	3	5	2	-			
Oreg. Calif.	-	-	427 110	837 20,448	1,070 21,716	60 22	34 53	1	4			
Alaska	-	-	106	565	410	2	6	-	-			
Hawaii	-	-	86	668	576	34	23	-	-			
Guam P.R.	-	-	38	- 292	47 564	1	2	-	-			
V.I.			-	31	34	-	-					
Amer. Samoa C.N.M.I.	U	U U	U 1	U 14	U U	U	U U	U	U U			

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*										
	Há	aemophilus in	fluenzae, Inva	sive						
			5 Years			Н	epatitis (Viral,	Acute), By Ty	ре	
		rotype B	Unknown		+	A	<u> </u>	В		A, Non-B
Reporting Area	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001
UNITED STATES	235	228	15	27	7,776	9,731	6,409	6,826	3,182	3,675
NEW ENGLAND	14	15	-	-	275	703	263	135	23	33
Maine N.H.	-	- 1	-	-	8 11	11 17	14 22	5 15	-	-
Vt.	-	-	-	-	3	16	5	5	13	7
Mass. R.I.	8	7	-	-	136 30	366 66	127 28	35 28	9 1	26
Conn.	6	7	-	-	87	227	67	47	-	-
MID. ATLANTIC	28	37	-	3	997	1,222	1,484	1,297	1,599	1,276
Upstate N.Y. N.Y. City	12 8	10 13	-	1	177 495	260 420	133 786	119 611	65	27
N.J.	5	6	-	-	122	278	345	275	1,499	1,170
Pa.	3	8	-	2	203	264	220	292	35	79
E.N. CENTRAL Ohio	36 9	39 13	1	2	1,017 319	1,154 245	658 115	896 90	105 4	155 8
Ind.	8	6	-	1	45	95	56	48	-	1
III.	12	14	-	-	257	418	129	151	13	12
Mich. Wis.	5 2	6	-	1 -	218 178	319 77	315 43	562 45	84 4	134 -
W.N. CENTRAL	7	6	3	6	294	371	217	211	731	1,082
Minn.	6	4	1	2	42	41	35	29	1	10
Iowa Mo.	-	-	2	4	79 81	35 84	18 115	21 115	1 710	1,056
N. Dak.	-	1	-	-	3	3	5	2	-	-
S. Dak. Nebr.	1	1	-	-	3 17	3 33	2 22	1 30	1 13	8
Kans.	-	-	-	-	69	172	20	13	5	8
S. ATLANTIC	47	45	2	6	2,260	2,421	1,535	1,470	182	104
Del. Md.	4	8	-	1	13 291	16 262	7 113	28 133	5 8	11 9
D.C.	-	-	-	-	75	59	21	13	-	-
Va. W. Va.	5 1	5 1	1	- 1	151 20	128 27	194 18	169 20	16 3	9
N.C.	3	2	-	4	203	223	216	208	26	21
S.C. Ga.	2 18	1 19	-	-	60 420	71 894	119 345	29 409	4 34	6
Fla.	14	9	1	-	1,027	741	502	461	86	48
E.S. CENTRAL	15	12	1	4	250	390	356	455	187	185
Ky. Tenn.	2 8	6	-	1 2	41 113	127 155	49 128	52 235	4 29	11 63
Ala.	3	5	1	1	39	72	99	80	10	4
Miss.	2	1	-	-	57	36	80	88	144	107
W.S. CENTRAL Ark.	14	9 1	-	-	575 50	794 68	569 91	793 98	196 8	659 12
La.	2	2	-	-	68	85	96	118	67	146
Okla. Tex.	10 2	6	-	-	49 408	109 532	44 338	96	5 116	4 497
MOUNTAIN			7	1	534	681	571	481 437	55	
Mont.	50 -	24	-	-	13	12	9	3	1	53 1
Idaho	1	-	-	-	30 3	55 7	7	11	1	2 8
Wyo. Colo.	3	3	-	-	74	86	17 74	3 98	5 12	8
N. Mex.	6 31	10 8	1 5	1	29 273	40 349	140	126	1	11 9
Ariz. Utah	31 5	3	5	-	64	349 66	204 59	126 23	4 4	3
Nev.	4	-	1	-	48	66	61	47	27	11
PACIFIC	24	41	1	5	1,574	1,995	756	1,132	104	128
Wash. Oreg.	1 5	3 7	-	2	143 64	150 98	66 119	139 160	24 16	23 15
Calif.	13	29	1	1	1,355	1,717	559	806	64	90
Alaska Hawaii	2	1 1	-	2	10 2	14 16	4 8	9 18	-	- -
Guam	-	-	_	-	-	2	-	-	_	_
P.R.	-	1	-	-	96	215	84	256	-	1
V.I. Amer. Samoa	U	U	- U	U	- U	Ū	- U	- U	- U	- U
C.N.M.I.		Ŭ	-	ŭ	-	Ŭ	37	Ŭ	-	ŭ

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*	Legio	nellosis	Lister	riosis	Lyme	Disease	Ma	laria	Mea: To	
Reporting Area	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001
UNITED STATES	1,116	1,033	556	569	16,916	14,585	1,219	1,388	34 [†]	114 [§]
NEW ENGLAND Maine N.H. Vt.	99 4 7 36	71 8 11 5	57 5 4 3	55 2 4 3	5,634 111 240 32	4,301 - 108 17	66 6 7 4	99 4 2 1	- - -	5 - - 1
Mass. R.I. Conn.	32 5 15	21 12 14	31 1 13	30 1 15	1,255 335 3,661	1,148 493 2,535	27 7 15	52 13 27	- - -	3 - 1
MID. ATLANTIC Upstate N.Y. N.Y. City N.J. Pa.	305 99 58 27 121	246 65 43 24 114	157 56 34 31 36	103 27 25 19 32	9,267 4,838 166 1,641 2,622	7,981 3,451 62 2,003 2,465	316 44 202 36 34	415 63 244 64 44	7 1 6 -	20 4 7 1 8
E.N. CENTRAL Ohio Ind. III. Mich. Wis.	256 116 23 - 83 34	292 128 21 24 75 44	77 25 12 12 21 7	85 15 8 24 24 14	104 72 19 - 13 U	714 42 23 31 21 597	128 24 13 30 46 15	167 25 16 68 38 20	3 1 2 - -	10 3 4 3
W.N. CENTRAL Minn. Iowa Mo. N. Dak. S. Dak.	61 17 12 17 1	47 9 8 21 1	17 3 2 8 1	20 3 2 10	442 346 40 40 1	392 317 35 34	56 17 4 15 1	37 6 9 14	3 1 - 2	5 3 - 2
Nebr. Kans.	10	4 1	1 1	1 4	6 7	4 2	5 13	2 6	- -	- -
S. ATLANTIC Del. Md. D.C. Va. W. Va. N.C. S.C.	208 10 46 6 30 N 11	178 12 32 8 27 N 11	78 - 19 - 7 - 6 8	77 2 15 - 13 5 6 5	1,234 172 651 21 149 17 127 20	927 152 571 16 116 13 40 5	352 4 106 20 32 3 22 7	276 2 110 13 48 1 19	2	5 - 3 - 1 - -
Ga. Fla. E.S. CENTRAL	18 78 47	12 63 57	12 26 20	15 16 22	2 75 49	14 69	85 73 19	44 32 36	2 12	1 - 2
Ky. Tenn. Ala. Miss.	21 18 8 -	12 28 13 4	4 11 4 1	7 8 7 -	22 24 3 -	23 30 9 7	7 3 4 5	14 12 6 4	- 12 -	2 - - -
W.S. CENTRAL Ark. La. Okla.	25 - 4 3	27 - 7 3	20 - - 9	33 1 - 2	18 3 4	83 1 8	22 2 4 10	85 3 6 3	1 - - -	1 - - -
Tex. MOUNTAIN Mont.	18 46 3	17 55	11 29 -	30 38	11 19 -	74 13 -	6 47 2	73 61 3	1 2 -	1 2 -
Idaho Wyo. Colo. N. Mex. Ariz.	1 1 7 2 12	3 2 16 3 20	2 - 6 3 14	1 2 10 7 9	4 2 1 1 3	5 1 - 1 2	- 22 3 12	3 1 23 3 15	- - - -	1 - - - 1
Utah Nev. PACIFIC	15 5 69	7 4 60	3 1 101	2 7 136	7 1 149	1 3 105	5 3 213	4 9 212	1 1 4	- - 64
Wash. Oreg. Calif. Alaska Hawaii	7 N 61 -	10 N 44 1	8 9 76 - 8	10 12 108 -	10 16 120 3 N	7 13 83 2 N	23 9 172 2 7	14 17 169 1	- - 3 - 1	15 3 39 - 7
Guam P.R. V.I.	-	2	1	- - -	N -	N -	- -	1 5	-	1
Amer. Samoa C.N.M.I.	U -	U U	U -	U U	U -	U U	U -	U U	Ū -	U U

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

† Of 34 cases reported, 21 were indigenous and 13 were imported from another country.

§ Of 114 cases reported, 60 were indigenous and 54 were imported from another country.

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*	Meningo Dise		Mun	nne	Port	ussis	Rabies, Animal		
Poporting Area	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	
Reporting Area UNITED STATES	1,541	2,160	234	236	7,468	5,473	5,853	6,752	
NEW ENGLAND Maine N.H. Vt. Mass. R.I.	86 8 14 4 41 5	105 6 12 6 56 6	7 - 4 - 2 -	2 2	696 17 43 141 456 13	607 22 27 51 481 6	882 58 48 89 295 72	709 64 21 60 266 69	
Conn.	14	19	1	-	26	20	320	229	
MID. ATLANTIC Upstate N.Y. N.Y. City N.J. Pa.	145 42 22 26 55	243 68 41 43 91	24 6 2 - 16	27 3 12 4 8	467 337 13 4 113	347 136 56 22 133	1,102 668 23 171 240	1,264 760 36 186 282	
E.N. CENTRAL Ohio Ind. III. Mich. Wis.	201 73 32 36 44 16	345 90 41 82 81 51	38 14 2 14 7 1	27 1 3 16 5 2	884 414 139 148 58 125	821 304 80 102 143 192	147 39 31 31 46	158 52 15 24 47 20	
W.N. CENTRAL Minn. Iowa Mo. N. Dak. S. Dak. Nebr.	147 35 24 49 3 2 26	163 25 31 56 6 5	17 4 1 5 1	16 5 1 4 - 1	704 356 136 136 2 6 8	403 179 80 97 5 4	430 34 77 50 33 79	356 46 80 40 37 56 4	
Kans. S. ATLANTIC	8 274	15 329	6 25	5 40	60 386	31 248	157 2,440	93 2,373	
Del. Md. D.C.	7 9	6 41	- 5 -	8	3 59 2	43 1	53 336	30 486	
Va. W. Va. N.C. S.C. Ga. Fla.	41 4 32 28 36 117	38 13 62 32 53 84	4 2 3 4 7	8 5 5 9 5	133 31 43 43 22 50	49 4 72 33 23 23	490 168 687 137 395 174	476 136 550 111 386 198	
E.S. CENTRAL Ky. Tenn. Ala. Miss.	86 14 36 22 14	133 25 57 33 18	13 3 2 3 5	9 3 1 - 5	248 93 113 33 9	188 86 60 37 5	170 27 106 33 4	203 29 106 64 4	
W.S. CENTRAL Ark. La. Okla. Tex.	187 23 37 22 105	315 23 75 31 186	11 - 1 - 10	14 - 2 - 12	1,526 480 7 66 973	706 213 10 28 455	125 8 - 116 1	1,077 9 60 1,008	
MOUNTAIN Mont. Idaho Wyo. Colo. N. Mex. Ariz.	90 2 4 - 23 4 31	93 4 7 5 37 11 14	19 - 1 - 2 1 1	14 1 1 3 2	1,246 9 144 11 413 178 340	1,309 36 170 1 334 136 517	288 19 38 18 59 7 123	253 38 28 28 - 15 128	
Utah Nev.	6 20	8 7	8 6	1 4	104 47	76 39	13 11	15 1	
PACIFIC Wash. Oreg. Calif. Alaska Hawaii	325 62 45 206 4 8	434 63 58 297 3 13	80 N 64 - 16	87 2 N 44 1 40	1,311 425 179 685 5 17	844 163 52 574 14 41	269 - 13 232 24	359 - 4 316 39	
Guam P.R.	- 5	- 6	-	- 1	3	-	- 49	- 93	
V.I. Amer. Samoa C.N.M.I.	U	U	- U -	U	U 1	U U	U -	U U	

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*								
		/lountain d Fever	Ruk	ella		enital pella	Salmor	nellosis
Reporting Area	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001
UNITED STATES	974	577	12	21	2	2	39,234	37,678
NEW ENGLAND	8	3	-	-	-	-	2,066	2,235
Maine	-	-	-	-	-	-	142	163
N.H. Vt.	-	1 -	-	-	-	-	133 73	159 79
Mass.	4	2	-	-	-	-	1,147	1,286
R.I. Conn.	4	-	-	-	-	-	163 408	131 417
MID. ATLANTIC	48	32	1	8	-	-	4,873	4,944
Upstate N.Y.	9	2	i	1	-	-	1,498	1,166
N.Y. City	9	2	-	6	-	-	1,364	1,253
N.J. Pa.	10 20	9 19	-	1 -	-	-	671 1,340	1,135 1,390
E.N. CENTRAL	19	16	1	2	_	1	5,052	4,754
Ohio	13	2	-	-	-	i	1,348	1,303
Ind.	3	1	-	-	-	-	485	490
III. Mich.	3	12 1	- 1	2	-	-	1,532 844	1,326 828
Wis.	-	-	-	-	-	-	843	807
W.N. CENTRAL	99	68	-	3	-	-	2,527	2,169
Minn.	-	-	-	-	-	-	559	587
Iowa Mo.	3 91	2 62	-	1	-	-	498 846	327 600
N. Dak.	-	1	-	-	-	-	43	59
S. Dak.	1	2	-	-	-	-	103	145
Nebr.	4	1	-	-	-	-	150	151
Kans.	-	-	-	1	-	-	328	300
S. ATLANTIC Del.	504 4	291 11	5	5	-	1	10,937 94	8,974 92
Md.	58	39	-	1	-	-	901	768
D.C.	2	1	-	-	-	-	76	80
Va. W. Va.	42 2	28	-	-	-	1	1,173 146	1,258 134
N.C.	285	168	-	-	-	-	1,480	1,305
S.C.	69	31	-	2	-	-	789	850
Ga. Fla.	27 15	9 4	- 5	2	-	-	1,967	1,641
			5	2	-	-	4,311	2,846
E.S. CENTRAL Ky.	110 5	113 2	-	-	1	-	3,116 378	2,610 363
Tenn.	81	77	-	-	1	-	788	630
Ala.	20	18	-	-	-	-	840	725
Miss.	4	16	-	-	-	-	1,110	892
W.S. CENTRAL Ark.	163 97	42 9	1	1	-	-	3,462 1,033	4,869 893
La.	-	2	-	-	-	-	753	805
Okla.	61	31	-	-	-	-	485	462
Tex.	5	-	1	1	-	-	1,191	2,709
MOUNTAIN	14	11	1	-	-	-	2,143	2,082
Mont. Idaho	1	1 1	-	-	-	-	87 147	72 135
Wyo.	5	2	-	-	-	-	103	59
Colo.	2	2	-	-	-	-	584	562
N. Mex. Ariz.	1	1	-	-	-	-	306 539	271 583
Utah	-	3	1	-	- -	- -	197	214
Nev.	5	1	-	-	-	-	180	186
PACIFIC	9	1	3	2	1	-	5,058	5,041
Wash.	-	- 1	-	-	-	-	486	518
Oreg. Calif.	3 6	- -	3	1	-	-	339 3,891	267 3,868
Alaska	-	-	-	-	-	-	76	47
Hawaii	-	-	-	1	1	-	266	341
Guam	-	-	-	-	-	-	-	24
P.R. V.I.	-	-	-	3	-	<u>-</u>	201	872
Amer. Samoa	Ū	Ū	Ū	Ū	Ū	Ū	Ū	Ū
C.N.M.I.	_	Ū	-	Ü	-	Ü	25	Ū

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*	Shio	ellosis		cal Disease, , Group A		us pneumoniae, tant, Invasive	Streptococcus pneumoniae, Invasive (<5 Years)		
Reporting Area	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	
UNITED STATES	18,038	18,527	3,786	3,413	2,179	2,413	270	405	
NEW ENGLAND Maine N.H.	306 12 12	295 6 6	173 20 35	218 12 N	18	122	3 - N	45 N	
Vt. Mass.	1 183	7 202	10 93	16 66	5 N	9 N	2 N	1 N	
R.I. Conn.	17 81	22 52	15	13 111	13	4 109	1	3 41	
MID. ATLANTIC Upstate N.Y. N.Y. City N.J. Pa.	1,328 327 419 349 233	1,430 458 401 263 308	605 272 142 128 63	629 250 161 136 82	111 87 U N 24	158 151 U N 7	73 71 U N 2	106 106 U N	
E.N. CENTRAL Ohio Ind. III. Mich. Wis.	1,727 634 100 649 177 167	4,248 2,854 218 595 289 292	730 202 46 196 285 1	754 192 59 248 204 51	237 77 155 2 3 N	171 3 168 - - N	117 28 63 - N 26	124 - 58 66 N	
W.N. CENTRAL Minn. Iowa Mo. N. Dak. S. Dak.	973 219 120 193 16	1,884 412 357 303 21 626	227 114 - 42 3 13	355 167 - 71 17	422 292 N 5 1	155 70 N 11 6	55 55 N - -	60 51 N - 9	
Nebr. Kans.	179 90	92 73	18 37	39 50	29 94	24 40	N N	N N	
S. ATLANTIC Del. Md. D.C. Va. W. Va. N.C. S.C. Ga. Fla.	6,804 356 1,159 58 927 12 422 120 1,612 2,138	2,902 17 147 54 508 8 331 244 616 977	756 2 136 9 71 19 113 35 161 210	551 4 N 22 75 19 136 12 176	1,145 3 N 54 N 43 N 181 275 589	1,258 6 N 11 N 38 N 262 408 533	8 N N 1 N 7 U N N N	9 N N 4 N 5 U N N N	
E.S. CENTRAL Ky. Tenn. Ala. Miss.	1,426 187 119 789 331	1,645 792 108 203 542	108 18 90 -	111 38 73 -	124 17 107 -	228 26 201 1	N N N	N N N	
W.S. CENTRAL Ark. La. Okla. Tex.	1,733 192 401 561 579	2,811 556 235 97 1,923	113 8 - 43 62	312 - 1 45 266	81 9 72 N N	273 18 255 N N	10 - 4 6	61 - 61 - -	
MOUNTAIN	902 4	920 8	546	401	41	44	4	-	
Mont. Idaho	17	40	11	7	N	N	N	N	
Wyo. Colo. N. Mex. Ariz. Utah Nev.	9 210 216 360 39 47	7 239 117 379 60 70	7 136 102 260 30	12 151 84 144 3	10 - 30 - - 1	9 - 33 - - 2	- - N 4	- - N -	
PACIFIC Wash. Oreg. Calif. Alaska Hawaii	2,839 170 115 2,485 6 63	2,392 203 111 2,014 7 57	528 65 N 370 - 93	82 - N - - 82	- N N	4 - N N - 4	N N N N	N N N N	
Guam P.R.	- 8	49 18	- N	1 N	- -	- - -	- N	- N	
V.I. Amer. Samoa C.N.M.I.	- U 17	U U	Ü	U	- - -	- - -	U -	U U	

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending December 7, 2002, and December 8, 2001 (49th Week)*

(49th Week)*		Syn	hilis				Typhoid		
	Primary &	Secondary		genital	Tubero	culosis		ver	
Reporting Area	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	Cum. 2002	Cum. 2001	
UNITED STATES	5,965	5,696	328	469	11,038	13,140	255	340	
NEW ENGLAND Maine	132 2	64 1	-	8 3	386 20	437 20	14	18 1	
N.H.	8	1	- -	-	17	16	-	2	
Vt. Mass.	1 89	3 39	- -	3	6 221	4 226	8	12	
R.I. Conn.	6 26	9 11	- -	2	35 87	60 111	6	3	
MID. ATLANTIC	652	498	61	71	1,947	2,161	60	109	
Upstate N.Y. N.Y. City	31 409	18 266	11 23	5 32	281 994	338 1,078	9 32	15 47	
N.J. Pa.	138 74	126 88	26	34	439 233	475 270	15 4	38	
E.N. CENTRAL	1,034	995	1 57	- 67	1,106	1,350	18	9 34	
Ohio	161	73	4	2	140	258	6	5	
Ind. III.	68 325	146 375	1 30	13 42	110 582	102 635	2 1	2 18	
Mich. Wis.	456 24	378 23	22	6 4	233 41	281 74	4 5	5 4	
W.N. CENTRAL	101	94	-	9	507	502	9	15	
Minn. Iowa	52 2	32 4	-	2	211 30	214 34	3	6	
Mo. N. Dak.	26	25	-	5	126 4	130 3	2	9	
S. Dak.	-	-	-	-	10	12	-	-	
Nebr. Kans.	3 18	8 25	-	2	23 103	32 77	4 -	-	
S. ATLANTIC	1,594	1,892	76	111	2,250	2,523	45	45	
Del. Md.	11 196	14 251	- 14	4	15 264	15 222	8	1 10	
D.C. Va.	62 63	40 99	1 1	2 5	- 173	51 261	- 7	- 11	
W. Va. N.C.	2 267	4 430	- 19	- 14	28 334	27 356	- 2	3	
S.C.	122	226	11	21	147	188	-	-	
Ga. Fla.	338 533	375 453	10 20	23 42	380 909	452 951	9 19	10 10	
E.S. CENTRAL	437	629	22	33	679	783	4	1	
Ky. Tenn.	86 160	44 313	3 11	1 18	123 265	121 284	4	1	
Ala. Miss.	149 42	135 137	4 4	5 9	190 101	249 129	-	-	
W.S. CENTRAL	806	722	67	79	1,474	1,945	5	18	
Ark. La.	32 146	44 170	2	9	118	147 114	-	-	
Okla. Tex.	67 561	57 451	3 62	6 64	135 1,221	139 1,545	2 3	- 18	
MOUNTAIN	290	218	15	33	345	527	9	8	
Mont. Idaho	- 9	- 1	-	-	6 9	14 7	-	1	
Wyo.	-	1	-	-	3	3	-	-	
Colo. N. Mex.	46 31	21 16	1 -	1 2	55 22	121 53	4 1	-	
Ariz. Utah	182 8	162 10	14	30	205 31	215 33	2	1 1	
Nev.	14	7	-	-	14	81	2	4	
PACIFIC Wash.	919 58	584 49	30 2	58	2,344 215	2,912 223	91 6	92 6	
Oreg.	23	13	1	-	103	110	2	8	
Calif. Alaska	830	510 -	26 -	58 -	1,846 45	2,391 48	78 -	74 1	
Hawaii	8	12	1	-	135	140	5	3	
Guam P.R.	- 227	11 251	- 15	1 13	- 75	61 95	-	3 -	
V.I. Amer. Samoa	1 U	- U	- U	- U	- U	- U	- U	- U	
C.N.M.I.	15	· No reported a		Ŭ	32	Ŭ	-	ŭ	

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

* Incidence data for reporting year 2001 and 2002 are provisional and cumulative (year-to-date).

TABLE III. Deaths in 122 U.S. cities,* week ending December 7, 2002 (49th Week)

TABLE III. Deaths in 122 U.S. cities,* week ending December 7, 2002 (49th Week) All Causes, By Age (Years) All Causes, By Age (Years)															
-		All C	Jauses, E	Sy Age (Y	ears)					All	Causes, I	By Age (1	rears)	_	
Reporting Area	All Ages	≥65	45-64	25-44	1-24	<1	P&I [†] Total	Reporting Area	All Ages	<u>≥</u> 65	45-64	25-44	1-24	<1	P&I [†] Total
NEW ENGLAND	589	423	109	37	12	8	50	S. ATLANTIC	1,047	668	234	101	23	20	71
Boston, Mass. Bridgeport, Conn.	145 46	92 32	37 11	10 1	4	2	17 2	Atlanta, Ga. Baltimore, Md.	U 186	U 102	U 56	U 18	U 4	U 5	U 20
Cambridge, Mass.	25	21	4	-	-	-	1	Charlotte, N.C.	84	53	15	10	4	2	8
Fall River, Mass.	38	30	6	1	1	-	5	Jacksonville, Fla.	166	114	34	16	-	2	9
Hartford, Conn.	69	42	14	7	5	1	7	Miami, Fla.	103	67	18	13	2	3	10
Lowell, Mass.	18	14	4	-	-	-	1	Norfolk, Va.	U	U	U	U	U	U	U
Lynn, Mass.	12	9	1	1	1	-	-	Richmond, Va.	66	35	14	9	6	2	2
New Bedford, Mass. New Haven, Conn.	33 39	27 28	3 7	3 4	-	-	3 1	Savannah, Ga. St. Petersburg, Fla.	59 70	37 53	19 11	3 2	1	3	3 5
Providence, R.I.	31	20	4	6	1		-	Tampa, Fla.	196	146	33	12	2	3	11
Somerville, Mass.	8	5	3	-	-	-	-	Washington, D.C.	99	47	31	17	4	-	1
Springfield, Mass.	40	29	9	-	-	2	6	Wilmington, Del.	18	14	3	1	-	-	2
Waterbury, Conn.	29	27	2	-	-	-	-	E.S. CENTRAL	907	597	207	70	23	9	67
Worcester, Mass.	56	47	4	4	-	1	7	Birmingham, Ala.	159	100	35	16	5	2	10
MID. ATLANTIC	2,430	1,690	477	170	43	50	131	Chattanooga, Tenn.	73	45	17	9	2	-	3
Albany, N.Y.	51	33	10	3	2	3	4	Knoxville, Tenn.	112	76	25	8	2	1	7
Allentown, Pa. Buffalo, N.Y.	21 102	20 76	1 21	3	1	1	2 12	Lexington, Ky. Memphis, Tenn.	58 185	36 124	15 43	4 12	2 4	1 2	6 19
Camden, N.J.	28	16	5	5	1	1	1	Mobile, Ala.	76	52	18	3	1	2	4
Elizabeth, N.J.	Ü	Ü	Ŭ	Ŭ	Ü	Ü	Ú	Montgomery, Ala.	60	50	7	1	2	-	6
Erie, Pa.	54	41	10	1	1	1	2	Nashville, Tenn.	184	114	47	17	5	1	12
Jersey City, N.J.	48	34	6	7		. 1		W.S. CENTRAL	1,373	933	267	100	45	28	86
New York City, N.Y.	1,224	851	243	96	15	19	52	Austin, Tex.	90	64	16	7	2	1	3
Newark, N.J. Paterson, N.J.	59 25	30 18	14 6	10 1	3	2	6 5	Baton Rouge, La.	25	13	7	3	2	-	-
Philadelphia, Pa.	406	263	94	27	10	12	16	Corpus Christi, Tex.	77	51	18	2	4	2	4
Pittsburgh, Pa.§	27	18	5	3	1	-	3	Dallas, Tex.	243	150 56	56 7	22 6	13	2	18
Reading, Pa.	24	19	3	1	-	1	1	El Paso, Tex. Ft. Worth, Tex.	71 140	91	27	8	2 6	8	7
Rochester, N.Y.	156	121	17	9	6	3	10	Houston, Tex.	255	172	47	24	4	8	19
Schenectady, N.Y. Scranton, Pa.	24 24	22 18	1 5	1 1	-	-	3 -	Little Rock, Ark.	76	53	9	9	2	3	3
Syracuse, N.Y.	90	65	22	1	1	1	8	New Orleans, La.	35	18	11	4	2	-	-
Trenton, N.J.	37	22	8	1	1	5	3	San Antonio, Tex.	177	128	36	9	2	2	12
Utica, N.Y.	14	9	4	-	1	-	-	Shreveport, La. Tulsa, Okla.	43 141	34 103	6 27	6	1 5	2	6 14
Yonkers, N.Y.	16	14	2	-	-	-	3	MOUNTAIN	1,003	703	195	50	28	26	79
E.N. CENTRAL Akron, Ohio	2,337 63	1,625 46	472 12	156 3	38 1	46 1	157 12	Albuquerque, N.M.	126	90	25	6	5	-	14
Canton, Ohio	49	38	9	2	-	-	4	Boise, Idaho	52	39	9	1	1	2	5
Chicago, III.	365	247	74	26	7	11	29	Colo. Springs, Colo.	94	66	15	10	-	3	5
Cincinnati, Ohio	101	72	21	7	-	1	12	Denver, Colo. Las Vegas, Nev.	102 243	61 161	28 58	1 17	3 5	9 1	9 13
Cleveland, Ohio	117	76	27	8	3	3	7	Ogden, Utah	34	27	6	1	-	-	4
Columbus, Ohio	232	155	50	14	7	6	1	Phoenix, Ariz.	U	U	Ü	Ü	U	U	Ü
Dayton, Ohio Detroit. Mich.	166 251	126 135	28 73	11 28	1 8	7	11 18	Pueblo, Colo.	34	26	5	1	1	1	3
Evansville, Ind.	32	28	3	1	-	-	2	Salt Lake City, Utah	147	100	24	7	9	7	15
Fort Wayne, Ind.	70	52	11	4	3	-	2	Tucson, Ariz.	171	133	25	6	4	3	11
Gary, Ind.	24	15	8	1	-	-	1	PACIFIC	1,662	1,149	336	100	46	29	159
Grand Rapids, Mich.	78	64	7	3	-	4	5	Berkeley, Calif.	30	20	6	3	-	1	1
Indianapolis, Ind. Lansing, Mich.	206 39	132 28	51 8	13 3	5	5	15 3	Fresno, Calif. Glendale, Calif.	148 10	106 6	27 3	6	5 1	4	12 1
Milwaukee, Wis.	162	117	28	14	-	3	10	Honolulu, Hawaii	83	62	15	3	1	2	5
Peoria, III.	48	39	4	3	-	2	4	Long Beach, Calif.	67	46	13	6	2	-	7
Rockford, III.	74	52	17	4	-	1	3	Los Angeles, Calif.	215	128	60	16	8	3	16
South Bend, Ind.	70	53	12	4	1		4	Pasadena, Calif.	27	18	9	-	-	-	3
Toledo, Ohio	102 88	84 66	10 19	5 2	2	1	10 4	Portland, Oreg. Sacramento, Calif.	109 155	90 114	17 26	2 8	2	- 4	11 24
Youngstown, Ohio								San Diego, Calif.	219	144	49	14	10	1	19
W.N. CENTRAL	584	408	105	34	20	17	45	San Francisco, Calif.	Ü	Ü	Ü	Ü	Ü	ΰ	Ü
Des Moines, Iowa Duluth, Minn.	84 32	64 23	15 8	4	1 1	-	11 5	San Jose, Calif.	199	143	31	16	4	5	31
Kansas City, Kans.	32 36	23 22	9	3	2	-	5 4	Santa Cruz, Calif.	36	25	8	2	-	1	3
Kansas City, Mo.	80	57	13	3	3	4	2	Seattle, Wash.	150	95	31	15	6	3	6
Lincoln, Nebr.	42	30	10	2	-	-	2	Spokane, Wash. Tacoma, Wash.	83 131	62 90	14 27	4 5	2 5	1 4	11 9
Minneapolis, Minn.	68	45	12	2	4	5	6	· ·							
Omaha, Nebr.	76	49	11	11	2	3	8	TOTAL	11,932 [¶]	8,196	2,402	818	278	233	845
St. Louis, Mo. St. Paul, Minn.	U 59	U 45	U 6	U 3	U 2	U 3	U 2								
Wichita, Kans.	107	73	21	6	5	2	5								
,															

U: Unavailable. -: No reported cases.

Or Orlavaliable.
 1.No reported class.
 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.

(Continued from page 1116)

Erratum: Vol. 51, No. 48

In the article, "State-Specific Trends in U.S. Live Births to Women Born Outside the 50 States and the District of Columbia — United States, 1990 and 2000," Table 1 on page 1093 was labeled incorrectly. The title of the table should read, "TABLE 1. Number and percentages of births to women who were born outside the 50 states and the District of Columbia, by area of maternal residence and race/ethnicity — United States*, 1990 and 2000."

Erratum: Vol. 51, No. 48

In the report, "Influenza Activity — United States, 2001–02 Season," two errors occurred on page 1095. In the title, the years for the influenza season should be *2002–03*, and in the * footnote, the reference should be *1*.

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

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