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Rapidly Growing Mycobacterial Infection Following Liposuction and Liposculpture — Caracas, Venezuela, 1996–1998

During October 1996–March 1998, nine patients in eight hospitals in Caracas, Venezuela, acquired surgical-site infections (SSI) caused by rapidly growing mycobacteria (RGM). All episodes of RGM infection occurred within 2 months after liposuction or liposculpture (aesthetic surgical procedures). This report describes the findings of an epidemiologic investigation of this cluster by the Venezuelan Ministry of Health and underscores the importance of sterilizing surgical equipment to prevent nosocomial infections.

A confirmed case was defined as RGM in a patient who underwent liposuction or liposculpture during October 1996–March 1998 (study period) in a surgical facility in Caracas, in whom local signs of SSI were present and for whom cultures of surgical site drainage grew RGM. A probable case was defined as RGM in a patient who underwent liposuction or liposculpture in a surgical facility in Caracas during the study period, who had local signs of infection at the surgical site, and for whom microscopic examination of stained smears of surgical site drainage were positive for acid-fast bacilli.

Seven confirmed and two probable cases from eight hospitals were identified. All case-patients were previously healthy women aged 28–49 years (median: 37.5 years). Eight surgeons and surgical teams performed the cosmetic surgery on the women. All nine case-patients underwent general anesthesia during their surgical procedure; procedures consisted of abdominal liposuction (seven patients), anterior and posterior thigh liposuction (three), or bilateral nasolabial fold liposculpture (two). The median time from surgical procedure to onset of infection was 15 days (range: 4–45 days). Clinical findings included fever, local inflammation, microabscesses, purulent drainage from the wound, or fistulae.

Seven case-patients had culture-confirmed RGM; species identified were *Mycobacterium chelonae* (four patients), *M. fortuitum* (two), and *M. abscessus* (one). Molecular typing of RGM isolates were not performed.

All hospitals cleaned surgical instruments (i.e., liposuction and liposculpture cannulae) with tap water and soap followed by low-level disinfection with a commercial quaternary ammonium solution. Environmental cultures, including cultures of tap water, at two surgical units did not yield bacteria or mycobacteria. The epidemiologic

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investigation did not reveal risk factors such as exposure to certain persons, cleaning solutions, medical supplies, or contaminated quaternary ammonium compounds.

Following the outbreak in Caracas, two of the affected surgical facilities modified their reprocessing procedures for surgical instruments (including suction cannulae) used in cosmetic surgical procedures by replacing quaternary ammonium compounds used for low-level disinfection with either high-level disinfection using 2% gluteraldehyde or ethylene oxide gas sterilization. No further cases of RGM infections complicating cosmetic surgical procedures in Caracas have been reported.

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Editorial Note: This is the first official report to CDC of SSI caused by RGM following liposuction or liposculpture. Both surgical procedures involve small surgical wounds with limited environmental exposure; both require using cannulae for tissue suction. The underlying mechanism for the cluster of SSI described in this report was not determined. However, potential causes included contaminated tap water used in cleaning cannulae during liposuction or liposculpture or contamination of the quaternary ammonium solution used to disinfect these instruments.

Nosocomial infections associated with contaminated quaternary ammonium compounds that were used to disinfect patient-care supplies or equipment (e.g., cystoscopes, cardiac catheters, or surgical instruments) have been reported; none of these infections were caused by RGM. Quaternary ammonium compounds are used widely as low-level disinfectants (*1*). Surgical instruments used in liposuction and liposculpture procedures are critical items (i.e., intended to enter a normally sterile environment, sterile tissue, or the vasculature) according to the Spaulding Classification (*2*). Critical items should be sterilized between patient procedures.

Based on the risk for contamination of postsurgical wounds, aesthetic surgical procedures such as liposuction or liposculpture are considered clean wounds according to the classification system developed by the National Research Council (*3*). National Nosocomial Infections Surveillance (NNIS) system data indicate that among 5652 integumental surgical procedures (including aesthetic surgical procedures with risk index=0) performed during 1986–1996 in the United States, only 1.4% were complicated by SSI.

SSI caused by RGM following aesthetic surgical procedures is rare. Reports include infection following augmentation mammoplasty procedures (*4,5*) and an outbreak of infection following either face-lift or augmentation mammoplasty procedures that implicated using contaminated gentian violet skin-marking solution as the source of infection (*6*).

The Venezuelan Ministry of Health operates a national program for surveillance of antimicrobial resistance, and some of the large university hospitals occasionally provide rates of specific hospital-acquired infections. However, no active surveillance programs exist for SSI or systematic monitoring of tap water for microorganisms in health-care settings.

To prevent SSI in health-care settings, all surgical instruments used in liposuction or liposculpture procedures should be cleaned carefully after the procedure and sterilized in accordance with a validated reprocessing protocol provided by the medical

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device manufacturer. The exclusive use of low- or intermediate-level disinfectants to reprocess surgical instruments between patient procedures is inconsistent with the Food and Drug Administration guidance and recommended standards of practice (*1,2*).

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Impact of Closure of a Sexually Transmitted Disease Clinic on Public Health Surveillance of Sexually Transmitted Diseases — Washington, D.C., 1995

In April 1995, a public sexually transmitted disease (STD) clinic in the northwest (NW) ward of the District of Columbia closed, leaving one public STD clinic in the southeast (SE) ward to provide public STD services for the entire city. This report summarizes an investigation by CDC following a request from the District of Columbia Department of Health's STD program to evaluate the impact of the NW STD clinic closure on STD case reports. The findings of this investigation indicate that the clinic closure resulted in a marked decrease in reported syphilis in the NW ward, and suggest that NW ward residents with syphilis and their partners may not have received proper diagnostic testing, therapy, and counseling.

To determine the number and characteristics of patients seen at the STD clinics, the health department's STD clinic reports from May 1, 1994, to April 30, 1996 (the 12 months before and the 12 months after the clinic closed) were reviewed. To assess ward- and clinic-specific trends in case reporting, syphilis and gonorrhea case reports in the health department's STD surveillance database were analyzed. For this analysis, data for the year before and the year after the clinic closed were available for primary and secondary (P&S) syphilis cases, and data for 4 months before and 4 months after the clinic closed were available for gonorrhea cases.

Compared with the 12-month period before the NW STD clinic closed, during the 12-month period after the clinic closed the overall number of patient visits at the health department's STD clinics decreased 37%, from 20,155 to 12,759. The reported cases of P&S syphilis decreased 23%, from 143 cases before the clinic closure to 110 cases after the closure. Among those residing in the NW ward, the number of

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reported cases of P&S syphilis decreased 57%, from 44 cases to 19 cases. However, reported cases among persons residing in the SE ward increased 10% during the same period, from 52 cases to 57 cases. The number of reported cases among women residing in the NW ward did not change, whereas reported cases among women residing in the SE ward increased by 41%, from 22 to 31 (Figure 1). However, among men residing in the NW ward, the number of reported cases decreased 78% (from 32 to seven), and reported cases from men residing in the SE ward decreased 13% (from 30 to 26).

Cases of reported gonorrhea in the District of Columbia decreased 26%, from 6935 cases before the clinic closure to 5166 cases after the closure. The decline in reported gonorrhea cases was seen in all wards.

The numbers of P&S syphilis cases reported for NW residents at the SE STD clinic did not change substantially following the NW STD clinic closure. However, the number of gonorrhea cases reported among NW residents increased at the SE STD clinic from 22 cases to 153 cases.

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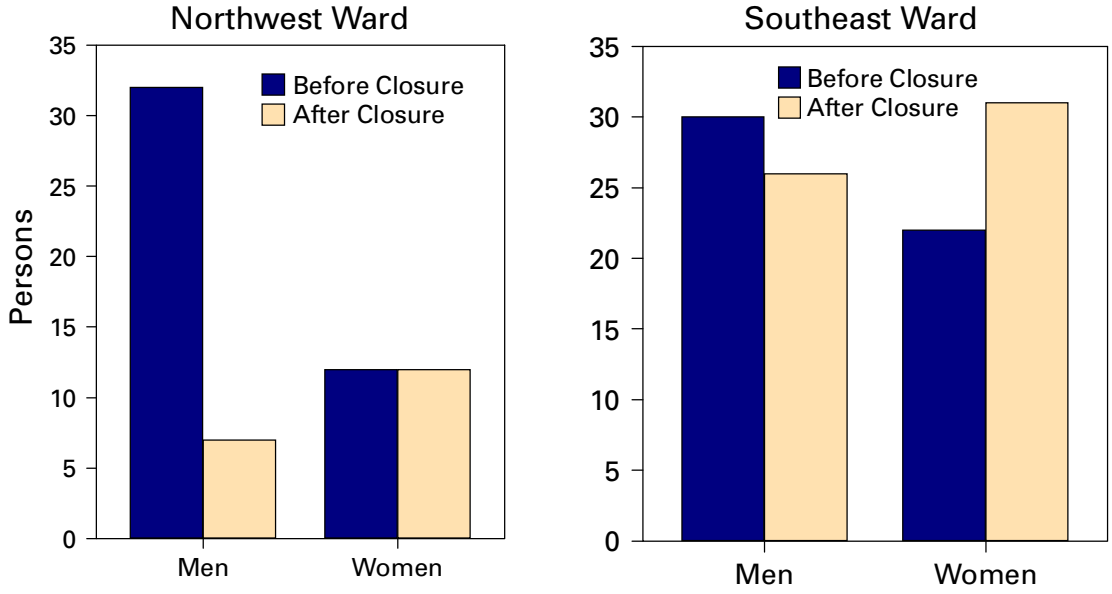
Editorial Note: Although in the United States syphilis has declined to historically low levels (*1*), it remains a problem in the District of Columbia. In 1996, the city's syphilis rate was 13th highest for U.S. cities of >200,000 population (*2*). Data from this investigation suggest that closing the NW STD clinic resulted in unreported syphilis cases. Reporting of syphilis cases is essential if health departments are to ensure that patients and their sex partners are treated and counseled properly, that trends in disease are monitored effectively, and that outbreaks are identified and addressed promptly.

FIGURE 1. Number of persons with reported primary and secondary syphilis, by sex and ward of residence before and after closure of the northwest sexually transmitted disease clinic — Washington, D.C., May 1994–April 1996*



*The 12 months before and the 12 months after closure of the northwest clinic.

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The substantial increase in syphilis among women residing in the SE ward following the clinic closure suggests that a simultaneous increase in the NW ward might not have been detected. Cases in the NW ward may have been missed because of limited access to STD care after the NW STD clinic closure. The number of cases reported among women residing in the NW ward did not decrease as it did for men, possibly because a higher proportion of women than men are tested for syphilis in health-care settings other than STD clinics (e.g., family planning and antenatal care).

The elimination of STD care can result in substantial decreases in STD clinic visits, laboratory testing, and chlamydia and gonorrhea case reports (*3*). In the District of Columbia, gonorrhea case reports declined, but decreases in all wards were similar. Differences between the specific behaviors of syphilis patients and gonorrhea patients may help to explain the differential impact on reporting. Syphilis patients are more likely than gonorrhea patients to have a greater number of unnamed sex partners and to engage in illicit-drug use and exchange of sex for drugs or money (*4*). Syphilis patients and their partners may have particular difficulty accessing the health-care system. The signs and symptoms of early syphilis in men often are transient and painless compared with the often persistent urethral discharge and dysuria of gonorrhea; thus, persons with syphilis may not seek health care as readily as persons with gonorrhea. The loss of a public STD clinic may have had a greater impact on the likelihood of identifying, locating, and treating syphilis patients than gonorrhea patients.

The findings in this report are subject to at least two limitations. First, patients who would have been served by the NW STD clinic may have sought STD services from other health-care facilities; however, if such cases were not reported to the health department their sex partners probably did not receive adequate follow-up. Second, although the clinic closure appears to be the most likely explanation for the sharp decline in reporting of syphilis cases among NW residents, other unmeasured factors might have affected the syphilis and gonorrhea rates in the NW ward and elsewhere in the city.

When considering closing any public facility providing health-care services, health departments should evaluate the potential impact on populations with high rates of disease. Specifically, they should assess the extent to which these patients can access the remaining health-care facilities and the capacity of these facilities to handle an increase in patient volume. In settings such as the District of Columbia, measures to increase syphilis case finding should be implemented by expanding routine syphilis serologic screening, strengthening partner notification activities, and improving patient education.

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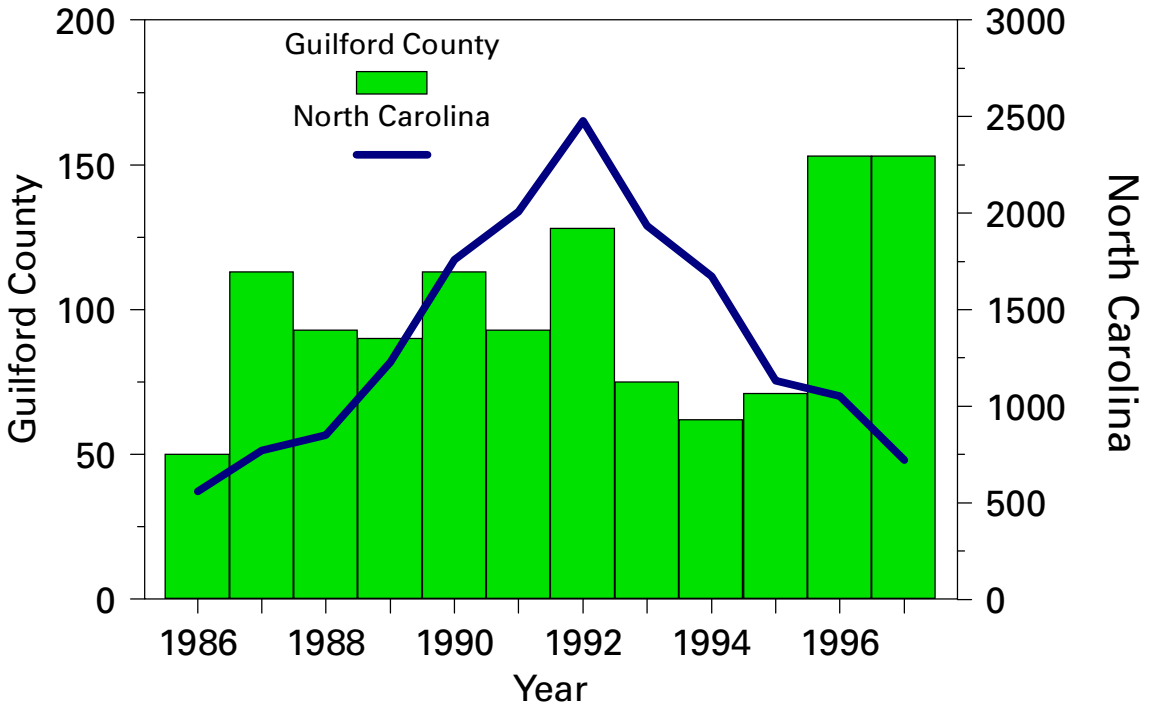
Outbreak of Primary and Secondary Syphilis — Guilford County, North Carolina, 1996–1997

In 1996 and 1997, 153 cases of primary and secondary (P&S) syphilis were reported each year in Guilford County, North Carolina, a 147% increase from the 62 cases reported in 1994 (Figure 1). The incidence of P&S syphilis in Guilford County during 1996–1997 was 40.5 cases per 100,000 persons, substantially higher than the national health objective for 2000 of four cases per 100,000 (objective 19.3) (*1*). In comparison, the number of P&S syphilis cases in North Carolina declined 57% from 1994 to 1997 (Figure 1), to a rate of 10.9 per 100,000 in 1997. This report summarizes the results of an investigation conducted by the Guilford County Health Department (GCHD), the North Carolina Division of Epidemiology, and CDC, which suggest this ongoing outbreak has been associated with missed opportunities for syphilis screening and treatment in high-risk settings, increased exchange of sex for money or drugs, and substantial rates of coinfection with syphilis and human immunodeficiency virus (HIV) among those tested.

To assess factors associated with the epidemic, interviews were conducted with P&S syphilis patients, state and local health department staff members, clinicians, and community residents. Demographic data for all residents of Guilford County with reported cases of syphilis from January 1993 (when the present data registry system was initiated) through August 1997 were analyzed to assess trends in factors that might influence syphilis rates (e.g., access to medical care and adequacy of screening and treatment). Also reviewed were the contact index (the number of sex partners for whom information was sufficient to initiate efforts to locate the person divided by the

FIGURE 1. Number of cases of primary and secondary syphilis, by year of report — Guilford County and North Carolina, 1986–1997



Outbreak of Primary and Secondary Syphilis — Continued

number of persons with syphilis interviewed) and the treatment index (the number of persons treated as a result of partner notification divided by the number of persons interviewed). The roles of illicit-drug use and sex worker activity during the epidemic were assessed. HIV screening and prevalence data were used to assess the extent of HIV coinfection among P&S syphilis patients. Syphilis registry data were used to compare risk factors among P&S syphilis patients reported during the pre-epidemic period (January 1993–December 1995) with P&S syphilis patients reported during the epidemic period (January 1996–August 1997). Screening and prevalence data from the local jails were reviewed (*2–6*).

Seventy-three percent of Guilford County residents reside in two major cities: Greensboro (1990 population: 192,000) and High Point (1990 population: 74,000). Most (96%) reported P&S syphilis patients in Guilford County reside in these two cities. Of patients in Guilford County who had infectious syphilis from January 1996 through August 1997, 55% were men. The mean age of men with P&S syphilis was 34.5 years in 1993 and 37.2 years during January–August 1997 (p=0.2). The mean age of women with P&S syphilis increased significantly from 1993 (27.8 years) through August 1997 (33.3 years) (p=0.01).

Patients during the epidemic period were more likely to have used illicit drugs at some time since 1978 (odds ratio [OR]=1.9; 95% confidence interval [CI]=1.1–3.3) and to have exchanged sex for drugs or money during the preceding year (OR=2.1; 95% CI=1.4–3.3) and were less likely to have been tested for HIV (18.6%) than patients before the epidemic period (27.8%; OR=0.6; 95% CI=0.4–0.9). Of P&S syphilis patients tested for HIV infection before and during the epidemic, 16% and 13%, respectively, were HIV infected. On the basis of local police records, prostitution arrests did not increase during 1993–1996, but crack cocaine-related arrests increased 69%.

Public sexually transmitted diseases clinical care appeared to meet the needs of persons seeking care during the epidemic in Greensboro. The contact index was 2.0 in 1993 and 1.7 in 1996, indicating fewer sex partners named per patient interviewed in 1996. However, the treatment index was 0.9 in 1993 and 1.0 in 1996, indicating more patients and contacts were treated for syphilis or preventively treated in 1996.

At the Guilford County jail, full health assessments were offered after 10–14 days of detainment. However, because of a rapid turnover and a high refusal rate, most detainees were not screened. In 1996, 9.6% of those detained in the jail system were screened for syphilis and <1% were screened for HIV infection; 7.5% of syphilis tests and 3.3% of HIV tests were positive. During January–August 1997, 8.0% of detained inmates had a history, physical examination, and syphilis serology, of whom 13.3% had reactive syphilis serologic tests.

To control the increase in syphilis cases in Guilford County, the North Carolina HIV/STD Prevention and Care Section and GCHD, in collaboration with local community organizations, conducted a community intervention effort from July through September 1997. This intervention combined sex partner notification strategies, community outreach, and extended local clinical services to find and treat more patients with P&S syphilis and to educate the community about syphilis. Other prevention measures included alerting the local medical community; obtaining help from community-based organizations in identifying locations where at-risk persons are commonly found and increasing education, outreach, and screening at these locations; and increasing screening and treatment for syphilis at local settings where per-

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sons at high risk may have been encountered (e.g., jails). Based on reported cases of P&S syphilis in Guilford County through August 1998, P&S syphilis is expected to decrease 38% in 1998 compared with 1997.

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Editorial Note: This investigation identified epidemiologic factors frequently associated with syphilis outbreaks in other urban areas of the United States: increased illicit-drug use and exchange of money or drugs for sex. This investigation also identified missed opportunities for rapid syphilis screening and treatment at the local jails. Previous studies have identified emergency departments (EDs) and jails as sites of high syphilis prevalence during epidemics (*2–6*). Many arrested persons lack medical insurance or have used hospital EDs at their last medical visit (*2*). Therefore, jails and EDs are potentially high-impact settings for rapid screening and treatment of patients at high risk for syphilis in areas with endemic or epidemic syphilis (*2–6*).

Increased cocaine arrests corroborated community perceptions of increased crack cocaine use in Guilford County before the onset of the P&S syphilis epidemic. Also, data on P&S syphilis patients during 1996–1997 document increased exchange of sex for drugs or money and an increase in injecting or other drug use, compared with patients during 1993–1995. The link between crack cocaine and injecting-drug use and high-risk sex behaviors has been reported previously (*7*).

The sequelae of syphilis are substantial, including facilitation of HIV transmission, congenital syphilis, and advanced syphilis lesions affecting the cardiovascular and central nervous systems. The high frequency of HIV infection among persons tested who also have P&S syphilis underscores the need to make HIV counseling, testing, and prevention a priority for patients with syphilis.

Syphilis elimination is a feasible goal in the United States as syphilis rates continue to decline nationally, but outbreaks of P&S syphilis and persisting endemic foci are major obstacles (*8*). Outbreaks, such as the one in Guilford County, emphasize the prevention strategies and activities needed to maintain national and local progress toward elimination of syphilis, including innovative public health responses tailored to meet the challenge of shifting community patterns of high-risk behaviors and associated new outbreaks of communicable diseases. In addition, findings from this outbreak suggest that strengthening and maintaining screening in jails may be a useful component of syphilis surveillance and early outbreak detection, even in areas with little or no recognized syphilis transmission.

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Fatal *Cercopithecine herpesvirus* 1 (B Virus) Infection Following a Mucocutaneous Exposure and Interim Recommendations for Worker Protection

On December 10, 1997, a 22-year-old female worker at a primate center died from *Cercopithecine herpesvirus* 1 (B virus) infection 42 days after biologic material (possibly fecal) from a rhesus macaque (*Macaca mulatta*) splashed into her right eye. This report summarizes the clinical features of her illness and the subsequent investigation by CDC in response to a technical assistance request from the Occupational Safety and Health Administration (OSHA) and presents interim recommendations to prevent ocular splash exposures. This investigation documented the hazard of ocular splashes and indicated that dendritic corneal lesions, such as herpetic skin vesicles, are not always present in B virus infection (*1*).

The exposure occurred on October 29, 1997, while the worker moved the animal within cages during a routine capture of free-ranging monkeys. She was not wearing protective eyewear because the activities in which she was engaged involved caged macaques, and the activities were judged by the primate center to carry a low risk for exposure to B virus. Following the exposure, the worker wiped her eye with a paper towel and, approximately 45 minutes later, irrigated the eye for 2–3 minutes with tap water but did not file an incident report. The monkey involved was not identified.

On November 8, the worker's eye was red and swollen. At the emergency department (ED) of a medical center affiliated with the same university as the primate center, she informed the physician that she worked with nonhuman primates and may have been exposed to B virus. Dendritic corneal lesions typical of ocular herpes infections were not observed by Wood's lamp examination. The ED physician consulted the B virus protocol in place in the ED and then consulted an infectious diseases specialist by telephone. On the basis of the reported circumstances of the contact and the absence of previous recognized transmission of B virus following mucocutaneous exposure, the infectious diseases specialist concluded that B virus infection was unlikely but recommended follow-up with the infectious diseases clinic within the next few days. The ED physician prescribed sulfonamide eye drops.

An appointment at the infectious diseases clinic was not available immediately. On November 11, the worker called her primary-care physician for a referral because her eye symptoms were worsening. The physician referred her to an ophthalmologist, who elicited history of a recent cat scratch and prescribed doxycycline for suspected Parinaud's oculoglandular syndrome secondary to cat-scratch fever. Routine eye cultures were obtained. Confirmatory serologic testing for *Bartonella* species, also ordered during the visit, subsequently was negative.

Fatal Cercopithecine herpesvirus *Infection — Continued*

On November 13, the worker sought care from another ophthalmologist because of increased right retro-orbital pain and onset of photophobia, anorexia, nausea, and abdominal pain. After reconsultation with the infectious diseases specialist, the worker was immediately hospitalized for suspected B virus infection. The worker's temperature, normal on admission, reached 101.4 F (38.6 C) during the first day of hospitalization. Physical examination identified a swollen right orbit with conjunctivitis and one small tender right preauricular lymph node. Laboratory examination of urine found trace proteinuria. Cerebrospinal fluid (CSF) analysis identified 8 white blood cells per milliliter (83% lymphocytes [normal: 0–10 cells, 100% mononuclear]). Serum for Western blot testing and CSF specimens and eye swabs for B virus culture were sent to the B Virus Research and Resource Laboratory. All previously collected eye cultures were retrieved from commercial laboratories to minimize biosafety hazards to laboratory workers.

Acyclovir therapy (15 mg/kg intravenously every 8 hours) was started within 2 hours of hospital admission. On November 14, therapy was changed to ganciclovir (5 mg/kg every 12 hours) when a vesicular eruption was noted in the distribution of the first and second branches of the right trigeminal nerve. Magnetic resonance imaging (MRI) of the head was normal. The vesicles resolved over the following week. A sharp mid-cervical/high thoracic back discomfort occurred on November 19 but subsided over an 8-hour period. All symptoms resolved, and on November 24 the worker was discharged on outpatient intravenous (IV) ganciclovir therapy.

Despite uninterrupted ganciclovir therapy, on November 25 the worker woke with right foot weakness, inability to urinate, and lower abdominal pain, followed by a rapidly progressive ascending myelitis. The hospital readmission examination found profound right leg weakness, moderate left leg weakness, decreased hand grip strength bilaterally, and urinary retention. MRI revealed abnormalities extending from the cervical spinal cord to the upper thoracic cord. The worker was intubated electively within 13 hours and developed flaccid paralysis from C2 caudad.

The diagnosis of postviral acute demyelinating encephalomyelitis was considered by neurology consultants, and a short course of plasmapheresis and steroids was administered. On November 30 seizure activity (involuntary facial and eye movements) developed, and foscarnet, usually not recommended for B virus infection because of its toxicity, was added to ongoing ganciclovir therapy. During December 1–9, the worker developed nosocomial pneumonia with bacteremia, followed by adult respiratory distress syndrome. Repeat MRI revealed abnormalities extending from midbrain through the thoracic spinal cord. On December 10, the worker died from refractory respiratory failure.

Eye and CSF cultures obtained in the hospital on November 13 and November 14 were negative for B virus when tested at the B Virus Research and Resource Laboratory. Serum collected November 13 and November 21 and tested for reactivity to B virus by Western blot showed indeterminate and positive reactivity, respectively, confirming B virus infection.

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Fatal Cercopithecine herpesvirus *Infection — Continued*

Editorial Note: *C. herpesvirus* 1 (B virus) causes persistent latent infections in ≥70% of captive adult macaques (*2*) but not other primates. During intermittent reactivations, the macaque may shed B virus from the buccal mucosa, urogenital tract, and in conjunctival fluid (*2*). Reactivations may be asymptomatic or accompanied by clustered vesicles on an erythematous base.

This is the first report of a worker developing a recognized B virus infection following mucocutaneous exposure without injury. Previously reported human infections usually have been attributed to macaque bites or scratches, injuries from needles used near a macaque's mucous membranes or central nervous system, or contact with infective biologic materials from macaques (*3–5*). One human-to-human transmission has been identified (*6*). The incubation period in humans has been as short as 2 days but more frequently is 2–5 weeks. Previously reported patients infected with B virus who were treated aggressively with either IV acyclovir or ganciclovir after onset of symptoms but before respiratory arrest or coma have survived (*3*). The death of this patient despite aggressive antiviral therapy may have resulted from factors related to the route of virus inoculation, the virulence of the virus infecting the patient, the patient's immune response, or timing of initiation of treatment following the exposure.

Interim Recommendations to Prevent Ocular Splash Exposures

Preventing worker exposure to biohazardous material is the best protection against infection. Reviews of injuries and biohazard exposures among workers exposed to nonhuman primates suggest that mucocutaneous contact with nonhuman primate body fluids is common; 16 (94%) of 17 contacts with primate body fluids in one survey involved ocular exposure (*6,7*). Each institution working with macaques should develop a written comprehensive personal protective equipment (PPE) program based on thorough hazard assessments of all work procedures, potential routes of exposure (e.g., bites, scratches, or mucosal exposures) and potential adverse health outcomes. This plan should clearly identify the PPE required for each task or working area and address training, inspection, maintenance, and periodic assessment of program effectiveness.

Previous recommendations for preventing B virus infections in humans advise presuming that all macaques are infected with B virus and protecting workers with a faceshield (or surgical mask and goggles or glasses) when handling uncaged active macaques (*3,8*). The incident described in this report indicates that proper eye protection also should be mandatory during activities such as entering areas containing macaques, conducting captures, and transporting caged macaques. Other activities where eye protection is necessary should be determined by the hazard assessment. All personnel who work in situations determined to be hazardous should wear eyewear conforming to established standards for eye and splash protection (*9*). Personal eyeglasses are not PPE.

Protective goggles designed for splash protection (available with antifog lenses for humid environments and in models that preserve peripheral vision) should be worn to protect the eyes against splash hazards in combination with a mask designed to protect other mucous membranes. Faceshields are commonly considered secondary eye protectors that are worn in combination with protective goggles (*9,10*). Although previous guidelines indicate a faceshield may be sufficient, ocular exposures have oc-

Fatal Cercopithecine herpesvirus *Infection — Continued*

curred to workers wearing faceshields, including to a worker who was wearing a combination surgical mask/faceshield while moving a macaque within cages. To minimize the potential for mucous membrane exposure, faceshields must prevent droplet splashes to the head from running down into the eyes and prevent mucous membrane exposure around the edges (sides, top, and bottom to below the chin) (*10*). Decisions to use faceshields as the sole means for preventing ocular exposure should only be made after full consideration of both the limitations of faceshields and regulatory (OSHA) considerations.

Exposure Management

If exposure prevention fails, the adequacy and timeliness of wound or exposure decontamination procedures are critical factors determining the risk for infection. Institutions that house or conduct procedures involving nonhuman primates or potentially contaminated tissues should develop institution-specific postexposure procedures (*3,8*). Such procedures would eliminate institutional barriers to patient access and ensure appropriate diagnostic testing and infection control. First, animal handlers should be instructed to cleanse immediately and thoroughly all bites, scratches, and/or mucosal surfaces or abraded skin exposed to macaque biologic materials and to report these exposures immediately (*3*). Following an exposure to the eye, existing guidelines recommend immediately flushing the eye with water for at least 15 minutes (*3*). Second, postexposure procedures also should provide potentially exposed workers with direct and rapid access to a local medical consultant knowledgeable about B virus and other biohazards associated with nonhuman primates. The employer should ensure that direct access to the knowledgeable consultant is available immediately following exposures and at any time the worker is concerned that potential occupational exposure to B virus may be relevant to worker symptoms. Finally, postexposure procedures also should include routing diagnostic specimens to the B Virus Research and Resource Laboratory, now at Georgia State University in Atlanta. These interim recommendations will be reviewed and may be revised or augmented following additional consideration by a working group convened by Office of Health and Safety, CDC.

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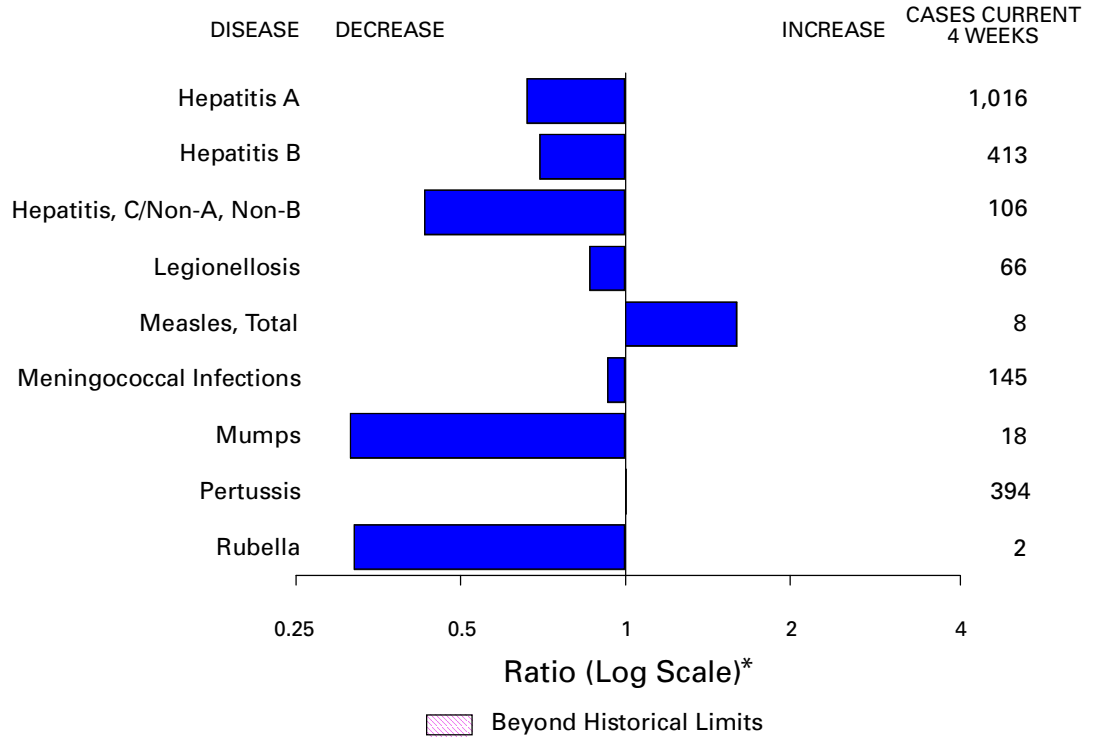
(Continued on page 1083)

FIGURE I. Selected notifiable disease reports, comparison of provisional 4-week totals ending December 12, 1998, with historical data — United States



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

TABLE I. Summary — provisional cases of selected notifiable diseases, United States, cumulative, week ending December 12, 1998 (49th Week)

	Cum. 1998		Cum. 1998
Anthrax	-	Plague	8
Brucellosis	55	Poliomyelitis, paralytic	1
Cholera	12	Psittacosis	48
Congenital rubella syndrome	3	Rabies, human	-
Cryptosporidiosis*	3,018	Rocky Mountain spotted fever (RMSF)	325
Diphtheria	1	Streptococcal disease, invasive Group A	1,964
Encephalitis: California*	86	Streptococcal toxic-shock syndrome*	49
eastern equine*	3	Syphilis, congenital¶	399
St. Louis*	26	Tetanus	34
western equine*	-	Toxic-shock syndrome	123
Hansen Disease	100	Trichinosis	13
Hantavirus pulmonary syndrome*†	19	Typhoid fever	318
Hemolytic uremic syndrome, post-diarrheal*	80	Yellow fever	-
HIV infection, pediatric*§	243		

-:no reported cases
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP), last update November 29, 1998.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending December 12, 1998, and December 6, 1997 (49th Week)

Reporting Area	AIDS		Chlamydia		*Escherichia coli* O157:H7		Gonorrhea		Hepatitis C/NA,NB	
					NETSS†	PHLIS§				
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1998	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997
UNITED STATES	42,564	53,705	539,229	443,010	2,853	1,883	321,493	280,265	4,679	3,279
NEW ENGLAND	1,688	2,248	17,046	17,019	328	260	4,852	5,591	106	53
Maine	28	51	963	949	36	-	63	63	-	-
N.H.	40	39	883	770	46	45	83	93	-	-
Vt.	19	32	378	400	21	17	34	48	3	4
Mass.	862	803	7,907	6,909	148	147	2,167	1,984	100	42
R.I.	118	145	2,172	1,915	13	1	395	404	3	7
Conn.	621	1,178	4,743	6,076	64	50	2,110	2,999	-	-
MID. ATLANTIC	11,418	16,079	63,627	53,698	284	73	37,772	36,192	338	305
Upstate N.Y.	1,323	2,379	N	N	214	-	6,190	6,192	251	228
N.Y. City	6,564	8,583	32,149	25,759	8	12	14,403	13,729	-	-
N.J.	2,025	3,119	10,385	9,612	62	51	7,137	7,097	-	-
Pa.	1,506	1,998	21,093	18,327	N	10	10,042	9,174	87	77
E.N. CENTRAL	3,063	4,078	94,238	60,172	446	321	65,418	38,973	480	509
Ohio	640	837	24,190	21,177	123	65	15,745	13,827	8	19
Ind.	472	485	4,656	8,759	102	49	4,704	5,722	7	12
Ill.	1,195	1,710	25,448	U	109	58	21,097	U	33	85
Mich.	578	801	20,469	19,728	112	62	15,424	14,718	432	367
Wis.	178	245	19,475	10,508	N	87	8,448	4,706	-	26
W.N. CENTRAL	832	1,099	29,508	30,987	486	384	15,209	13,818	279	58
Minn.	163	191	6,123	6,286	202	202	2,361	2,248	11	4
Iowa	63	99	2,063	4,199	93	58	660	1,074	8	27
Mo.	402	557	11,550	11,421	53	61	8,527	7,175	250	10
N. Dak.	5	10	849	834	12	15	71	69	-	3
S. Dak.	15	8	1,486	1,319	35	34	212	156	-	-
Nebr.	65	90	2,667	2,575	58	-	1,119	1,134	5	2
Kans.	119	144	4,770	4,353	33	14	2,259	1,962	5	12
S. ATLANTIC	11,132	13,315	107,017	88,611	257	155	88,126	87,153	184	237
Del.	154	211	2,461	61	-	2	1,454	1,205	-	-
Md.	1,489	1,800	6,759	7,044	38	14	9,024	10,827	22	10
D.C.	809	1,016	N	N	1	-	3,305	4,116	-	-
Va.	910	1,113	12,706	11,077	N	42	8,939	8,268	12	25
W. Va.	79	117	2,439	2,772	13	10	784	863	7	16
N.C.	752	796	20,648	16,285	56	46	17,850	16,190	20	48
S.C.	719	746	16,770	11,801	17	12	10,728	10,842	11	37
Ga.	1,174	1,600	21,585	14,830	76	-	18,085	17,236	9	-
Fla.	5,046	5,916	23,649	24,741	56	29	17,957	17,606	103	101
E.S. CENTRAL	1,684	1,901	36,245	33,085	114	39	35,609	33,126	186	332
Ky.	263	340	6,083	5,950	33	-	3,577	3,787	20	13
Tenn.	622	738	12,424	11,821	53	33	10,804	10,399	159	222
Ala.	456	511	9,705	8,037	25	2	12,324	11,215	5	11
Miss.	343	312	8,033	7,277	3	4	8,904	7,725	2	86
W.S. CENTRAL	5,140	5,650	75,283	65,006	125	24	45,742	42,251	414	472
Ark.	189	216	3,665	2,556	11	10	3,640	4,323	10	14
La.	878	1,016	14,301	9,603	5	7	12,326	9,316	114	213
Okla.	272	274	8,749	6,942	24	7	4,895	4,498	16	7
Tex.	3,801	4,144	48,568	45,905	85	-	24,881	24,114	274	238
MOUNTAIN	1,479	1,548	30,763	28,234	340	238	8,528	7,701	336	312
Mont.	28	40	1,205	1,092	16	-	44	60	7	21
Idaho	28	50	1,920	1,559	40	24	168	147	87	79
Wyo.	3	14	626	585	53	55	29	50	66	73
Colo.	286	366	8,134	6,943	90	69	2,193	2,123	33	34
N. Mex.	202	164	3,699	3,578	19	20	894	812	93	60
Ariz.	589	375	10,243	10,132	21	26	3,717	3,477	8	25
Utah	128	140	2,050	1,656	79	21	217	262	23	5
Nev.	215	399	2,886	2,689	22	23	1,266	770	19	15
PACIFIC	6,128	7,787	85,502	66,198	473	389	20,237	15,460	2,356	1,001
Wash.	390	608	10,389	8,736	108	127	1,861	1,803	22	28
Oreg.	166	284	5,610	4,701	104	99	829	700	6	3
Calif.	5,396	6,757	65,469	49,630	254	147	16,801	12,125	2,273	805
Alaska	17	46	1,782	1,444	7	-	300	357	1	-
Hawaii	159	92	2,252	1,687	N	16	446	475	54	165
Guam	1	2	201	193	N	-	24	27	-	-
P.R.	1,602	1,974	U	U	6	U	356	519	-	-
V.I.	31	94	N	N	N	U	U	U	U	U
Amer. Samoa	-	-	U	U	N	U	U	U	U	U
C.N.M.I.	-	1	N	N	N	U	28	23	-	2

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

*Updated monthly from reports to the Division of HIV/AIDS Prevention–Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention, last update November 29, 1998.

†National Electronic Telecommunications System for Surveillance.

§Public Health Laboratory Information System.

TABLE II. (Cont'd.) Provisional cases of selected notifiable diseases, United States, weeks ending December 12, 1998, and December 6, 1997 (49th Week)

Reporting Area	Legionellosis		Lyme Disease		Malaria		Syphilis (Primary & Secondary)		Tuberculosis		Rabies, Animal
	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998*	Cum. 1997	Cum. 1998
UNITED STATES	1,239	1,009	12,273	11,422	1,298	1,741	6,759	7,907	13,945	16,688	6,462
NEW ENGLAND	83	79	2,636	2,898	59	85	71	130	433	414	1,379
Maine	1	3	12	8	5	1	1	2	10	19	214
N.H.	7	7	45	37	5	10	2	-	13	15	77
Vt.	7	13	11	8	1	2	4	-	4	6	65
Mass.	32	27	749	285	16	31	44	66	248	235	489
R.I.	21	12	654	385	14	10	1	2	52	33	97
Conn.	15	17	1,165	2,175	18	31	19	60	106	106	437
MID. ATLANTIC	289	226	8,080	6,699	322	496	278	377	2,845	2,944	1,499
Upstate N.Y.	101	70	3,974	2,818	89	72	35	41	365	424	1,034
N.Y. City	28	24	29	173	151	303	74	81	1,410	1,487	U
N.J.	15	30	1,690	1,827	52	84	78	149	574	641	204
Pa.	145	102	2,387	1,881	30	37	91	106	496	392	261
E.N. CENTRAL	409	327	166	578	126	162	1,134	593	1,199	1,697	130
Ohio	126	116	84	37	15	19	125	204	88	239	57
Ind.	118	53	62	33	11	17	244	162	139	146	12
Ill.	37	34	8	13	41	67	455	U	604	898	16
Mich.	78	84	12	27	48	43	194	128	350	297	35
Wis.	50	40	U	468	11	16	116	99	18	117	10
W.N. CENTRAL	75	57	214	152	92	59	123	167	391	528	677
Minn.	8	3	174	111	56	29	9	16	147	136	119
Iowa	12	9	23	7	8	10	-	7	51	57	147
Mo.	24	21	2	27	15	11	93	111	95	218	27
N. Dak.	-	2	-	-	2	3	-	-	10	12	138
S. Dak.	3	2	-	1	1	1	1	1	17	10	151
Nebr.	20	15	5	2	1	1	7	3	28	20	7
Kans.	8	5	10	4	9	4	13	29	43	75	88
S. ATLANTIC	140	117	863	736	312	310	2,438	3,296	1,946	3,182	1,856
Del.	13	11	45	109	3	5	21	22	18	32	49
Md.	28	21	596	468	86	81	619	870	261	292	423
D.C.	8	4	4	9	19	20	73	105	98	95	-
Va.	20	26	67	62	56	65	146	225	280	305	534
W. Va.	N	N	13	10	2	1	3	3	41	49	76
N.C.	14	14	57	34	29	19	691	949	448	409	136
S.C.	11	8	7	2	6	17	309	348	234	316	143
Ga.	8	1	5	7	37	48	272	493	496	588	288
Fla.	36	32	69	35	74	54	304	281	70	1,096	207
E.S. CENTRAL	64	55	93	88	31	38	1,128	1,597	1,038	1,226	259
Ky.	25	11	25	16	7	12	103	125	158	181	31
Tenn.	24	33	44	40	16	10	526	693	396	430	135
Ala.	8	4	20	11	6	10	270	395	302	390	91
Miss.	7	7	4	21	2	6	229	384	182	225	2
W.S. CENTRAL	41	33	36	93	47	56	1,000	1,253	2,100	2,405	135
Ark.	-	2	7	25	1	5	103	152	143	171	31
La.	4	6	7	5	15	15	409	344	274	257	-
Okla.	12	2	2	28	4	8	121	115	147	190	104
Tex.	25	23	20	35	27	28	367	642	1,536	1,787	-
MOUNTAIN	74	62	23	15	62	65	211	169	421	509	213
Mont.	2	1	-	-	1	2	-	-	19	16	53
Idaho	2	2	6	4	8	-	2	1	13	11	-
Wyo.	1	1	1	3	-	2	1	-	4	2	63
Colo.	19	18	5	-	19	30	11	15	U	78	39
N. Mex.	2	3	4	1	12	8	22	8	64	63	6
Ariz.	19	12	1	4	9	11	160	130	195	207	19
Utah	22	18	-	1	1	3	4	5	49	31	27
Nev.	7	7	6	2	12	9	11	10	77	101	6
PACIFIC	64	53	162	163	247	470	376	325	3,572	3,783	314
Wash.	12	8	7	10	20	48	27	10	198	280	-
Oreg.	1	-	21	19	16	25	6	9	125	136	7
Calif.	49	44	133	132	203	383	341	304	3,046	3,141	284
Alaska	1	-	1	2	3	3	1	1	49	66	23
Hawaii	1	1	-	-	5	11	1	1	154	160	-
Guam	2	-	-	-	1	-	1	3	36	13	-
P.R.	-	-	-	-	-	5	172	236	68	212	51
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	-	-	-	-	164	11	77	20	-

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending December 12, 1998, and December 6, 1997 (49th Week)

Reporting Area	*H. influenzae*, invasive		Hepatitis (Viral), by type				Measles (Rubeola)					
			A		B		Indigenous		Imported†		Total	
	Cum. 1998*	Cum. 1997	Cum. 1998	Cum. 1997	Cum. 1998	Cum. 1997	1998	Cum. 1998	1998	Cum. 1998	Cum. 1998	Cum. 1997
UNITED STATES	956	1,008	20,803	26,591	8,195	8,912	5	67	-	25	92	130
NEW ENGLAND	65	59	264	612	179	175	-	1	-	2	3	19
Maine	3	5	20	59	5	6	-	-	-	-	-	1
N.H.	9	11	14	34	19	17	-	-	-	-	-	1
Vt.	9	3	16	14	6	11	-	-	-	1	1	-
Mass.	37	35	106	248	56	73	-	1	-	1	2	16
R.I.	6	3	17	127	68	16	-	-	-	-	-	-
Conn.	1	2	91	130	25	52	-	-	-	-	-	1
MID. ATLANTIC	141	155	1,402	2,003	1,043	1,296	-	8	-	6	14	26
Upstate N.Y.	63	51	349	348	280	297	-	1	-	1	2	5
N.Y. City	26	41	362	875	266	439	-	-	-	-	-	10
N.J.	46	44	321	297	181	235	U	7	U	1	8	3
Pa.	6	19	370	483	316	325	-	-	-	4	4	8
E.N. CENTRAL	154	158	3,452	2,846	1,507	1,417	-	12	-	3	15	10
Ohio	46	82	312	299	74	87	-	-	-	1	1	-
Ind.	40	18	326	310	744	94	-	2	-	1	3	-
Ill.	53	39	650	795	186	267	-	1	-	-	1	7
Mich.	8	18	1,993	1,269	454	427	-	9	-	1	10	2
Wis.	7	1	171	173	49	542	-	-	-	-	-	1
W.N. CENTRAL	89	58	1,268	2,064	401	459	-	1	-	-	1	17
Minn.	66	44	124	192	49	41	-	-	-	-	-	8
Iowa	3	6	394	442	56	40	-	1	-	-	1	-
Mo.	12	5	575	1,058	242	323	-	-	-	-	-	1
N. Dak.	-	-	3	10	4	5	-	-	-	-	-	-
S. Dak.	1	2	32	23	2	1	-	-	-	-	-	8
Nebr.	1	1	41	89	22	19	-	-	-	-	-	-
Kans.	6	-	99	250	26	30	-	-	-	-	-	-
S. ATLANTIC	182	153	1,923	1,965	1,117	1,148	-	3	-	5	8	15
Del.	-	-	6	29	4	6	-	-	-	1	1	-
Md.	52	56	318	179	151	158	-	-	-	1	1	2
D.C.	-	-	62	33	18	29	-	-	-	-	-	1
Va.	18	13	200	217	99	121	-	-	-	2	2	1
W. Va.	5	4	7	11	10	16	-	-	-	-	-	-
N.C.	24	21	123	196	228	245	-	-	-	-	-	2
S.C.	3	4	38	106	46	94	-	-	-	-	-	1
Ga.	46	31	647	621	139	126	-	1	-	1	2	1
Fla.	34	24	522	573	422	353	-	2	-	-	2	7
E.S. CENTRAL	57	54	347	590	381	674	-	-	-	2	2	1
Ky.	7	8	23	71	44	38	-	-	-	-	-	-
Tenn.	34	30	211	363	264	422	-	-	-	1	1	-
Ala.	14	14	70	79	71	74	-	-	-	1	1	1
Miss.	2	2	43	77	2	140	-	-	-	-	-	-
W.S. CENTRAL	56	47	3,937	5,380	1,162	1,213	-	1	-	-	1	8
Ark.	-	2	87	206	88	83	U	-	U	-	-	-
La.	23	12	124	220	164	161	-	1	-	-	1	-
Okla.	30	30	598	1,372	108	49	-	-	-	-	-	1
Tex.	3	3	3,128	3,582	802	920	-	-	-	-	-	7
MOUNTAIN	108	85	3,074	3,993	793	814	5	8	-	2	10	8
Mont.	-	1	94	68	5	12	-	-	-	-	-	-
Idaho	2	1	231	133	46	52	-	-	-	-	-	-
Wyo.	1	4	36	32	8	24	U	-	U	-	-	-
Colo.	18	21	331	387	107	140	-	-	-	-	-	-
N. Mex.	8	8	143	334	310	240	-	-	-	-	-	-
Ariz.	54	31	1,842	2,098	173	186	5	8	-	2	10	5
Utah	6	3	188	527	66	88	-	-	-	-	-	1
Nev.	19	16	209	414	78	72	-	-	-	-	-	2
PACIFIC	104	239	5,136	7,138	1,612	1,716	-	33	-	5	38	26
Wash.	10	5	900	623	116	77	-	-	-	1	1	2
Oreg.	39	33	364	356	121	112	-	-	-	-	-	-
Calif.	46	185	3,816	5,982	1,355	1,502	-	5	-	3	8	20
Alaska	1	8	17	33	12	14	-	28	-	1	29	-
Hawaii	8	8	39	144	8	11	-	-	-	-	-	4
Guam	-	-	-	-	2	3	U	-	U	-	-	-
P.R.	2	-	49	264	335	764	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	6	3	1	53	46	U	-	U	-	-	1

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

*Of 220 cases among children aged <5 years, serotype was reported for 110 and of those, 43 were type b.

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

TABLE III. (Cont'd.) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending December 12, 1998, and December 6, 1997 (49th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997	1998	Cum. 1998	Cum. 1997
UNITED STATES	2,488	2,969	3	580	611	101	5,799	5,411	-	334	158
NEW ENGLAND	104	187	-	7	12	11	910	981	-	38	1
Maine	6	18	-	-	-	-	5	22	-	-	-
N.H.	4	14	-	-	1	2	121	130	-	-	-
Vt.	5	4	-	-	-	2	74	244	-	-	-
Mass.	56	93	-	4	4	2	651	541	-	8	1
R.I.	8	21	-	1	6	4	13	16	-	1	-
Conn.	25	37	-	2	1	1	46	28	-	29	-
MID. ATLANTIC	235	323	1	170	58	9	572	383	-	135	34
Upstate N.Y.	69	84	1	11	12	7	300	156	-	111	6
N.Y. City	24	51	-	139	3	-	39	60	-	18	28
N.J.	55	71	U	2	8	U	5	14	U	4	-
Pa.	87	117	-	18	35	2	228	153	-	2	-
E.N. CENTRAL	374	463	-	72	86	20	624	605	-	-	6
Ohio	133	156	-	28	34	10	279	158	-	-	-
Ind.	70	53	-	6	14	1	145	69	-	-	-
Ill.	89	147	-	11	12	6	113	108	-	-	2
Mich.	42	66	-	27	22	3	70	62	-	-	-
Wis.	40	41	-	-	4	-	17	208	-	-	4
W.N. CENTRAL	216	220	-	30	18	10	541	527	-	33	-
Minn.	32	34	-	13	6	6	337	306	-	-	-
Iowa	47	46	-	11	10	3	76	106	-	-	-
Mo.	79	93	-	3	-	-	32	67	-	2	-
N. Dak.	5	2	-	2	-	-	3	1	-	-	-
S. Dak.	8	5	-	-	-	-	8	5	-	-	-
Nebr.	15	18	-	-	1	1	19	13	-	-	-
Kans.	30	22	-	1	1	-	66	29	-	31	-
S. ATLANTIC	440	505	-	48	73	9	323	411	-	19	78
Del.	2	5	-	-	-	-	5	1	-	-	-
Md.	33	42	-	-	1	-	57	113	-	1	-
D.C.	3	12	-	-	-	-	1	3	-	-	1
Va.	45	58	-	8	18	-	41	52	-	1	1
W. Va.	16	19	-	-	-	-	4	6	-	-	-
N.C.	58	88	-	11	12	-	98	118	-	13	59
S.C.	55	55	-	7	11	-	27	29	-	-	15
Ga.	97	94	-	1	10	-	27	13	-	-	-
Fla.	131	132	-	21	21	9	63	76	-	4	2
E.S. CENTRAL	227	223	-	16	31	1	119	143	-	2	1
Ky.	36	46	-	1	3	-	50	63	-	-	-
Tenn.	69	76	-	1	6	-	37	37	-	2	-
Ala.	98	76	-	8	9	1	29	32	-	-	1
Miss.	24	25	-	6	13	-	3	11	-	-	-
W.S. CENTRAL	292	278	-	60	84	9	361	276	-	88	4
Ark.	30	34	U	12	1	U	91	53	U	-	-
La.	60	48	-	10	16	-	9	20	-	-	-
Okla.	41	41	-	-	-	-	30	51	-	-	-
Tex.	161	155	-	38	67	9	231	152	-	88	4
MOUNTAIN	141	169	-	38	55	11	1,093	1,189	-	5	7
Mont.	4	8	-	-	-	-	13	18	-	-	-
Idaho	13	10	-	6	3	5	257	521	-	-	2
Wyo.	7	3	U	1	1	U	8	7	U	-	-
Colo.	27	45	-	6	3	4	229	379	-	-	-
N. Mex.	26	29	N	N	N	1	97	175	-	1	-
Ariz.	41	41	-	6	33	-	199	36	-	1	5
Utah	14	15	-	5	8	1	249	25	-	2	-
Nev.	9	18	-	14	7	-	41	28	-	1	-
PACIFIC	459	601	2	139	194	21	1,256	896	-	14	27
Wash.	63	87	-	11	19	18	329	384	-	9	5
Oreg.	88	120	N	N	N	2	90	47	-	-	-
Calif.	300	384	2	103	142	-	803	430	-	3	14
Alaska	3	3	-	2	8	-	15	16	-	-	-
Hawaii	5	7	-	23	25	1	19	19	-	2	8
Guam	1	1	U	2	1	U	-	-	U	-	-
P.R.	7	8	-	1	7	-	6	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	2	4	U	1	-	U	-	-

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

TABLE IV. Deaths in 122 U.S. cities,* week ending December 12, 1998 (49th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	>65	45-64	25-44	1-24	<1	
NEW ENGLAND	604	434	110	38	14	8	35
Boston, Mass.	144	85	35	12	9	3	8
Bridgeport, Conn.	45	39	3	2	-	1	2
Cambridge, Mass.	16	12	3	1	-	-	-
Fall River, Mass.	24	22	-	2	-	-	2
Hartford, Conn.	47	26	13	4	3	1	1
Lowell, Mass.	24	17	4	2	1	-	1
Lynn, Mass.	12	9	2	1	-	-	1
New Bedford, Mass.	36	33	1	2	-	-	4
New Haven, Conn.	42	26	11	4	1	-	1
Providence, R.I.	66	53	9	4	-	-	-
Somerville, Mass.	5	4	1	-	-	-	-
Springfield, Mass.	43	31	9	1	-	2	4
Waterbury, Conn.	34	22	11	-	-	1	4
Worcester, Mass.	66	55	8	3	-	-	7
MID. ATLANTIC	2,209	1,568	418	159	28	35	116
Albany, N.Y.	50	40	8	1	-	1	6
Allentown, Pa.	24	21	3	-	-	-	2
Buffalo, N.Y.	89	72	11	5	-	-	8
Camden, N.J.	30	20	5	3	1	1	2
Elizabeth, N.J.	U	U	U	U	U	U	U
Erie, Pa.	48	43	4	-	1	-	3
Jersey City, N.J.	54	35	10	6	-	3	3
New York City, N.Y.	1,187	809	244	98	19	17	54
Newark, N.J.	U	U	U	U	U	U	U
Paterson, N.J.	29	13	11	5	-	-	-
Philadelphia, Pa.	300	203	61	22	5	9	15
Pittsburgh, Pa.§	58	42	11	2	1	2	3
Reading, Pa.	20	16	4	-	-	-	1
Rochester, N.Y.	132	101	21	7	1	2	9
Schenectady, N.Y.	28	24	4	-	-	-	4
Scranton, Pa.	31	24	6	1	-	-	-
Syracuse, N.Y.	81	67	8	6	-	-	5
Trenton, N.J.	30	22	5	3	-	-	1
Utica, N.Y.	18	16	2	-	-	-	-
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	2,251	1,553	406	161	63	64	159
Akron, Ohio	68	56	9	1	2	-	1
Canton, Ohio	46	34	9	2	1	-	6
Chicago, Ill.	429	245	90	52	24	14	29
Cincinnati, Ohio	75	48	14	7	4	2	6
Cleveland, Ohio	152	111	26	10	1	4	4
Columbus, Ohio	223	155	38	18	6	6	20
Dayton, Ohio	130	93	20	7	5	5	6
Detroit, Mich.	206	127	47	18	7	7	14
Evansville, Ind.	36	25	8	2	-	1	2
Fort Wayne, Ind.	67	50	7	6	1	3	1
Gary, Ind.	16	9	3	1	2	1	-
Grand Rapids, Mich.	78	65	6	1	1	5	10
Indianapolis, Ind.	202	137	45	12	4	4	21
Lansing, Mich.	40	34	3	2	-	1	4
Milwaukee, Wis.	126	89	20	13	-	4	16
Peoria, Ill.	55	38	12	1	2	2	1
Rockford, Ill.	48	41	4	2	-	1	2
South Bend, Ind.	69	49	17	2	1	-	3
Toledo, Ohio	108	80	21	4	1	2	6
Youngstown, Ohio	77	67	7	-	1	2	7
W.N. CENTRAL	777	536	138	62	17	16	50
Des Moines, Iowa	41	26	11	2	1	1	3
Duluth, Minn.	43	37	3	3	-	-	4
Kansas City, Kans.	U	U	U	U	U	U	U
Kansas City, Mo.	109	65	19	13	1	3	2
Lincoln, Nebr.	36	24	9	2	1	-	3
Minneapolis, Minn.	224	175	34	8	3	4	15
Omaha, Nebr.	85	59	14	6	2	4	9
St. Louis, Mo.	103	55	21	17	7	3	8
St. Paul, Minn.	136	95	27	11	2	1	6
Wichita, Kans.	U	U	U	U	U	U	U
S. ATLANTIC	1,170	749	242	128	22	25	67
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	281	171	65	37	5	3	25
Charlotte, N.C.	94	65	14	9	4	2	11
Jacksonville, Fla.	145	88	30	16	1	9	3
Miami, Fla.	123	61	34	22	1	4	-
Norfolk, Va.	47	30	10	5	2	-	2
Richmond, Va.	62	48	9	3	-	2	2
Savannah, Ga.	33	24	6	1	-	2	4
St. Petersburg, Fla.	75	54	11	9	-	1	8
Tampa, Fla.	200	139	40	15	5	-	10
Washington, D.C.	100	60	22	11	4	2	2
Wilmington, Del.	10	9	1	-	-	-	-
E.S. CENTRAL	881	590	169	62	24	33	50
Birmingham, Ala.	222	141	46	14	7	11	16
Chattanooga, Tenn.	68	51	11	4	1	1	3
Knoxville, Tenn.	79	49	22	6	-	2	4
Lexington, Ky.	46	32	6	4	2	2	7
Memphis, Tenn.	147	89	33	17	4	4	8
Mobile, Ala.	81	58	15	3	4	1	-
Montgomery, Ala.	77	60	10	4	-	3	6
Nashville, Tenn.	161	110	26	10	6	9	6
W.S. CENTRAL	1,596	1,064	324	120	35	53	104
Austin, Tex.	94	66	12	10	2	4	4
Baton Rouge, La.	41	24	8	6	1	2	2
Corpus Christi, Tex.	57	36	18	1	1	1	2
Dallas, Tex.	221	134	52	18	6	11	3
El Paso, Tex.	79	55	9	11	4	-	3
Ft. Worth, Tex.	115	87	20	6	1	1	4
Houston, Tex.	408	239	103	35	10	21	50
Little Rock, Ark.	51	35	10	3	1	2	5
New Orleans, La.	86	56	20	7	1	2	-
San Antonio, Tex.	244	174	43	17	4	6	14
Shreveport, La.	59	53	2	1	1	2	8
Tulsa, Okla.	141	105	27	5	3	1	9
MOUNTAIN	1,086	735	200	104	21	25	66
Albuquerque, N.M.	96	60	21	13	2	-	5
Boise, Idaho	35	25	8	1	-	1	2
Colo. Springs, Colo.	58	42	11	5	-	-	8
Denver, Colo.	116	61	24	21	4	6	9
Las Vegas, Nev.	230	154	47	22	4	3	5
Ogden, Utah	34	24	5	1	1	3	1
Phoenix, Ariz.	225	152	39	20	6	7	13
Pueblo, Colo.	39	27	9	2	1	-	5
Salt Lake City, Utah	98	71	11	10	3	3	6
Tucson, Ariz.	155	119	25	9	-	2	12
PACIFIC	1,845	1,321	316	138	32	38	155
Berkeley, Calif.	23	15	5	2	-	1	2
Fresno, Calif.	112	89	12	6	3	2	11
Glendale, Calif.	25	23	1	1	-	-	3
Honolulu, Hawaii	66	52	12	1	1	-	6
Long Beach, Calif.	54	46	4	3	-	1	7
Los Angeles, Calif.	452	319	82	32	8	11	21
Pasadena, Calif.	36	25	7	3	1	-	2
Portland, Oreg.	141	97	26	13	1	4	8
Sacramento, Calif.	207	141	35	20	6	5	28
San Diego, Calif.	147	105	24	11	3	4	13
San Francisco, Calif.	83	56	16	9	1	1	11
San Jose, Calif.	222	165	36	15	3	3	26
Santa Cruz, Calif.	23	13	6	2	1	1	1
Seattle, Wash.	121	71	31	16	2	1	5
Spokane, Wash.	58	49	6	1	-	2	1
Tacoma, Wash.	75	55	13	3	2	2	10
TOTAL	12,419¶	8,550	2,323	972	256	297	802

U: Unavailable -: no reported cases

*Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

†Pneumonia and influenza.

§Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶Total includes unknown ages.

Fatal Cercopithecine herpesvirus *Infection — Continued*

8. CDC. Guidelines for prevention of *Herpesvirus simiae* (B virus) infection in monkey handlers. MMWR 1987;36:680–2,687–9.
9. American National Standards Institute. Practice for occupational and educational eye and face protection, Z87-1. Des Plaines, Illinois: American Society of Safety Engineers, 1989.
10. Heinsohn P, Jacobs R, Concoby B. Biosafety reference manual. 2nd ed. Fairfax, Virginia: American Industrial Hygiene Association, 1995:79–80.

Notice to Readers

Revising CDC's Guidelines for Evaluating Surveillance Systems

A surveillance system provides for the ongoing collection, analysis, and dissemination of data to prevent and control disease. Because all surveillance systems should be assessed periodically for their purpose and usefulness, in 1988, CDC published *Guidelines for Evaluating Surveillance Systems* (*1*). Recent developments in the electronic exchange of health data (*2,3*), the establishment of data collection standards (*2,4*), and interest in the integration of health information and surveillance systems (*4,5*) have resulted in the need to revise CDC's guidelines.

The guidelines will be revised by a working group under the direction of CDC's Surveillance Coordination Group, comprising representatives from each of the program areas at CDC and ATSDR and from state organizations that collaborate with CDC. Because the surveillance systems at CDC and ATSDR are implemented in collaboration with state and local prevention partners, these groups will be included in the development of revised guidelines.

Comments on the revision of the guidelines should be submitted by December 1999 by e-mail to revguide@cdc.gov or by mail to Attention: Revised Guidelines, Epidemiology Program Office, CDC, Mailstop C-08, 1600 Clifton Road, N.E., Atlanta, GA, 30333.

References

1. CDC. Guidelines for evaluating surveillance systems. MMWR 1988;37(no. SS-5).
2. Harman J. Topics for our times: new health care data—new horizons for public health. Am J Public Health 1998;88:1019–21.
3. Duke University Medical Center. Health Level Seven (HL7) application protocol, Medical Center Information Systems, version 3.0. Durham, North Carolina: Duke University Medical Center, 1996.
4. CDC. Integrating public health information and surveillance systems: a report and recommendations from the CDC/ATSDR Steering Committee on Public Health Information and Surveillance System Development. Atlanta, Georgia: US Department of Health and Human Services, CDC, 1995.
5. CDC. Surveillance review and notification policy. Atlanta, Georgia: US Department of Health and Human Services, CDC, 1998.

Erratum: Vol. 47, No. 48

In the notice to readers, "Federal Register Notice on the Draft Guidelines for HIV Case Surveillance, Including Monitoring HIV Infection and AIDS," on page 1056, the closing date for comments is incorrect. The correct deadline for submitting comments on the draft is January 11, 1999.

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