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### Chlamydia Screening Among Sexually Active Young Female Enrollees of Health Plans — United States, 1999–2001

*Chlamydia trachomatis* infection is the most commonly reported sexually transmitted disease (STD) in the United States, with the highest rates among adolescent females and young women. Approximately 5%–14% of routinely screened females aged 16–20 years and 3%–12% of women aged 20–24 years are infected with chlamydia (1). Because up to 70% of chlamydial infections in women are asymptomatic, routine screening and treatment of infected persons is essential to prevent pelvic inflammatory disease, infertility, ectopic pregnancy, and perinatal infections. Since the 1990s, CDC, the U.S. Preventive Services Task Force, and several clinical organizations have recommended routine screening for chlamydial infection for all sexually active women aged <26 years and for pregnant women of all ages (1,2). To evaluate rates of chlamydia screening among sexually active young females, CDC analyzed 1999–2001 data from the Health Plan Employer Data and Information Set (HEDIS<sup>®</sup>) reported by commercial and Medicaid health insurance plans. This report summarizes the results of that analysis, which determined that screening rates were low despite slight increases in screening covered both by commercial and Medicaid plans during 1999–2001. Increased screening by health-care providers and coverage of screening by health plans will be necessary to reduce substantially the burden of chlamydial infection in the United States.

HEDIS includes voluntarily reported performance measures of health plans and is maintained by the National Committee for Quality Assurance (NCQA), a private, not-for-profit organization that monitors the quality of health plans. HEDIS allows health insurance purchasers and consumers to compare health plan performance and enables health plans to benchmark their performance.

During 1999–2001, a total of 335 commercial health maintenance organizations (HMOs) and point-of-service (POS) plans and 92 Medicaid HMO and POS plans reported

chlamydia screenings. These data accounted for 83% of enrollees in commercial HMO and POS plans and up to 30% of enrollees in Medicaid HMO and POS plans in the United States during this period. Since 1999, NCQA has measured chlamydia screening rates of sexually active female enrollees in these health plans by using medical claims and pharmacy data. The denominator represents the number of sexually active female enrollees aged 16–26 years who were continuously enrolled during the preceding calendar year. Being sexually active was defined as receipt of a contraceptive prescription or submission of a medical claim associated with pregnancy, contraceptives, STDs, or Papanicolaou (Pap) test during the preceding year. The numerator represents the number of eligible female enrollees who had a claim for chlamydia tests. Mean chlamydia screening rates were weighted to account for the differences in the number of sexually active female enrollees aged 16–26 years across health plans.

Among sexually active female enrollees aged 16–26 years in commercial plans, 20% were screened for chlamydia in 1999, 25% in 2000, and 26% in 2001. Among enrollees aged 16–26 years in Medicaid plans, screening rates were 28% in 1999, 36% in 2000, and 38% in 2001. Among enrollees aged 16–20 years in commercial plans, 22% were screened in 1999,

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#### Centers for Disease Control and Prevention

Julie L. Gerberding, M.D., M.P.H.  
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*(Acting) Chief of Science*

Tanja Popovic, M.D., Ph.D.  
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*Information Technology Specialists*

#### Notifiable Disease Morbidity and 122 Cities Mortality Data

Robert F. Fagan  
Deborah A. Adams  
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Lateka Dammond  
Rosaline Dhara  
Donna Edwards  
Patsy A. Hall  
Pearl C. Sharp

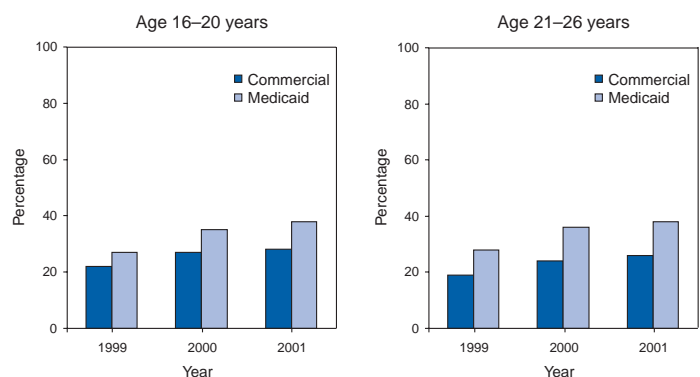
27% in 2000, and 28% in 2001 (Figure). Among enrollees aged 16–20 years in Medicaid plans, 27% were screened in 1999, 35% in 2000, and 38% in 2001. Of commercial plan enrollees aged 21–26 years, 19% were screened in 1999, 24% in 2000, and 25% in 2001. Of Medicaid plan enrollees aged 21–26 years, 28% were screened in 1999, 36% in 2000, and 38% in 2001.

**Reported by:** S Shib, MPH, S Scholle, DrPH, National Committee for Quality Assurance, Washington, DC. K Irwin, MD, G Tao, PhD, C Walsh, DrPH, Div of STD Prevention, National Center for HIV, STD, and TB Prevention; W Tun, PhD, EIS Officer, CDC.

**Editorial Note:** Despite national guidelines recommending routine chlamydia screening (1,2), the data in this report suggest that screening rates remain low among enrollees in both commercial and Medicaid plans. These rates are lower than rates for all other women's health services measured by HEDIS, including Pap tests to screen for cervical cancer (61% in Medicaid and 80% in commercial plans in 2001) (3). Chlamydia screening rates might be higher in Medicaid than in commercial plans because of health-care providers' beliefs that Medicaid patients are at higher risk for STDs.

Low screening rates in both commercial and Medicaid plans might result from certain system, provider, and patient factors. System factors include 1) lack of availability or coverage of urine-based screening tests in certain health plans, which would eliminate the need for a pelvic examination; 2) insufficient feedback and reminder systems about screening; and 3) inadequate organizational commitment to increase the availability of this preventive service. Provider factors include 1) lack of awareness of high chlamydia prevalence in adolescent females and young women and among commercial plan enrollees (4); 2) misperceptions that adolescent patients are not sexually active (4) or that commercially insured patients are not at risk for chlamydial infection; 3) discomfort with discussing or lack of time for assessing sexual activity and

**FIGURE. Percentage of sexually active young female enrollees who were screened for chlamydia, by age, health plan type, and year — Health Plan Employer Data and Information Set (HEDIS), United States, 1999–2001**



offering chlamydia screening; and 4) lack of knowledge of the availability of urine-based chlamydia screening tests. Patient factors include 1) the stigma associated with STDs; 2) lack of awareness of the high prevalence, asymptomatic nature, and serious complications of chlamydial infection; 3) the presence of parents during the examinations of adolescents, which precludes confidential sexual risk assessment; and 4) fears about breaches of confidentiality regarding sexual health services or diagnoses noted in medical records or bills (5).

The findings in this report are subject to at least two limitations. First, HEDIS data reflect screenings reported by HMO and POS plans that covered only approximately 30% of U.S. residents in 2001. Second, HEDIS estimates might underestimate or overestimate actual screening rates for these health plan enrollees. HEDIS depends on routinely collected administrative data to facilitate data collection within plans and allow comparison across plans. However, if a substantial proportion of sexually inactive enrollees had claims for pregnancy tests or oral contraceptives for reasons not related to sexual activity, or if medical claims did not identify all chlamydia tests ordered, HEDIS data would underestimate actual screening rates. Overestimation might occur if a substantial proportion of sexually active enrollees lacked claims for pregnancy, contraceptives, STDs, or Pap tests that would classify them as sexually active in administrative data (5), or if the measure's numerator included claims for chlamydia tests used to diagnose illness in symptomatic patients (5). Overestimation also might result if health plans that perform well on the chlamydia screening measure are more likely to report their results to NCQA than those that do not perform as well. Continued evaluation is needed of how well administrative data used for HEDIS measures reflect actual practice.

The findings in this report highlight the need for interventions to increase chlamydia screening, improve quality of care, and reduce the estimated \$249 million direct medical costs of chlamydia and its sequelae for adolescents and young adults (6). Interventions are especially important in commercial plans, given that two thirds of women of reproductive age (15–44 years) in the United States are commercially insured (7) and only 13% of chlamydial infections in the CDC surveillance system are reported by public STD clinics (8). System-level interventions in large commercial plans have substantially increased chlamydia screening rates of sexually active young women within 2 years (9,10). One intervention increased screening from 5% to 65% by 1) informing providers about high chlamydia prevalence, 2) implementing procedures allowing adolescents some encounter time without parents, and 3) providing urine tests and monthly provider feedback on screening rates (9). Another intervention, which included “championing” of screening by health-plan leaders and

routine placement of chlamydia specimen collection materials next to Pap test collection kits, increased screening from 61% to 83% (10). Such system-level interventions should complement provider and patient education. In addition, including chlamydia screening as one of the HEDIS measures used to accredit health plans by NCQA might provide motivation to increase screening.

#### Acknowledgment

This report is based, in part, on data contributed by 427 health plans reporting HEDIS® data to NCQA.

#### References

- Walsh C, Irwin K. Combating the silent chlamydia epidemic. *Contemp Ob Gyn* 2002;Apr:90–8.
- CDC. Sexually transmitted diseases treatment guidelines—2002. *MMWR* 2002;51(No. RR-6).
- National Committee for Quality Assurance. State of health care quality report, 2003. Washington, DC: National Committee for Quality Assurance; 2003:1–60.
- Cook RL, Wiesenfeld HC, Ashton MR, Krohn MA, Zamborsky T, Scholle SH. Barriers to screening sexually active adolescent women for chlamydia: a survey of primary care physicians. *J Adolesc Health* 2001;28:204–10.
- Mangione-Smith R, McGlynn EA, Hiatt L. Screening for chlamydia in adolescents and young women. *Arch Pediatr Adolesc Med* 2000;154:1108–13.
- Chesson HW, Blandford JM, Gift TL, Tao G, Irwin KL. The estimated direct medical cost of sexually transmitted diseases among American youth, 2000. *Perspect Sex Reprod Health* 2004;36:11–9.
- Benson R, Richards C, Ranji U, Salganicoff A. Medicaid: a critical source of support for family planning in the United States [Issue brief 7064]. Menlo Park, CA: Kaiser Family Foundation; 2004.
- CDC. Sexually transmitted disease surveillance, 2003. Atlanta, GA: US Department of Health and Human Services, CDC; October 2004.
- Shafer MA, Tebb KP, Pantell RH, et al. Effect of a clinical practice improvement intervention on chlamydial screening among adolescent girls. *JAMA* 2002;288:2846–52.
- Burstein GR, Snyder MA, Conley D, et al. Screening rates before and after the introduction of the chlamydia HEDIS (Health Plan Employer Data and Information Set) measure in a managed care organization [Abstract #A06B]. Presented at the National STD Prevention Conference, Philadelphia, PA; 2004.

## Lymphogranuloma Venereum Among Men Who Have Sex with Men — Netherlands, 2003–2004

Lymphogranuloma venereum (LGV) is a systemic, sexually transmitted disease (STD) caused by a variety of the bacterium *Chlamydia trachomatis* that rarely occurs in the United States and other industrialized countries; the prevalence of LGV is greatest in Africa, Southeast Asia, Central and South America, and Caribbean countries (1). However, in the Netherlands, which typically has fewer than five cases a year, as of September 2004, a total of 92 cases of LGV had been

confirmed during the preceding 17 months among men who have sex with men (MSM). The first 13 cases, diagnosed during April–November 2003, were reported by local health authorities in Rotterdam in December 2003 (2,3). An alert was sent to the Early Warning and Reporting System of the European Union and to the European Surveillance of Sexually Transmitted Infections Network (ESSTI) (4). In April 2004, a report was made to CDC, and state and local health departments were alerted. Of the 92 cases confirmed in the Netherlands, 30 occurred during 2003 and 62 during 2004. This report describes the ongoing investigation of the LGV outbreak. Health-care providers should be vigilant for LGV, especially among MSM exposed to persons from Europe, and prepared to diagnose the disease and provide appropriate treatment to patients and their exposed sex partners (Box).

The cases in the Netherlands were investigated by staff members of public health services, academic medical centers, and the National Institute of Public Health and Environment. After the initial 13 cases were reported, efforts were implemented to increase awareness of the outbreak among health-care providers, staff at human immunodeficiency virus (HIV)–treatment centers and STD clinics, and members of the MSM community. As a result, an additional 17 confirmed cases and 40 probable cases that occurred in 2003 were identified retrospectively.

LGV was diagnosed by conducting polymerase chain reaction (PCR) tests on rectal swab specimens and performing subsequent restriction endonuclease pattern analysis of the amplified outer membrane protein A gene to determine the genotype. Confirmed cases were those in patients with 1) proctitis or contact with a patient confirmed with LGV; 2) a positive PCR test for *C. trachomatis* on a urine or rectal specimen; and 3) L1, L2, or L3 genotype determined by PCR. Probable cases were those in patients whose illness was consistent with the first two criteria and who also had a positive serologic test for *C. trachomatis*, but did not meet the third criterion because specimens were not available for genotyping. Possible cases were in patients who met only the first criterion and had a positive serologic test.

Increased awareness of the LGV outbreak resulted in retrospective reporting of 2003 cases and reporting of 62 confirmed cases in 2004, as of September 1. Additional epidemiologic information was obtained on these 62 patients. Preliminary evaluation determined that all the patients were white and that, among the 30 MSM whose HIV status was known, 23 (77%) were HIV positive. Other preliminary findings suggested that concurrent sexually transmitted infections were prevalent and that the majority had participated in casual sex gatherings (e.g., “leather scene” parties) and unprotected anal intercourse or other unprotected anal penetration (e.g., fisting) during the 12 months before onset of symptoms.

#### BOX. Etiology, clinical manifestations, diagnosis, and treatment of lymphogranuloma venereum (LGV)

##### Etiology

- LGV is caused by *Chlamydia trachomatis* serovars L1 to L3. (*C. trachomatis* serovars B and D–K are responsible for the syndromes of non-gonococcal urethritis and cervicitis.)

##### Clinical manifestations

- The primary lesion produced by LGV is a small, non-painful genital papule, which can ulcerate at the site of inoculation after an incubation period of 3–30 days. This lesion can remain undetected within the urethra, vaginal vault, or rectum.
- Common clinical manifestations include 1) tender, unilateral, or bilateral inguinal and/or femoral adenopathy, which can become fluctuant; and 2) hemorrhagic proctitis or proctocolitis, which is associated with receptive anal intercourse (1). The clinical and histologic presentation of LGV proctocolitis can be similar to the initial manifestations of inflammatory bowel disease (2).

##### Diagnosis

- Diagnosis is based primarily on clinical findings; routine laboratory confirmation might not be possible.
- Serologic tests for *C. trachomatis* (i.e., microimmunofluorescence or complement fixation) can support diagnosis.
- Direct identification of *C. trachomatis* from a lesion (i.e., bubo) or site of the infection (e.g., rectum) can be made by using culture or by using nonculture nucleic acid testing; however, neither method is specific for LGV, and use of rectal swabs for nucleic acid testing is not cleared by the Food and Drug Administration.

##### Treatment

- The recommended treatment is administration of 100 mg of doxycycline, twice a day for 21 days. Alternative treatment is 500 mg of erythromycin base orally, four times a day for 21 days. Some specialists in sexually transmitted diseases believe 1 g of azithromycin, administered orally once weekly for 3 weeks, is effective; however, clinical data are lacking.
- Sex partners who had contact with the patient within 30 days of the patient’s onset of symptoms should be evaluated; in the absence of symptoms, they should be treated with either 1 g of azithromycin in a single dose, or 100 mg of doxycycline, twice a day for 7 days.

##### References

1. Perine PL, Stamm WE. Lymphogranuloma venereum. In: Holmes KK, Mardh PA, Sparling PF, et al, eds. Sexually transmitted diseases. New York, NY: McGraw-Hill; 1999:423–32.
2. Bauwens JE, Lampe MF, Suchland RJ, Wong K, Stamm WE. Infection with *Chlamydia trachomatis* lymphogranuloma venereum serovar L1 in homosexual men with proctitis: molecular analysis of an unusual case cluster. Clin Infect Dis 1995;20:576–81.

Only one patient, with onset of illness in April 2003, had symptoms usually associated with LGV (i.e., inguinal adenopathy [buboes] and a painful genital ulcer) (3); all other patients had gastrointestinal symptoms (e.g., bloody proctitis with a purulent or mucous anal discharge and constipation) (2). In all of the cases in Rotterdam, LGV was associated with high-titer antibodies to *C. trachomatis* in sera, as determined by peptide enzyme immunoassay. When urethral swab samples were obtained, they did not contain *C. trachomatis* DNA. LGV was temporally associated with HIV seroconversion in two patients and with recent acquisition of hepatitis C infection in five others.

**Reported by:** MJW van de Laar, PhD, National Institute of Public Health and the Environment, Bilthoven; HM Götz, MD, O de Zwart, MPH, Municipal Health Svc; WI van der Meijden, MD, JM Ossewaarde, MD, HB Thio, MD, Erasmus Univ Medical Centre, Rotterdam; JSA Fennema, PhD, J Spaargaren, MD, Municipal Health Svc; HJC de Vries, MD, Academic Medical Center, Univ of Amsterdam, Amsterdam, Netherlands. SM Berman, MD, JR Papp, PhD, KA Workowski, MD, Div of STD Prevention, National Center for HIV, STD, and TB Prevention, CDC.

**Editorial Note:** Although some of the patients in this LGV outbreak reported having multiple sex partners in cities in Europe and the United States (2), limited information has been reported regarding LGV occurrence outside the Netherlands. However, recent reports from Belgium, France, and Sweden confirm that LGV is occurring elsewhere in Europe (5,6). Additional reports might follow increased awareness of the outbreak (7). In July 2004, CDC identified an L2 LGV strain on a rectal swab specimen from a patient in the United States who had signs and symptoms similar to those of the patients in the Netherlands. In this case, no known exposure to European MSM was reported; U.S. contacts of the patient were evaluated and treated.

Health-care providers and MSM in the United States and Europe should be aware of this LGV outbreak, which is similar to STD increases (e.g., in syphilis, rectal gonorrhea, and quinolone-resistant *Neisseria gonorrhoeae* and including coinfections with HIV) that have been reported in recent years among MSM (8,9). The ulcerative character of LGV can facilitate transmission and acquisition of HIV and other STDs or bloodborne diseases.

The number of cases reported in the Netherlands is likely a minimum estimate of disease occurrence; clinicians in industrialized countries diagnose LGV rarely and would usually not consider LGV as a likely cause of gastrointestinal illness. Estimates of the incidence and prevalence of LGV in the United States are difficult to obtain; the disease is not nationally reportable, and the diagnosis is not straightforward. The clinical presentation of LGV might easily be missed, as evidenced

by the large number of retrospective cases identified in the Netherlands.

The laboratory criteria consistent with a diagnosis of LGV include a positive result (i.e., titer  $\geq 1:64$ ) on a complement fixation test for chlamydiae or a high titer (i.e., typically  $>1:128$ , but can vary by laboratory) on a microimmuno-fluorescence serologic test for *C. trachomatis*. However, most available serologic tests in the United States are based on enzyme immunoassays and might not provide a quantitative "titer-based" result. A list of laboratories that perform serologic tests for *C. trachomatis* and might provide a titered result is available at <http://www.cdc.gov/std/lgv-labs.htm>.

CDC and other laboratories are evaluating molecular approaches compliant with Clinical Laboratory Improvement Amendment regulations that will permit specific diagnoses of LGV. CDC advises clinicians who care for MSM to consider LGV in the diagnosis of compatible syndromes (e.g., proctitis and proctocolitis) and perform tests to diagnose *C. trachomatis* infections, without regard to the specific LGV serovars. Recommended treatment regimens for those suspected of having LGV and their sex partners are offered (Box).

Evaluation of gastrointestinal syndromes that might have been sexually transmitted should include appropriate diagnostic procedures (e.g., anoscopy or sigmoidoscopy) and microbiologic testing for *C. trachomatis*, syphilis, herpes, *N. gonorrhoeae*, and common enteric pathogens that can be sexually transmitted. Clinicians who identify cases compatible with LGV (e.g., proctitis associated with serologic or microbiologic evidence of chlamydial infection) should contact CDC at 404-639-2059 and local health departments.

## References

- Mabey D, Peeling RW. Lymphogranuloma venereum. *Sex Transm Infect* 2002;78:90–2.
- Götz H, Nieuwenhuis R, Ossewaarde T, et al. Preliminary report of an outbreak of lymphogranuloma venereum in homosexual men in the Netherlands, with implications for other countries in western Europe. *Eurosurveillance Weekly* 2004;8(4). Available at <http://www.eurosurveillance.org/ew/2004/040122.asp#1>.
- Nieuwenhuis RF, Ossewaarde JM, van der Meijden WI, Neumann HA. Unusual presentation of early lymphogranuloma venereum in an HIV-1 infected patient: effective treatment with 1 g azithromycin. *Sex Transm Infect* 2003;79:453–5.
- European Surveillance of Sexually Transmitted Infections Network. ESSTI Alerts. Available at <http://www.essti.org>.
- Von Holstein I, Fenton KA. European network for surveillance of STIs (ESSTI) establishes working groups on lymphogranuloma venereum and HIV/STI prevention among MSM. *Eurosurveillance Weekly* 2004;8(25). Available at <http://www.eurosurveillance.org/ew/2004/040617.asp#4>.
- Van de Laar MJ, Götz HM, Herida M, Goulet V, Ostyn B, Vandenbruaene M. Lymphogranuloma venereum (LGV) among MSM in Europe: an update [Abstract]. Proceedings of the Conference on Sexually Transmitted Infections of the International Union Against Sexually Transmitted Infections (IUSTI), Myconos, Greece, October 7–9, 2004.

7. Nieuwenhuis RF, Ossewaarde JM, Götz HM, et al. Resurgence of lymphogranuloma venereum in western Europe: an outbreak of *Chlamydia trachomatis* serovar L2 proctitis in the Netherlands among men who have sex with men. *Clin Infect Dis* 2004;39:996–1003.
8. CDC. Increases in fluoroquinolone-resistant *Neisseria gonorrhoeae* among men who have sex with men—United States, 2003, and revised recommendations for gonorrhea treatment, 2004. *MMWR* 2004;53:335–8.
9. CDC. Primary and secondary syphilis—United States, 2002. *MMWR* 2003;52:1117–20.

## Laboratory Exposure to *Burkholderia pseudomallei* — Los Angeles, California, 2003

On July 26, 2003, the Los Angeles County Department of Health Services (LACDHS) received a report that a local clinical laboratory had isolated from specimens *Burkholderia pseudomallei*, a category B biologic terrorism agent and the causative organism for melioidosis, which is endemic to certain tropical areas. Because laboratory workers had manipulated cultures of the organism, CDC was asked to assist in the subsequent investigation. This report summarizes the results of that investigation, which included assessment of laboratory exposures, postexposure chemoprophylaxis, and serologic testing of exposed laboratory workers. The findings underscore the need to reinforce proper laboratory practices and the potential benefits of chemoprophylaxis after laboratory exposures.

The specimens were taken from a man aged 47 years with diabetes mellitus who had been evaluated at a local emergency department (ED) for fever, chills, and chest and leg pain. He had traveled to El Salvador 3 weeks earlier and returned 3 days before visiting the ED. During the preceding 2 weeks, the man had intermittent fever and night sweats. In the ED, a chest radiograph revealed bilateral and multifocal infiltrates, and he was admitted to the hospital; a computed tomography imaging scan indicated the presence of pulmonary abscesses. During the next 2 days, his condition deteriorated, requiring intubation and mechanical ventilation for respiratory failure; he died from fulminant sepsis and multiorgan system failure. An autopsy revealed acute necrotizing pneumonia, multiple renal abscesses, and cirrhosis.

During the patient's hospitalization, seven specimens of blood, urine, sputum, and bodily fluid were obtained; 2 days after the patient's death, bacterial isolates from all specimens were presumptively identified as *B. pseudomallei* by the laboratory's automated identification system and subsequently confirmed by polymerase chain reaction at the LACDHS Public Health Laboratory. A total of 17 laboratory workers had manipulated cultures from these specimens. These

workers were considered exposed and were offered antibiotic chemoprophylaxis within 48 hours of their exposures.

An onsite investigation was conducted on August 7. Laboratory procedures were reviewed and work activities classified into high and low risk. High-risk activities were defined as those that might result in organism-containing aerosol or droplet formation. High-risk activities included sniffing open culture plates to detect characteristic odors emitted by certain bacteria and preparing suspensions from culture plates using a vortex machine. High-risk activities also included routine laboratory procedures when not performed in a biological safety cabinet (BSC), such as picking colonies, subculturing, inoculating biochemical tests, centrifuging, and preparing slides. Manipulations of cultures inside a BSC were classified as low-risk exposures. On August 11, exposed workers completed a questionnaire regarding demographics, medical and travel histories, and work activities performed on the *B. pseudomallei* cultures. Active surveillance was conducted for symptoms consistent with melioidosis among exposed workers. Finally, serum specimens were obtained for anti-*B. pseudomallei* antibody testing from all exposed workers at 1, 2, 4, and 6 weeks after exposure. Serologic testing was performed by using an indirect hemagglutination test at PathCentre (Nedlands, Australia), with a positive result defined as a titer  $\geq 40$  (1).

All 17 exposed workers completed the questionnaire. The median age was 48 years (range: 36–59 years). All reported  $\geq 10$  years of laboratory work experience (Table). Five persons (29%) reported an underlying condition, such as diabetes, that might put them at risk for severe disease. Eight (47%) reported having traveled to Southeast Asia during their lifetimes. Thirteen (77%) reported high-risk activities, including four (24%) who reported sniffing an open *B. pseudomallei* culture plate because of the distinctive "earthy" odor.

Sixteen workers completed a 3-week regimen of trimethoprim-sulfamethoxazole, and one completed a 3-week regimen of doxycycline. Antibiotics were begun at a median of 2 days' postexposure (range: 0–4 days). None of the exposed laboratory workers had symptoms consistent with melioidosis during 5 months after exposure. Two laboratory workers had titers of  $\leq 20$  for *B. pseudomallei* on the first serum drawn. Both workers were born in the United States, and neither demonstrated an increase in titer 6 weeks after exposure. The first (no. 17) reported sniffing a *B. pseudomallei* culture plate. The worker recalled previous travel to Hawaii, Europe, Mexico, and Jamaica but reported no previous illnesses consistent with melioidosis. The second worker (no. 1) reported low-risk activities. The worker reported previous travel to the Philippines and Singapore and was hospitalized in 2001 for pneumonia with pleural effusions requiring thoracenteses; no pathogen was identified.

**TABLE. Characteristics of laboratory workers exposed to *Burkholderia pseudomallei* (*B. ps*) culture isolates — Los Angeles, California, 2003**

Worker	Years of laboratory experience	Underlying medical condition	Any lifetime travel to areas where melioidosis is endemic	Performed high-risk laboratory activities*	Sniffed open <i>B. ps</i> plate	Detected anti- <i>B. ps</i> titer (date of blood draw)
1	20	—	Y	—	—	20 (9/24/03)
2	22	—	Y	Y	—	—
3	11	Diabetes mellitus	Y	—	—	—
4	25	—	—	Y	—	—
5	20	—	—	Y	Y	—
6	17	Thalassemia	—	Y	Y	—
7	12	Rheumatoid arthritis	—	Y	—	—
8	22	—	Y	—	—	—
9	10	—	Y	Y	—	—
10	20	—	—	Y	—	—
11	24	Ulcerative colitis	—	Y	—	—
12	15	—	Y	Y	Y	—
13	19	—	Y	Y	—	—
14	17	—	Y	—	—	—
15	25	—	—	Y	—	—
16	21	—	—	Y	—	—
17	28	Diabetes mellitus	—	Y	Y	20 (9/26/03)

\*Activities that might result in aerosol/droplet formation, procedures not performed in a biosafety cabinet, or the sniffing of open culture plates.

Although the occurrence of potentially high-risk work activities performed outside a BSC were documented, no laboratory workers in this investigation were infected with *B. pseudomallei*. In response to this incident, laboratory safety recommendations for *B. pseudomallei* were reviewed; the laboratory had existing policies against sniffing all culture plates and continued to prohibit this and other unsafe laboratory practices.

**Reported by:** BJ Currie, MD, Royal Darwin Hospital and Menzies School of Health Research, Darwin; TJ Inglis, MD, Western Australian Centre for Pathology and Medical Research (PathCentre), Nedlands, Australia. AM Vannier, MD, SM Novak-Weekley, PhD, Southern California Permanente Medical Group, Regional Reference Laboratories, Los Angeles; J Ruskin, MD, Kaiser Permanente Medical Center, Los Angeles; L Mascola, MD, E Bancroft, MD, L Borenstein, PhD, S Harvey, PhD, Los Angeles County Dept of Health Svcs, California. N Rosenstein, MD, TA Clark, MD, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases; DM Nguyen, MD, EIS Officer, CDC.

**Editorial Note:** This report describes the investigation into the exposure of 17 laboratory workers to the gram-negative bacillus *B. pseudomallei*, which causes melioidosis infection. The majority of infections with *B. pseudomallei* are asymptomatic (1). Symptomatic disease can be in localized or septicemic forms. Foci of infection include lung, skin, and genitourinary tract. Although infection can occur in healthy persons, *B. pseudomallei* is an opportunistic pathogen. Underlying immunosuppressing conditions, including diabetes mellitus, chronic renal failure, and alcohol abuse, are risk factors for septicemic melioidosis. Hypotension, absence of fever, leucopenia, and abnormal renal and hepatic function are poor prognostic features (2).

*B. pseudomallei* is endemic to Southeast Asia and northern Australia, but sporadic cases have been reported from other tropical and subtropical areas between 20° north and south latitudes, including El Salvador (3). The primary route of infection is thought to be inoculation; however, infection might occur through inhalation, aspiration, and ingestion. The environmental reservoirs for *B. pseudomallei* are surface water and soil (4). The median incubation period of melioidosis is 9 days (range: 1–21 days), although reactivation of previously asymptomatic disease can occur after months or years (5).

Two laboratory-acquired infections have been reported previously (6,7). A case of pneumonia, epididymo-orchitis, and a leg abscess occurred in a previously healthy laboratory worker. These conditions were associated with open-flask sonication of a suspension of organisms outside of a BSC, presumably resulting in inhalational exposure. In addition, a previously healthy bacteriologist had tender right axillary lymphadenopathy and pneumonia after cleaning a leaking centrifuge tube without wearing gloves. The worker reported having an ulcerative lesion on one finger at the time of the incident, suggesting that infection occurred via inoculation. After appropriate treatment, both patients recovered without adverse sequelae.

Biosafety level (BSL) 2 practices, equipment, and containment are recommended for working with known or potentially infectious body fluids, tissue specimens, or cultures. However, a review of work in a clinical laboratory in an area in which melioidosis is endemic indicated low risk to laboratory workers (8). The laboratory described in that report followed BSL-2 precautions, with aerosol-generating procedures performed in a Class II or higher BSC, whereas new or

ongoing cultures were examined on the open bench; sniff testing of opened culture plates was prohibited. Serologic follow-up of 60 laboratory workers over 15 years identified three workers with titers suggestive of subclinical infection, consistent with the background seroprevalence in the local community. These data suggest that infection is not easily acquired from routine, open-bench laboratory work with *B. pseudomallei*. In the current investigation, the low titers of workers no. 1 and 17 are not considered evidence of infection with *B. pseudomallei* among persons residing in areas where disease is not endemic (B. Currie, M.D., Royal Darwin Hospital and Menzies School of Health Research, personal communication, 2004).

Recommendations for postexposure prophylaxis (PEP) with trimethoprim-sulfamethoxazole or doxycycline for 3 weeks were based on in vitro and animal data; no published data for humans are available. Current treatment recommendations for melioidosis comprise an initial, intensive phase followed by eradication therapy (Box) (4).

As the findings in this report indicate, potentially unsafe laboratory practices such as sniffing opened culture plates can occur before isolates are identified. Such practices should be prohibited, especially given that *B. pseudomallei* can be misidentified by biochemical substrate utilization tests (9). Because infection with *B. pseudomallei* can be severe, PEP with doxycycline (2 mg/kg up to 100 mg orally, twice daily) or trimethoprim-sulfamethoxazole (8 + 40 mg/kg up to 320 + 1,600 mg orally, twice daily) can be considered if cultures of the organism are inadvertently manipulated outside of BSL-2 conditions. Animal data suggest that 5 days of PEP might be insufficient to prevent infection (10). Because the incubation period of melioidosis can last up to 21 days, 3 weeks of PEP might be necessary. PEP should be recommended for

laboratory manipulations or incidents that result in exposure to aerosols or droplets or contact with nonintact skin and for persons with risk factors for septicemic disease. CDC requests that incidents involving unsafe laboratory exposure to *B. pseudomallei* be reported to the Meningitis and Special Pathogens Branch, National Center for Infectious Diseases, telephone 404-639-3158.

#### Acknowledgments

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#### References

1. Khupulsup K, Petchlai B. Application of indirect hemagglutination test and indirect fluorescent antibody test for IgM antibody for diagnosis of melioidosis in Thailand. *Am J Trop Med Hyg* 1986;35:366-9.
2. Chaowagul W, White NJ, Dance DA, et al. Melioidosis: a major cause of community-acquired septicemia in northeastern Thailand. *J Infect Dis* 1989;159:890-9.
3. Dance DA. Melioidosis as an emerging global problem. *Acta Tropica* 2000;74:115-9.
4. Currie B. Melioidosis: an important cause of pneumonia in residents of and travelers returned from endemic regions. *Eur Respir J* 2003;22:542-50.
5. Currie BJ, Fisher DA, Anstey NM, et al. Melioidosis: acute and chronic disease, relapse, and re-activation. *Trans R Soc Trop Med Hyg* 2000;94:301-4.
6. Schlech WF, Turchik JB, Westlake RE, et al. Laboratory-acquired infection with *Pseudomonas pseudomallei* (melioidosis). *N Engl J Med* 1981;305:1133-5.
7. Green RN, Tuffnell PG. Laboratory-acquired melioidosis. *Am J Med* 1968;44:599-605.
8. Ashdown LR. Melioidosis and safety in the clinical laboratory. *J Hosp Infect* 1992;21:301-6.
9. Inglis T, Chiang D, Lee GS, et al. Potential misidentification of *Burkholderia pseudomallei* by API 20NE. *Pathology* 1998;30:62-4.
10. Russell P, Eley SM, Ellis J, et al. Comparison of efficacy of ciprofloxacin and doxycycline against experimental melioidosis and glanders. *J Antimicrob Chemother* 2000;45:813-8.

#### BOX. Melioidosis treatment recommendations

<b>Initial intensive therapy (lasting <math>\geq 14</math> days)</b>		
Ceftazidime	50 mg/kg up to 2 g	Every 6 hours
<b>or</b>		
Meropenem	25 mg/kg up to 1 g	Every 8 hours
<b>or</b>		
Imipenem	25 mg/kg up to 1 g	Every 6 hours
<b>and (optional)</b>		
Trimethoprim-sulfamethoxazole	8 + 40 mg/kg up to 320 + 1600 mg	Every 12 hours
<b>Eradication therapy (lasting <math>\geq 3</math> months)</b>		
Trimethoprim-sulfamethoxazole	8 + 40 mg/kg up to 320 + 1600 mg	Every 12 hours
<b>and (optional)</b>		
Doxycycline	2 mg/kg up to 100 mg	Every 12 hours

### Laboratory Surveillance for Wild and Vaccine-Derived Polioviruses, January 2003–June 2004

In 1988, the World Health Assembly resolved to eradicate poliomyelitis globally by 2000. Progress toward achieving this goal has been reported from countries where polio is endemic, and three World Health Organization (WHO) regions (Americas, Europe, and Western Pacific) appear to be free of indigenous wild poliovirus (WPV) transmission. One key strategy for eradicating polio is establishing sensitive polio surveillance systems by investigating acute flaccid paralysis (AFP) cases. To ensure that specimens from persons with AFP undergo appropriate processing for viral isolation, WHO established a global polio laboratory network in 1988. This report updates



previous publications (1–4), summarizes the laboratory network's performance, and describes the location and characterization of WPV and vaccine-derived poliovirus (VDPV) during January 2003–June 2004.

### Laboratory Network Performance

The global polio laboratory network, which operates in all six WHO regions, comprises 123 national facilities, 15 regional reference laboratories, and seven global specialized laboratories. High-quality performance is ensured through a WHO-administered laboratory accreditation program with a comprehensive annual review of criteria related to timely and accurate laboratory results. Of the 145 network laboratories, 139 (96%) were fully accredited by WHO in 2003. Three laboratories that passed annual proficiency tests but were deficient in some other aspect of performance were provisionally accredited. Three laboratories were not accredited because they failed the annual proficiency test. Nonaccredited laboratories split samples for parallel testing in accredited laboratories while implementing measures to improve performance.

During January 2003–June 2004, the laboratory network tested 104,946 stool samples from persons with AFP. For more than 90% of the samples, virus isolation results were available within 28 days of receipt by laboratories (program target: >80% within 28 days). For 79% of persons with AFP with poliovirus isolates, the results of intratypic differentiation (ITD) tests confirmed the wild or vaccine-like nature of isolates within 60 days of paralysis onset (program target: >80% within 60 days) (Table 1). During the first 6 months of 2004, a total of 38,432 AFP samples were processed by network laboratories, compared with 29,232 samples during the same period in 2003, a 31% increase. Workload increased 23% and 40% in the Africa and Southeast Asia regions, respectively.

### WPV Serotypes and Genotypes

During January 2003–June 2004, WPVs were confirmed in 19 countries (Table 2). The polio laboratory network routinely performs genetic characterization of all WPVs and all isolates with inconclusive results on ITD tests. Analysis of genetic sequence data from WPVs identifies circulating virus genotypes as well as the genetic links among viruses from diverse locations. Six WPV genotypes were detected during January 2003–June 2004, including three type 1 genotypes (NEAF, WEAf-B, and SOAS)\* and three type 3 genotypes (WEAF-B, SOAS, and EAAF)\*. The NEAF genotype was identified in Egypt. The SOAS genotypes (types 1 and 3) were detected in Afghanistan, India, and Pakistan. The type 1 WEAf-B genotype was identified in Botswana, Sudan, and 11 countries in western and central Africa. The type 3 WEAf-B genotype was detected only in Niger and Nigeria. The type 3 EAAF genotype reemerged in Sudan in 2004. Wild type 2 poliovirus has not been detected anywhere in the world since October 1999 (5).

Indigenous WPVs were detected in Afghanistan, Egypt, India, Niger, Nigeria, and Pakistan in 2003 and 2004. Indigenous type 3 virus from central Africa/Horn of Africa, which was thought to have been eliminated 3 years earlier, was detected in Sudan in 2004. Type 1 virus detected in Lebanon in 2003 had been imported from northern India.

### VDPVs

Vaccine-derived polioviruses, defined as viruses with  $\geq 1\%$  sequence differences compared with Sabin vaccine virus of the same serotype, are also detected by the laboratory network (Table 3). Although VDPVs previously have been shown to circulate in Egypt, Hispaniola, Madagascar, and Philippines

\* Genotype abbreviations: NEAF = Northeast Africa; WEAf-B = West Africa-B; SOAS = South Asia; EAAF = East Africa.

**TABLE 1. Number of specimens and poliovirus (PV) isolates, percentage of specimens with nonpolio enterovirus (NPEV) isolates, and timing of results, by World Health Organization (WHO) region and year, January 2003–June 2004**

WHO region	January–December 2003						January–June 2004					
	No. of specimens	No. of PV isolates		% specimens with NPEV isolated	% results within 28 days	% ITD results within 60 days*	No. of specimens	No. of PV isolates		% specimens with NPEV isolated	% results within 28 days	% ITD results within 60 days
		Wild	Sabin					Wild	Sabin			
Africa	17,008	840	549	12	98	61	9,850	999	346	13	94	59
Americas Eastern	1,878	0	31	15	76	100	959	0	23	11	94	100
Mediterranean	10,325	204	539	16	96	93	5,394	48	246	16	99	98
Europe	3,078	0	153	4	91	86	3,252	0	34	3	99	94
Southeast Asia	21,816	418	1,207	19	99	89	13,032	58	794	21	99	91
Western Pacific	12,409	0	452	9	94	64	5,945	0	181	8	94	73
<b>Total</b>	<b>66,514</b>	<b>1,462</b>	<b>2,931</b>	<b>14</b>	<b>91</b>	<b>78</b>	<b>38,432</b>	<b>1,105</b>	<b>1,624</b>	<b>14</b>	<b>97</b>	<b>81</b>

\* Intratypic differentiation results within 60 days of paralysis onset.

**TABLE 2. Number of wild poliovirus (WPV) isolates from persons with acute flaccid paralysis, by World Health Organization (WHO) region/country and serotype\*, January 2003–June 2004**

WHO region/ country	January–December 2003				January–June 2004			
	No. of WPV isolates	Serotype			No. of WPV isolates	Serotype		
		P1	P2	P3		P1	P2	P3
<b>Africa</b>								
Benin†	4	4	0	0	11	11	0	0
Botswana†	0	0	0	0	2	2	0	0
Burkina Faso†	19	19	0	0	11	11	0	0
Cameroon†	4	4	0	0	0	0	0	0
Central African Republic†	2	2	0	0	4	4	0	0
Chad†	46	46	0	0	22	22	0	0
Côte d'Ivoire†	2	2	0	0	18	18	0	0
Ghana†	14	14	0	0	0	0	0	0
Guinea†	0	0	0	0	2	2	0	0
Mali†	0	0	0	0	3	3	0	0
Nigeria	674	351	0	323	888	742	0	146
Niger	73	57	0	16	38	27	0	11
Togo†	2	2	0	0	0	0	0	0
<b>Americas</b>								
0	0	0	0	0	0	0	0	0
<b>Eastern Mediterranean</b>								
Afghanistan	15	9	0	6	6	4	0	2
Egypt	1	1	0	0	2	2	0	0
Lebanon§	1	1	0	0	0	0	0	0
Pakistan	187	130	0	57	36	27	0	9
Sudan†	0	0	0	0	4	2	0	2
<b>Europe</b>								
0	0	0	0	0	0	0	0	0
<b>Southeast Asia</b>								
India	418	377	0	41	58	56	0	2
<b>Western Pacific</b>								
0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>1,462</b>	<b>1,019</b>	<b>0</b>	<b>443</b>	<b>1,105</b>	<b>933</b>	<b>0</b>	<b>172</b>

\* P1 = poliovirus type 1; P2 = poliovirus type 2; and P3 = poliovirus type 3.

† P1 viruses genetically linked to wild viruses that originated in Nigeria.

§ P1 virus genetically linked to wild viruses that originated in northern India.

**TABLE 3. Number of vaccine-related poliovirus isolates\* from persons with acute flaccid paralysis, by World Health Organization (WHO) region, January 2003–June 2004**

WHO region	Vaccine-derived poliovirus (VDPV)†				
	Sabin-like§	cVDPV¶	iVDPV**	Other VDPV††	Total VDPV
Africa	895	0	0	0	0
Americas	54	0	1§§	0	1
Eastern Mediterranean	785	0	0	0	0
Europe	187	0	0	1¶¶	1
Southeast Asia	2,001	0	2***	0	2
Western Pacific	633	1†††	0	0	1
<b>Total</b>	<b>4,555</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>5</b>

\* Poliovirus isolates with one or two intratypic differentiation (ITD) results indicating vaccine virus (excludes VDPV isolates from environmental samples).

† A poliovirus with ≥1% sequence difference compared with Sabin vaccine virus.

§ Either concordant Sabin-like results in ITD tests or <1% sequence difference compared with Sabin vaccine virus.

¶ Circulating VDPV.

\*\* VDPV associated with an immunodeficient person.

†† VDPV not associated with an outbreak or immunodeficiency.

§§ Peru.

¶¶ Kazakhstan.

\*\*\* Thailand.

††† China.

(6–9), no VDPV outbreaks were detected in 2003. Type 1 VDPVs detected in two persons with AFP (June and July 2004) and in two contacts of persons with AFP (August 2004) in Guizhou Province, China, are the subject of an ongoing investigation. Type 2 VDPVs were isolated from single AFP cases in Kazakhstan, Peru, and Thailand in 2003.

VDPVs from non-AFP sources also have been reported. In 2003, a type 1 VDPV was isolated from a healthy child in Mongolia, and a type 2 VDPV was isolated from a healthy child in Latvia. A type 3 VDPV was isolated from a single sewage sample collected in Estonia in 2003 (10). Type 2 VDPVs were isolated intermittently from sewage in Slovakia during October 2003–June 2004 and from a single sewage sample collected in Israel in April 2004.

**Reported by:** *Immunization, Vaccines, and Biologicals Dept, WHO, Geneva, Switzerland. Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Global Immunization Div, National Immunization Program, CDC.*

**Editorial Note:** Data from the global polio laboratory network confirm the continuing polio-free status of the American, European, and Western Pacific regions. Timely confirmation of WPV transmission in the remaining countries where polio

is endemic has been essential for planning and targeting of supplemental immunization activities. Characterization of WPV isolates through analysis of VP1 genetic sequences allows for tracing of transmission pathways and investigation of linkages among isolates. Sequence data indicate that WPVs detected in the majority of countries in the African region during 2003 and 2004 do not represent a resurgence of indigenous viruses in these locations but resulted from importations from a major WPV reservoir in northern Nigeria.

The laboratory network has achieved a high quality of performance and accuracy, achieving the program standard of providing virology results for more than 80% of persons with AFP within 60 days of paralysis onset. To minimize reporting delays, the network routinely monitors and analyzes the timeliness of all stages of AFP case investigation, including sample collection, shipment, and testing. These analyses reveal that the logistics of sample and isolate shipment remain the biggest challenge to providing timely results. Shipping isolates between laboratories usually takes 5–7 days but can take substantially longer in certain locations. To improve the timeliness of isolate shipment, the network plans to make ITD testing available in laboratories in Côte d'Ivoire, Ibadan-Nigeria, and Senegal, which serve 14 African countries. As a result of enhanced surveillance efforts to identify the last remaining WPV transmission chains, several laboratories in regions where WPV is endemic have experienced substantial workload increases, necessitating additional resources to meet demands for culture supplies, equipment, and trained personnel.

Policies for eventual cessation of oral poliovirus-vaccine (OPV) use depend on an assessment of VDPV risk. The laboratory network has a critical role in generating data to estimate the frequency of VDPVs and monitoring their ability to cause paralysis or to circulate. Cumulative data since 1999 suggest that approximately 0.5% of all Sabin-related isolates are classified as VDPVs. All VDPV isolates from any source should be investigated to identify either unrecognized circulation or the presence of a chronically infected immunodeficient person in the community. Investigation of reported VDPV isolates revealed immunodeficient persons with AFP from Thailand and Peru in 2003. These persons did not excrete VDPVs for prolonged periods; no VDPVs were isolated from their follow-up stool samples. Investigation of VDPVs in Slovakia has not revealed gaps in vaccination coverage nor identified paralyzed persons in the communities in which VDPVs were detected. Health officials are continuing efforts to identify the source of these viruses.

Poliovirus surveillance should continue for  $\geq 3$  years after OPV cessation, implying that laboratory support might be needed through 2011. WHO has initiated discussions with national governments and partner agencies regarding the future of network laboratories. WHO is also pursuing greater

government support of laboratories to facilitate the transition to other high-priority public health activities and to maximize the investments made in developing high-quality laboratory services. Continued involvement of national governments and partner agencies<sup>†</sup> is essential to sustain high-quality laboratory performance.

#### References

1. CDC. Laboratory surveillance for wild poliovirus and vaccine-derived poliovirus, 2000–2001. *MMWR* 2002;51:369–71.
2. CDC. Developing and expanding contributions of the global laboratory network for poliomyelitis eradication, 1997–1999. *MMWR* 2000;49:156–60.
3. CDC. Status of the global laboratory network for poliomyelitis eradication, 1994–1996. *MMWR* 1997;46:692–4.
4. CDC. Laboratory surveillance for wild and vaccine-derived polioviruses, January 2002–June 2003. *MMWR* 2003;52:913–6.
5. CDC. Apparent global interruption of wild poliovirus type 2 transmission. *MMWR* 2001;50:222–4.
6. Yang C-F, Naguib T, Yang S-J, et al. Circulation of endemic type 2 vaccine-derived poliovirus in Egypt from 1983 to 1993. *J Virol* 2003;77:8366–77.
7. Kew O, Morris-Glasgow V, Landaverde M, et al. Outbreak of poliomyelitis in Hispaniola associated with circulating type 1 vaccine-derived poliovirus. *Science* 2002;296:356–9.
8. WHO. Acute flaccid paralysis associated with circulating vaccine-derived poliovirus, Philippines, 2001. *Wkly Epidemiol Rec* 2001;76:319–20.
9. Rousset D, Rakoto-Andrianarivelo M, Razafindratsimandresy R, et al. Recombinant vaccine-derived poliovirus in Madagascar. *Emerg Infect Dis* 2003;9:885–7.
10. Blomqvist Savollaine C, Laine P, Hirttio P, et al. Characterization of a highly evolved vaccine-derived poliovirus type 3 isolated from sewage in Estonia. *J Virol* 2004;78:4876–83.

<sup>†</sup> Rotary International, CDC, U.S. Agency for International Development, United Nations Foundation, Wyeth Lederle American Association for World Health, Japan International Cooperation Agency, Canadian International Development Agency (CIDA), Australian Agency for International Development, and various national governments, including Finland, Italy, and the Netherlands.

## Update: Influenza Activity — United States and Worldwide, May–October 2004

During May–October 2004, influenza A (H3N2) viruses circulated worldwide and were associated with mild-to-moderate levels of disease activity. Influenza A (H1N1)\* and

\* Includes both the A (H1N1) and A (H1N2) influenza virus types. Although H1N2 viruses have not been identified since February 2004, not all isolated H1 viruses have been tested for the subtype of their neuraminidase. Thus, this subtype might continue to circulate in some parts of the world. Influenza A (H1N2) viruses appear to have resulted from reassortment of the genes of the circulating influenza A (H1N1) and A (H3N2) subtypes. Because the hemagglutinin proteins of the A (H1N2) viruses are similar to those of the circulating A (H1N1) viruses, and the neuraminidase proteins are similar to the circulating A (H3N2) viruses, the 2004–05 influenza vaccine should provide protection against A (H1N2) viruses.

B viruses were reported less frequently. In North America, isolates of influenza A (H3N2), A (H1N1), and B were identified sporadically. This report summarizes influenza activity in the United States and worldwide during May–October 2004<sup>†</sup>. Influenza activity in North America typically peaks during December–March (1).

## United States

Until recently, in the United States, national influenza surveillance was conducted by four systems that operated during October–May. One of these systems consists of approximately 1,000 sentinel health-care providers, who regularly report data to CDC on patient visits for influenza-like illness (ILI). In addition, during 2004, approximately 350 sentinel providers continued to submit weekly reports during May–September. A second system consists of approximately 120 U.S.-based World Health Organization (WHO) and National Respiratory and Enteric Virus Surveillance System (NREVSS) collaborating laboratories; these laboratories report the number of respiratory specimens tested and the number and types of influenza viruses identified throughout the year.

For the 2004–05 influenza season, CDC has added two new surveillance systems: one that tracks naturally reported pediatric deaths associated with laboratory-confirmed influenza infections and another that tracks hospitalizations associated with laboratory-confirmed influenza infections in children aged <18 years. The latter system, which will continue at a minimum of nine sites through CDC's Emerging Infections Program, augments CDC's ongoing surveillance at the three National Vaccine Surveillance Network sites of children aged <5 years hospitalized with fever or respiratory illness.

During May 23–October 2, the weekly percentage of patient visits to sentinel providers for ILI ranged from 0.4% to 0.8%. WHO and NREVSS collaborating laboratories tested 11,916 respiratory specimens; 54 (0.5%) were positive for influenza. Of the positive results, 29 (54%) were influenza B viruses, 14 (26%) were influenza A (H3N2) viruses, and 11 (20%) were influenza A viruses that were not subtyped. Both influenza A and B viruses were reported during late May–September 2004.

During October 3–16, influenza activity occurred at low levels in the United States. Since October 3, WHO and NREVSS collaborating laboratories in the United States have tested 1,414 respiratory specimens; eight (0.6%) were positive. Of these, six were influenza A viruses, and two were influenza B viruses. The proportion of patient visits to senti-

nel providers for ILI and the proportion of deaths attributed to pneumonia and influenza were below baseline levels. During the week ending October 16, nine states and New York City reported sporadic influenza activity, and 40 states and the District of Columbia reported no influenza activity.

## Worldwide

During May–July, influenza A (H3N2) viruses predominated in Africa (Madagascar, Senegal, and South Africa). In Asia, influenza A (H3N2) viruses predominated in China, Hong Kong, and Thailand and also were reported in Japan. Influenza A (H3N2) viruses were responsible for regional outbreaks in Taiwan in August and September (2).

In Oceania (Australia, New Caledonia, and New Zealand), influenza A (H3N2) viruses predominated and were associated with multiple nursing home outbreaks in Australia and New Zealand in August and September. In South America, influenza A (H3N2 and non-subtyped) viruses predominated in Argentina, Brazil, Chile, Peru, and Uruguay. Influenza A (H3N2) viruses were associated with widespread outbreaks in Argentina, Chile, and Paraguay during May–June.

During May–July, influenza A (H1N1) viruses predominated in the Philippines and also were reported in China, Japan, New Caledonia, Peru, and Thailand. Influenza B viruses were reported in South America (Argentina, Brazil, Chile, Colombia, and Peru), Asia (China, Japan, and Korea), Africa (South Africa), and North America (United States). Influenza B viruses were associated with widespread outbreaks in Brazil during May–June.

## Characterization of Influenza Virus Isolates

WHO's Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, located at CDC, analyzes influenza virus isolates received from laboratories worldwide. During May–October, 236 influenza A (H3N2) viruses (110 from Latin America, 100 from Asia, 24 from North America [including 10 from the United States], one from Africa, and one from Oceania) were collected and characterized antigenically. A total of 208 (88.1%) were A/Fujian/411/02-like and similar to A/Wyoming/03/2003, the A (H3N2) component of the 2004–05 influenza vaccine; 28 (11.9%) had reduced titers to A/Wyoming/03/2003. The eight influenza A (H1N1) viruses (one from Canada, three from Hong Kong, two from Singapore, and two from the United Kingdom) collected during May–September and characterized antigenically at CDC were similar to A/New Caledonia/20/99, the A (H1N1) component of the 2003–04 influenza vaccine.

<sup>†</sup> As of October 16, 2004.

Influenza B viruses circulating worldwide can be divided into two antigenically distinct lineages: B/Yamagata/16/88 and B/Victoria/2/87. Before 1991, B/Victoria lineage viruses circulated worldwide; from late 1991 to early 2001, no viruses of the B/Victoria lineage were identified outside Asia. However, since March 2001, B/Victoria-lineage viruses have been identified in many countries outside Asia, including the United States. Viruses of the B/Yamagata lineage began circulating worldwide in 1990 and continue to be identified (3). The type-B component of the 2004–05 influenza vaccine (B/Shanghai/361/2002-like) belongs to the B/Yamagata lineage. Of the 73 influenza B isolates collected during May–September and characterized antigenically at CDC, 54 belonged to the B/Yamagata lineage, and 19 belonged to the B/Victoria lineage.

Of the B/Yamagata lineage viruses, 50 (92.6%) were B/Shanghai/361/2002-like, and four (7.4%) had reduced titers to B/Shanghai/361/2002. Twenty-one of the B/Yamagata lineage viruses were from North America (including 16 from the United States), 25 were from South America, five were from Asia, two were from Oceania, and one was from Europe.

## Human Infections with Avian Influenza A (H5N1) Viruses

Since December 2003, nine countries (Cambodia, China, Indonesia, Japan, Laos, Malaysia, South Korea, Thailand, and Vietnam) have reported outbreaks of avian influenza A (H5N1) infection affecting poultry and, in some countries, other animals. As of October 25, a total of 44 laboratory-confirmed cases of avian influenza A (H5N1) virus infection in humans had been reported in Vietnam and Thailand in 2004 (4). Of these 44 patients, 32 died. The cases occurred in association with recurring H5N1 outbreaks among poultry in those countries.

Four human H5N1 cases occurred in Vietnam (three in children and one in a young adult) during July–September. In Thailand, four cases occurred in September and one case in October. The cases were associated with severe respiratory illness, with persons requiring hospitalization; all but one patient died. The cumulative case-fatality proportion for confirmed H5N1 cases since January 2004 is 73% (Vietnam: 27 cases, 20 deaths; Thailand: 17 cases, 12 deaths).

**Reported by:** WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza; K Teates, MPH, L Brammer, MPH, A Balish, T Wallis, H Hall, A Klimov, PhD, K Fukuda, MD, N Cox, PhD, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; M Katz, MD, EIS Officer, CDC.

**Editorial Note:** During May–October 2004, influenza A (H3N2) viruses were the most frequently reported virus subtype worldwide; however, influenza A (H1N1) and influenza B viruses also circulated. At this time, neither the influenza virus subtype that will predominate in the United States nor the severity and timing of the 2004–05 season can be predicted.

The ongoing widespread epizootic of highly pathogenic H5N1 viruses in Asia remains a major concern. Since December 2003, nine Asian countries have reported H5N1 poultry outbreaks, with human cases reported from two of these countries. No evidence of sustained person-to-person transmission has been identified to date, although a probable instance of limited person-to-person transmission in a family cluster was identified recently in Thailand. CDC continues to recommend enhanced surveillance for suspected H5N1 cases among travelers with severe unexplained respiratory illness returning from H5N1-affected countries. Additional information about avian influenza is available at <http://www.phppo.cdc.gov/han/archivesys/viewmsgv.asp?alertnum=00209>.

Influenza surveillance reports for the United States are published weekly during October–May and are available through CDC's voice (telephone, 888-232-3228) and fax (telephone, 888-232-3299, document number 361100) information systems and at <http://www.cdc.gov/flu/weekly/fluactivity.htm>. Additional information about influenza viruses, influenza surveillance, and the influenza vaccine is available at <http://www.cdc.gov/flu>.

### Acknowledgments

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### References

1. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 2004;53(No. RR-6).
2. World Health Organization. Influenza in the world. *Wkly Epidemiol Rec* 2004;79:385–92.
3. CDC. Update: influenza activity—United States and worldwide, May–September 2003. *MMWR* 2003;52:911–3.
4. World Health Organization. Communicable disease surveillance and response: avian influenza. Geneva, Switzerland: World Health Organization; 2004. Available at [http://www.who.int/csr/disease/avian\\_influenza](http://www.who.int/csr/disease/avian_influenza).

## West Nile Virus Activity — United States, October 20–26, 2004

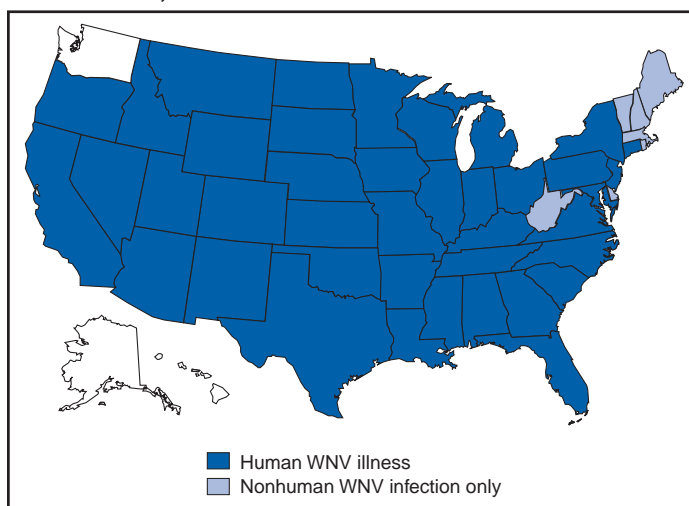
During October 20–26, a total of 80 cases of human West Nile virus (WNV) illness were reported from 16 states (Arizona, California, Florida, Iowa, Kentucky, Louisiana, Michigan, Mississippi, Missouri, Montana, Nebraska, New York, Ohio, South Dakota, Texas, and Utah).

During 2004, a total of 40 states and the District of Columbia (DC) have reported 2,231 cases of human WNV illness to CDC through ArboNET (Figure and Table). Of these, 710 (32%) cases were reported in California, 379 (17%) in Arizona, and 276 (12%) in Colorado. A total of 1,289 (59%) of the 2,201 cases for which such data were available occurred in males; the median age of patients was 52 years (range: 1 month–99 years). Date of illness onset ranged from April 23 to October 15; a total of 73 cases were fatal.

A total of 196 presumptive West Nile viremic blood donors (PVDs) have been reported to ArboNET in 2004. Of these, 73 (37%) were reported in California; 38 (19%) in Arizona; 16 in Texas; 15 in New Mexico; seven in Colorado; six each in Louisiana and Oklahoma; five in Nevada; four in Georgia; three each in Florida, Michigan, and South Dakota; two each in Minnesota, Mississippi, Missouri, and Wisconsin; and one each in Delaware, Iowa, Kentucky, Nebraska, New Jersey, New York, North Dakota, Oregon, and Pennsylvania. Of the 196 PVDs, three persons aged 35, 69, and 77 years subsequently had neuroinvasive illness, and 46 persons (median age: 52 years; range: 17–73 years) subsequently had West Nile fever.

In addition, during 2004, a total of 5,416 dead corvids and 1,316 other dead birds with WNV infection have been reported from 45 states and New York City. WNV infections

**FIGURE. Areas reporting West Nile virus (WNV) activity — United States, 2004\***



\* As of 3 a.m., Mountain Standard Time, October 26, 2004.

**TABLE. Number of human cases of West Nile virus (WNV) illness, by area — United States, 2004\***

Area	Neuro-invasive disease†	West Nile fever‡	Other clinical/unspecified¶	Total reported to CDC**	Deaths
Alabama	13	0	0	13	0
Arizona	128	70	181	379	9
Arkansas	12	9	1	22	0
California	143	248	319	710	20
Colorado	39	237	0	276	3
Connecticut	0	1	0	1	0
District of Columbia	1	0	0	1	0
Florida	32	6	0	38	2
Georgia	11	5	0	16	0
Idaho	0	0	2	2	0
Illinois	28	27	1	56	2
Indiana	5	0	2	7	1
Iowa	11	7	3	21	1
Kansas	18	25	0	43	2
Kentucky	1	6	0	7	0
Louisiana	68	17	0	85	7
Maryland	6	5	1	12	0
Michigan	9	1	0	10	0
Minnesota	13	20	0	33	2
Mississippi	23	5	2	30	3
Missouri	25	9	2	36	1
Montana	2	3	1	6	0
Nebraska	4	26	0	30	0
Nevada	25	19	0	44	0
New Jersey	1	0	0	1	0
New Mexico	29	46	4	79	4
New York	3	3	0	6	0
North Carolina	3	0	0	3	0
North Dakota	2	18	0	20	1
Ohio	10	1	0	11	2
Oklahoma	9	6	0	15	1
Oregon	0	1	0	1	0
Pennsylvania	7	3	1	11	1
South Carolina	0	1	0	1	0
South Dakota	6	45	0	51	1
Tennessee	9	1	0	10	0
Texas	83	26	0	109	8
Utah	6	5	0	11	0
Virginia	4	0	1	5	1
Wisconsin	4	6	0	10	1
Wyoming	2	5	2	9	0
<b>Total</b>	<b>795</b>	<b>913</b>	<b>523</b>	<b>2,231</b>	<b>73</b>

\* As of October 26, 2004.

† Cases with neurologic manifestations (i.e., West Nile meningitis, West Nile encephalitis, and West Nile myelitis).

‡ Cases with no evidence of neuroinvasion.

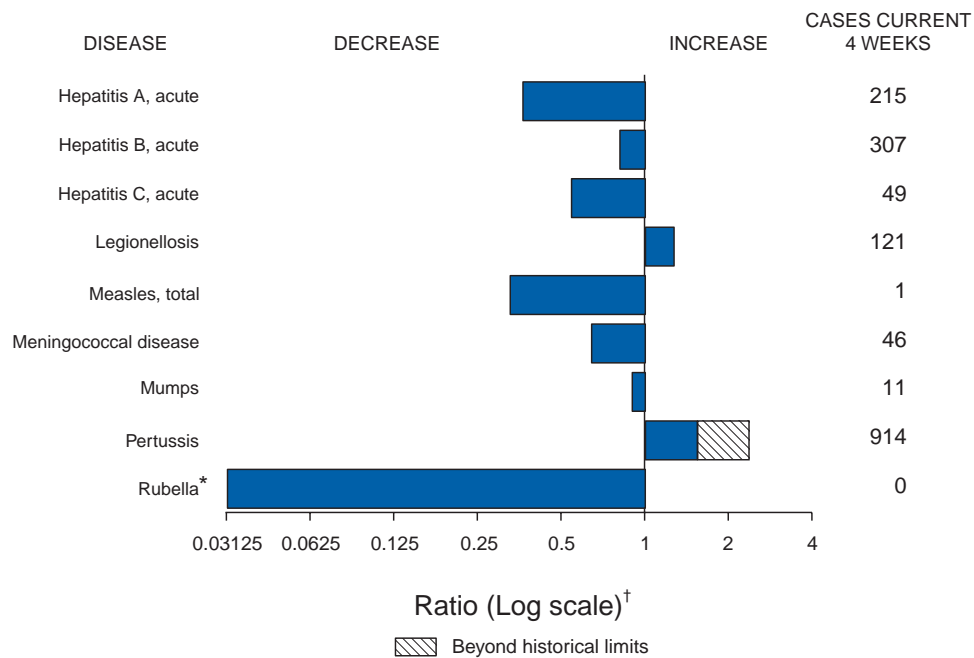
¶ Illnesses for which sufficient clinical information was not provided.

\*\* Total number of human cases of WNV illness reported to ArboNet by state and local health departments.

have been reported in horses in 36 states; one bat in Wisconsin; nine dogs in Nevada, New Mexico, and Wisconsin; six squirrels in Arizona and Wyoming; and 14 unidentified animal species in nine states (Arizona, Idaho, Illinois, Iowa, Kentucky, Missouri, Nevada, New York, and South Carolina).

Additional information about national WNV activity is available from CDC at <http://www.cdc.gov/ncidod/dvbid/westnile/index.htm> and at <http://westnilemaps.usgs.gov>.

**FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals October 23, 2004, with historical data**



\* No rubella cases were reported for the current 4-week period yielding a ratio for week 42 of zero (0).  
 † Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

**TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending October 23, 2004 (42nd Week)\***

	Cum. 2004	Cum. 2003		Cum. 2004	Cum. 2003
Anthrax	-	-	HIV infection, pediatric <sup>††</sup>	126	166
Botulism:	-	-	Influenza-associated pediatric mortality <sup>**</sup>	-	NA
foodborne	11	10	Measles, total	23 <sup>††</sup>	51 <sup>§§</sup>
infant	60	56	Mumps	159	173
other (wound & unspecified)	9	25	Plague	1	1
Brucellosis <sup>†</sup>	84	79	Poliomyelitis, paralytic	-	-
Chancroid	28	47	Psittacosis <sup>†</sup>	9	9
Cholera	4	1	Q fever <sup>†</sup>	60	56
Cyclosporiasis <sup>†</sup>	200	60	Rabies, human	5	2
Diphtheria	-	-	Rubella	10	7
Ehrlichiosis:	-	-	Rubella, congenital syndrome	-	1
human granulocytic (HGE) <sup>†</sup>	248	256	SARS-associated coronavirus disease <sup>†**</sup>	-	8
human monocytic (HME) <sup>†</sup>	233	218	Smallpox <sup>† ††</sup>	-	NA
human, other and unspecified	29	38	<i>Staphylococcus aureus</i> :	-	-
Encephalitis/Meningitis:	-	-	Vancomycin-intermediate (VISA) <sup>† ††</sup>	-	NA
California serogroup viral <sup>†§</sup>	72	104	Vancomycin-resistant (VRSA) <sup>† ††</sup>	1	NA
eastern equine <sup>†§</sup>	3	13	Streptococcal toxic-shock syndrome <sup>†</sup>	86	135
Powassan <sup>†§</sup>	-	-	Tetanus	12	15
St. Louis <sup>†§</sup>	7	39	Toxic-shock syndrome	103	103
western equine <sup>†§</sup>	-	-	Trichinosis	4	1
Hansen disease (leprosy) <sup>†</sup>	64	68	Tularemia <sup>†</sup>	73	72
Hantavirus pulmonary syndrome <sup>†</sup>	17	18	Yellow fever	-	-
Hemolytic uremic syndrome, postdiarrheal <sup>†</sup>	117	135			

-: No reported cases.  
 \* Incidence data for reporting years 2003 and 2004 are provisional and cumulative (year-to-date).  
 † Not notifiable in all states.  
 § Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).  
 †† Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update September 26, 2004.  
 \*\* Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases.  
 ††† Of 23 cases reported, 10 were indigenous, and 13 were imported from another country.  
 §§ Of 51 cases reported, 31 were indigenous, and 20 were imported from another country.  
 †††† Not previously notifiable.

**TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\***

Reporting area	AIDS		Chlamydia <sup>†</sup>		Coccidiomycosis		Cryptosporidiosis		Encephalitis/Meningitis West Nile <sup>§</sup>	
	Cum. 2004 <sup>†</sup>	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	31,120	33,700	704,535	693,110	4,773	2,976	2,691	2,770	795	2,820
NEW ENGLAND	981	1,150	24,435	22,336	-	-	152	163	-	28
Maine	15	49	1,671	1,603	N	N	18	18	-	-
N.H.	37	25	1,414	1,278	-	-	27	18	-	2
Vt.	14	14	832	864	-	-	22	29	-	-
Mass.	343	476	10,824	8,836	-	-	54	71	-	12
R.I.	109	82	2,732	2,367	-	-	4	12	-	5
Conn.	463	504	6,962	7,388	N	N	27	15	-	9
MID. ATLANTIC	6,925	8,025	85,430	86,210	-	-	384	345	11	218
Upstate N.Y.	724	740	17,556	15,894	N	N	99	99	1	-
N.Y. City	3,949	4,369	26,412	28,070	-	-	85	99	2	56
N.J.	1,140	1,259	12,475	12,777	-	-	25	14	1	21
Pa.	1,112	1,657	28,987	29,469	N	N	175	133	7	141
E.N. CENTRAL	2,742	3,195	119,668	126,675	14	7	789	841	56	150
Ohio	525	640	27,810	35,071	N	N	197	120	10	84
Ind.	300	428	14,935	13,849	N	N	80	77	5	15
Ill.	1,290	1,472	32,970	38,610	-	-	69	84	28	30
Mich.	493	509	29,997	25,117	14	7	134	111	9	14
Wis.	134	146	13,956	14,028	-	-	309	449	4	7
W.N. CENTRAL	641	631	42,668	40,176	5	2	329	490	79	694
Minn.	152	123	7,487	8,674	N	N	115	128	13	48
Iowa	50	67	5,293	4,093	N	N	69	104	11	80
Mo.	277	304	16,601	14,633	3	1	56	40	25	38
N. Dak.	14	3	1,229	1,249	N	N	10	11	2	94
S. Dak.	8	8	2,073	2,078	-	-	33	36	6	151
Nebr.**	41	42	4,143	3,739	2	1	23	20	4	194
Kans.	99	84	5,842	5,710	N	N	23	151	18	89
S. ATLANTIC	9,492	9,302	139,850	130,009	-	5	446	300	57	181
Del.	121	183	2,365	2,390	N	N	-	4	-	12
Md.	1,252	1,147	15,334	13,116	-	5	15	20	6	48
D.C.	621	807	2,732	2,527	-	-	12	9	1	3
Va.	513	699	18,107	15,242	-	-	53	36	4	19
W. Va.	67	71	2,292	2,100	N	N	5	4	-	1
N.C.	482	886	22,926	20,437	N	N	70	41	3	16
S.C.**	535	615	16,437	11,810	-	-	15	7	-	2
Ga.	1,327	1,499	26,102	28,576	-	-	162	98	11	24
Fla.	4,574	3,395	33,555	33,811	N	N	114	81	32	56
E.S. CENTRAL	1,528	1,491	45,530	44,804	4	1	107	112	46	87
Ky.	187	141	4,591	6,592	N	N	38	21	1	11
Tenn.**	617	644	17,899	16,403	N	N	28	35	9	21
Ala.	360	344	9,331	11,711	-	-	20	46	13	25
Miss.	364	362	13,709	10,098	4	1	21	10	23	30
W.S. CENTRAL	3,581	3,354	86,481	85,160	2	-	80	95	172	589
Ark.	174	146	5,763	6,394	1	-	14	17	12	23
La.	719	444	18,202	16,018	1	-	3	4	68	86
Okla.	154	162	8,966	9,329	N	N	19	13	9	56
Tex.**	2,534	2,602	53,550	53,419	-	-	44	61	83	424
MOUNTAIN	1,178	1,248	39,343	39,044	3,048	1,920	142	113	231	871
Mont.	6	11	1,788	1,551	N	N	34	17	2	75
Idaho	15	21	2,252	1,982	N	N	23	26	-	-
Wyo.	16	5	852	791	2	1	3	4	2	92
Colo.	257	313	9,779	10,454	N	N	48	29	39	621
N. Mex.	152	96	4,333	5,961	18	9	11	9	29	74
Ariz.	437	534	13,047	10,790	2,943	1,872	17	5	128	7
Utah	53	52	2,941	2,995	33	7	4	16	6	-
Nev.	242	216	4,351	4,520	52	31	2	7	25	2
PACIFIC	4,052	5,304	121,130	118,696	1,700	1,041	262	311	143	2
Wash.	313	365	14,094	13,307	N	N	36	43	-	-
Oreg.	239	202	6,737	5,897	-	-	30	35	-	-
Calif.	3,357	4,640	93,177	92,089	1,700	1,041	194	232	143	2
Alaska	39	15	2,984	3,047	-	-	-	1	-	-
Hawaii	104	82	4,138	4,356	-	-	2	-	-	-
Guam	2	5	-	505	-	-	-	-	-	-
P.R.	595	851	2,701	2,060	N	N	N	N	-	-
V.I.	10	29	143	337	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	32	U	-	U	-	U	-	U

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

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

<sup>†</sup> Chlamydia refers to genital infections caused by *C. trachomatis*.

<sup>§</sup> Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).

<sup>†</sup> Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update September 26, 2004.

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



TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\*

Reporting area	<i>Escherichia coli</i> , Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped		Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003				
UNITED STATES	1,972	2,063	187	198	138	130	14,148	15,243	249,411	265,166
NEW ENGLAND	127	124	43	36	17	12	1,307	1,256	5,701	5,827
Maine	10	10	-	1	-	-	103	154	180	157
N.H.	16	15	5	3	-	-	33	30	101	99
Vt.	10	15	-	-	-	-	142	100	70	71
Mass.	53	53	13	8	17	12	605	627	2,553	2,296
R.I.	8	1	1	-	-	-	101	90	681	784
Conn.	30	30	24	24	-	-	323	255	2,116	2,420
MID. ATLANTIC	226	209	26	21	28	32	2,980	3,040	27,450	33,133
Upstate N.Y.	101	75	13	10	12	16	1,047	831	5,646	6,238
N.Y. City	32	7	-	-	-	-	799	980	8,421	11,001
N.J.	35	29	4	2	5	-	312	416	4,881	6,535
Pa.	58	98	9	9	11	16	822	813	8,502	9,359
E.N. CENTRAL	358	477	35	29	24	17	1,976	2,644	50,064	56,731
Ohio	85	95	10	15	18	17	669	733	14,300	18,451
Ind.	51	70	-	-	-	-	-	-	5,487	5,362
Ill.	49	111	1	2	1	-	338	779	14,383	17,411
Mich.	73	74	7	-	5	-	588	621	12,312	10,961
Wis.	100	127	17	12	-	-	381	511	3,582	4,546
W.N. CENTRAL	425	363	26	42	16	19	1,625	1,641	13,522	13,999
Minn.	105	116	14	20	1	1	596	599	2,348	2,429
Iowa	115	85	-	-	-	-	245	225	938	1,019
Mo.	67	70	11	12	7	1	420	421	7,090	6,979
N. Dak.	13	10	-	4	6	8	20	32	87	69
S. Dak.	31	25	-	4	-	-	50	65	232	176
Nebr.	60	31	1	2	-	-	114	113	832	1,241
Kans.	34	26	-	-	2	9	180	186	1,995	2,086
S. ATLANTIC	148	122	34	38	42	34	2,265	2,175	63,370	64,805
Del.	2	7	N	N	N	N	39	39	726	924
Md.	20	12	4	3	3	1	100	93	6,602	6,245
D.C.	1	1	-	-	-	-	54	37	2,061	1,999
Va.	36	32	13	11	-	-	427	266	7,128	7,169
W. Va.	2	4	-	-	-	-	32	35	769	704
N.C.	-	-	-	-	28	26	N	N	12,189	11,743
S.C.	7	1	-	-	-	-	51	123	8,033	6,958
Ga.	21	25	11	5	-	-	651	713	11,442	14,153
Fla.	59	40	6	19	11	7	911	869	14,420	14,910
E.S. CENTRAL	75	72	3	2	9	6	317	313	19,811	22,369
Ky.	23	24	2	2	6	6	N	N	2,078	2,944
Tenn.	31	32	1	-	3	-	158	142	6,734	6,796
Ala.	14	12	-	-	-	-	159	171	5,720	7,502
Miss.	7	4	-	-	-	-	-	-	5,279	5,127
W.S. CENTRAL	63	74	2	4	2	4	260	247	33,374	35,281
Ark.	11	9	1	-	-	-	97	127	2,884	3,431
La.	3	3	-	-	-	-	36	10	8,521	9,209
Okla.	16	22	-	-	-	-	123	110	3,813	3,836
Tex.	33	40	1	4	2	4	4	-	18,156	18,805
MOUNTAIN	208	259	17	23	-	6	1,224	1,282	8,560	8,396
Mont.	16	13	-	-	-	-	64	90	53	87
Idaho	43	66	9	15	-	-	143	166	79	59
Wyo.	8	2	1	-	-	-	21	20	52	34
Colo.	44	60	2	3	-	6	420	371	2,168	2,328
N. Mex.	9	10	2	4	-	-	58	42	603	965
Ariz.	21	29	N	N	N	N	142	201	3,177	2,987
Utah	46	57	2	-	-	-	274	277	459	303
Nev.	21	22	1	1	-	-	102	115	1,969	1,633
PACIFIC	342	363	1	3	-	-	2,194	2,645	27,559	24,625
Wash.	126	93	-	1	-	-	310	292	2,113	2,241
Oreg.	60	93	1	2	-	-	372	349	997	799
Calif.	145	166	-	-	-	-	1,378	1,862	23,029	20,183
Alaska	1	4	-	-	-	-	69	73	439	440
Hawaii	10	7	-	-	-	-	65	69	981	962
Guam	N	N	-	-	-	-	-	2	-	55
P.R.	-	1	-	-	-	-	103	227	202	218
V.I.	-	-	-	-	-	-	-	-	49	72
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	3	U

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\*

Reporting area	<i>Haemophilus influenzae</i> , invasive								Hepatitis (viral, acute), by type	
	All ages		Age <5 years						A	
	All serotypes		Serotype b		Non-serotype b		Unknown serotype		Cum.	Cum.
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	2004	2003
UNITED STATES	1,467	1,517	11	22	78	94	145	165	4,465	5,575
NEW ENGLAND	125	114	1	2	5	5	3	3	861	260
Maine	12	4	-	-	-	-	-	1	11	11
N.H.	16	12	-	1	2	-	-	-	17	15
Vt.	6	8	-	-	-	-	1	-	8	6
Mass.	51	53	1	1	-	5	2	1	744	144
R.I.	3	6	-	-	-	-	-	1	20	12
Conn.	37	31	-	-	3	-	-	-	61	72
MID. ATLANTIC	303	320	-	1	4	3	33	40	523	1,061
Upstate N.Y.	98	115	-	1	4	3	5	8	80	101
N.Y. City	62	55	-	-	-	-	12	11	207	378
N.J.	63	58	-	-	-	-	3	8	104	175
Pa.	80	92	-	-	-	-	13	13	132	407
E.N. CENTRAL	223	254	-	3	6	4	35	46	455	528
Ohio	84	60	-	-	2	-	15	11	40	99
Ind.	40	41	-	-	4	-	1	5	88	54
Ill.	50	90	-	-	-	-	11	20	158	157
Mich.	18	21	-	3	-	4	6	1	128	176
Wis.	31	42	-	-	-	-	2	9	41	42
W.N. CENTRAL	87	93	2	1	3	7	10	12	146	144
Minn.	40	38	1	1	3	7	1	2	32	37
Iowa	1	-	1	-	-	-	-	-	42	24
Mo.	28	35	-	-	-	-	6	9	37	45
N. Dak.	3	2	-	-	-	-	-	-	1	1
S. Dak.	-	1	-	-	-	-	-	-	3	-
Nebr.	8	2	-	-	-	-	1	-	10	12
Kans.	7	15	-	-	-	-	2	1	21	25
S. ATLANTIC	370	332	-	2	21	13	29	18	869	1,418
Del.	-	-	-	-	-	-	-	-	5	8
Md.	51	76	-	1	4	5	-	1	95	142
D.C.	-	1	-	-	-	-	-	-	7	31
Va.	32	42	-	-	-	-	1	5	106	78
W. Va.	15	14	-	-	1	-	3	-	6	13
N.C.	47	36	-	-	6	3	1	2	77	81
S.C.	4	5	-	-	-	-	-	1	24	35
Ga.	123	62	-	-	-	-	22	6	310	678
Fla.	98	96	-	1	10	5	2	3	239	352
E.S. CENTRAL	59	71	1	1	-	3	8	8	139	233
Ky.	5	6	-	-	-	2	-	-	29	28
Tenn.	38	42	-	-	-	1	6	5	79	168
Ala.	13	21	1	1	-	-	2	3	8	23
Miss.	3	2	-	-	-	-	-	-	23	14
W.S. CENTRAL	61	69	1	2	7	10	1	4	319	532
Ark.	2	6	-	-	-	1	-	-	54	26
La.	11	20	-	-	-	2	1	4	40	39
Okla.	47	40	-	-	7	7	-	-	19	17
Tex.	1	3	1	2	-	-	-	-	206	450
MOUNTAIN	164	137	4	6	24	22	19	15	383	399
Mont.	-	-	-	-	-	-	-	-	6	8
Idaho	5	4	-	-	-	-	2	1	19	13
Wyo.	1	1	-	-	-	-	1	-	5	1
Colo.	41	32	-	-	-	-	5	6	46	58
N. Mex.	34	15	1	-	7	4	5	1	18	19
Ariz.	59	64	-	6	12	9	2	4	232	221
Utah	12	11	2	-	2	5	3	3	45	34
Nev.	12	10	1	-	3	4	1	-	12	45
PACIFIC	75	127	2	4	8	27	7	19	770	1,000
Wash.	3	11	2	-	-	7	1	3	53	53
Oreg.	39	32	-	-	-	-	3	2	59	49
Calif.	21	55	-	4	8	20	1	9	632	879
Alaska	4	18	-	-	-	-	1	5	5	8
Hawaii	8	11	-	-	-	-	1	-	21	11
Guam	-	-	-	-	-	-	-	-	-	2
P.R.	-	-	-	-	-	-	-	-	21	63
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

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

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\*

Reporting area	Hepatitis (viral, acute), by type				Legionellosis		Listeriosis		Lyme disease	
	B		C		Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003						
UNITED STATES	5,076	5,675	699	850	1,475	1,742	511	553	14,184	17,139
NEW ENGLAND	283	299	10	7	48	95	31	41	2,098	3,286
Maine	2	1	-	-	-	2	6	6	53	134
N.H.	30	14	-	-	9	8	3	3	175	145
Vt.	5	4	5	7	4	5	1	-	45	39
Mass.	163	188	4	-	7	47	5	16	687	1,424
R.I.	5	12	-	-	13	13	1	-	175	466
Conn.	78	80	1	-	15	20	15	16	963	1,078
MID. ATLANTIC	987	616	122	99	416	518	122	114	9,479	11,411
Upstate N.Y.	73	74	14	13	85	127	39	29	3,117	3,776
N.Y. City	91	162	-	-	42	61	17	20	-	187
N.J.	582	149	-	-	76	75	20	22	2,635	2,627
Pa.	241	231	108	86	213	255	46	43	3,727	4,821
E.N. CENTRAL	461	416	95	125	396	357	83	71	794	850
Ohio	104	110	5	7	189	184	37	20	59	57
Ind.	38	28	7	7	65	25	16	6	16	20
Ill.	71	52	12	18	20	39	5	18	1	66
Mich.	225	189	71	88	115	92	22	18	32	6
Wis.	23	37	-	5	7	17	3	9	686	701
W.N. CENTRAL	256	258	41	183	43	59	13	13	445	324
Minn.	43	29	16	7	7	3	4	3	347	217
Iowa	13	10	-	1	5	9	1	-	40	48
Mo.	154	177	25	173	21	30	5	6	47	52
N. Dak.	4	2	-	-	2	1	-	-	-	-
S. Dak.	-	2	-	-	4	2	1	-	-	1
Nebr.	29	23	-	2	1	5	2	3	7	2
Kans.	13	15	-	-	3	9	-	1	4	4
S. ATLANTIC	1,573	1,636	138	130	318	446	93	111	1,158	1,028
Del.	28	8	-	-	12	24	N	N	137	179
Md.	130	104	14	7	67	113	14	22	669	606
D.C.	15	9	1	-	8	14	-	1	8	5
Va.	220	145	16	7	41	82	15	9	141	77
W. Va.	34	25	21	2	8	16	3	6	22	20
N.C.	138	132	10	11	29	35	19	16	104	91
S.C.	65	141	6	24	3	7	3	4	12	8
Ga.	545	557	16	13	37	31	16	28	12	10
Fla.	398	515	54	66	113	124	23	25	53	32
E.S. CENTRAL	374	373	87	66	78	92	21	27	44	54
Ky.	59	55	23	12	35	37	4	7	15	11
Tenn.	168	161	35	15	29	31	10	8	17	15
Ala.	61	79	4	5	11	19	5	10	3	8
Miss.	86	78	25	34	3	5	2	2	9	20
W.S. CENTRAL	218	905	103	141	57	62	30	45	56	88
Ark.	58	70	2	3	-	2	2	1	8	-
La.	52	104	58	93	4	1	3	2	4	6
Okla.	47	48	3	2	5	7	-	3	-	-
Tex.	61	683	40	43	48	52	25	39	44	82
MOUNTAIN	391	480	41	41	69	54	24	31	29	14
Mont.	2	14	2	1	2	4	-	2	-	-
Idaho	10	7	-	1	7	3	1	2	6	3
Wyo.	7	28	2	-	5	2	-	-	3	2
Colo.	47	66	8	9	17	9	12	9	3	-
N. Mex.	11	32	7	-	4	2	-	2	1	1
Ariz.	208	219	5	7	11	10	-	10	6	3
Utah	41	41	4	-	19	18	3	2	10	2
Nev.	65	73	13	23	4	6	8	4	-	3
PACIFIC	533	692	62	58	50	59	94	100	81	84
Wash.	42	63	19	17	10	8	9	7	13	3
Oreg.	98	92	14	12	N	N	5	4	30	14
Calif.	369	512	24	27	40	51	76	84	36	64
Alaska	14	4	-	-	-	-	-	-	2	3
Hawaii	10	21	5	2	-	-	4	5	N	N
Guam	-	9	-	5	-	-	-	-	-	-
P.R.	46	99	-	-	1	-	-	-	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

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

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\*

Reporting area	Malaria		Meningococcal disease		Pertussis		Rabies, animal		Rocky Mountain spotted fever	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	1,031	1,066	1,047	1,350	11,546	7,008	4,659	5,783	1,203	738
NEW ENGLAND	62	56	55	64	1,296	1,051	548	498	18	7
Maine	6	2	9	6	2	12	39	59	-	-
N.H.	5	6	4	3	68	79	23	21	-	-
Vt.	4	2	2	2	61	60	31	30	-	-
Mass.	30	27	32	40	1,122	830	236	177	15	7
R.I.	4	2	2	2	31	16	30	59	1	-
Conn.	13	17	6	11	12	54	189	152	2	-
MID. ATLANTIC	244	287	129	163	2,301	820	479	765	75	39
Upstate N.Y.	39	45	29	40	1,585	371	439	353	3	-
N.Y. City	112	156	23	37	128	114	11	6	19	13
N.J.	52	53	31	21	190	125	-	62	27	16
Pa.	41	33	46	65	398	210	29	344	26	10
E.N. CENTRAL	91	91	148	214	2,501	722	141	151	26	19
Ohio	27	17	60	52	474	209	67	50	15	8
Ind.	14	2	23	38	152	55	10	25	5	1
Ill.	22	39	12	62	319	67	46	23	2	5
Mich.	18	23	42	37	228	95	16	40	4	5
Wis.	10	10	11	25	1,328	296	2	13	-	-
W.N. CENTRAL	60	41	74	106	1,500	364	430	575	106	58
Minn.	25	20	22	25	298	132	78	30	-	1
Iowa	4	5	14	23	113	113	95	95	1	2
Mo.	17	5	18	39	251	69	51	39	88	47
N. Dak.	3	1	2	1	687	6	53	50	-	-
S. Dak.	1	2	2	1	20	3	10	117	4	4
Nebr.	3	-	4	6	33	8	53	92	12	3
Kans.	7	8	12	11	98	33	90	152	1	1
S. ATLANTIC	279	265	193	233	551	524	1,652	2,246	616	438
Del.	6	2	4	8	8	7	9	43	4	1
Md.	64	61	10	24	102	73	253	297	60	94
D.C.	11	13	4	5	3	2	-	-	-	1
Va.	39	31	16	23	170	87	406	440	25	27
W. Va.	1	4	5	5	18	16	56	74	4	5
N.C.	18	20	26	30	67	109	510	676	427	207
S.C.	9	4	11	20	42	102	125	205	17	32
Ga.	54	60	21	27	32	29	290	323	61	63
Fla.	77	70	96	91	109	99	3	188	18	8
E.S. CENTRAL	27	27	53	73	234	131	121	183	165	112
Ky.	4	8	9	16	57	41	20	33	2	1
Tenn.	7	5	15	19	135	61	36	96	89	60
Ala.	11	7	14	20	28	18	54	53	40	20
Miss.	5	7	15	18	14	11	11	1	34	31
W.S. CENTRAL	96	111	97	149	603	607	939	1,001	167	56
Ark.	7	4	14	13	55	42	43	25	86	-
La.	4	4	32	36	10	10	-	2	5	-
Okla.	7	4	9	14	33	70	93	169	71	42
Tex.	78	99	42	86	505	485	803	805	5	14
MOUNTAIN	39	36	56	69	1,205	790	194	163	25	8
Mont.	-	-	3	4	46	5	24	20	3	1
Idaho	1	1	6	6	34	69	7	15	4	2
Wyo.	-	1	3	2	28	124	5	6	4	2
Colo.	13	21	13	20	590	273	42	38	2	2
N. Mex.	2	1	7	8	125	61	4	5	2	-
Ariz.	11	7	12	21	190	118	101	61	2	-
Utah	7	4	5	-	154	107	8	14	8	1
Nev.	5	1	7	8	38	33	3	4	-	-
PACIFIC	133	152	242	279	1,355	1,999	155	201	5	1
Wash.	16	21	29	28	605	611	-	-	-	-
Oreg.	16	9	52	48	340	396	6	6	3	-
Calif.	97	115	152	185	381	974	141	187	2	1
Alaska	1	1	3	7	9	8	8	8	-	-
Hawaii	3	6	6	11	20	10	-	-	-	-
Guam	-	1	-	-	-	1	-	-	-	-
P.R.	-	1	5	9	6	2	52	65	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\*

Reporting area	Salmonellosis		Shigellosis		Streptococcal disease, invasive, group A		<i>Streptococcus pneumoniae</i> , invasive			
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Drug resistant, all ages		Age <5 years	
							Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	32,300	34,825	9,391	18,940	3,776	4,715	1,778	1,633	562	555
NEW ENGLAND	1,713	1,765	242	272	157	405	26	81	59	7
Maine	77	109	4	6	8	24	2	-	3	-
N.H.	120	124	7	7	16	28	-	-	N	N
Vt.	50	63	2	7	8	18	7	6	3	4
Mass.	985	1,030	152	182	108	180	N	N	46	N
R.I.	99	103	18	13	17	11	17	10	7	3
Conn.	382	336	59	57	-	144	-	65	U	U
MID. ATLANTIC	4,490	4,063	949	1,941	603	819	108	106	89	80
Upstate N.Y.	989	941	370	371	199	309	44	56	60	59
N.Y. City	1,016	1,131	308	329	83	121	U	U	U	U
N.J.	734	681	185	313	141	154	-	-	6	2
Pa.	1,751	1,310	86	928	180	235	64	50	23	19
E.N. CENTRAL	4,064	4,649	835	1,557	744	1,111	399	365	136	245
Ohio	1,085	1,129	144	259	199	263	279	236	67	79
Ind.	504	458	186	128	85	107	120	129	33	24
Ill.	1,073	1,607	251	842	159	280	-	-	-	99
Mich.	736	660	118	218	258	317	N	N	N	N
Wis.	666	795	136	110	43	144	N	N	36	43
W.N. CENTRAL	1,998	2,060	346	643	259	291	16	15	84	61
Minn.	505	458	58	88	127	141	-	-	55	42
Iowa	384	316	61	61	N	N	N	N	N	N
Mo.	519	766	131	313	54	65	11	11	12	3
N. Dak.	37	30	3	6	11	15	-	3	2	5
S. Dak.	111	101	10	16	15	20	5	1	-	-
Nebr.	127	138	22	79	13	24	-	-	6	5
Kans.	315	251	61	80	39	26	N	N	9	6
S. ATLANTIC	9,088	8,625	2,265	5,713	835	777	942	876	46	17
Del.	81	90	6	159	3	6	4	1	N	N
Md.	682	694	121	519	138	190	-	18	33	-
D.C.	52	34	32	64	9	8	5	-	3	7
Va.	1,016	845	137	375	65	91	N	N	N	N
W. Va.	189	109	6	-	22	31	94	60	10	10
N.C.	1,315	1,104	293	837	105	93	N	N	U	U
S.C.	765	619	275	402	37	38	69	123	N	N
Ga.	1,637	1,653	571	1,031	262	153	276	198	N	N
Fla.	3,351	3,477	824	2,326	194	167	494	476	N	N
E.S. CENTRAL	2,121	2,401	648	791	185	165	114	118	4	-
Ky.	289	333	59	113	54	41	24	15	N	N
Tenn.	512	627	317	262	131	124	89	103	N	N
Ala.	605	591	226	260	-	-	-	-	N	N
Miss.	715	850	46	156	-	-	1	-	4	-
W.S. CENTRAL	2,754	5,173	2,062	4,879	230	236	49	62	106	87
Ark.	428	677	57	97	16	6	7	19	8	7
La.	584	753	227	403	2	1	42	43	24	17
Okla.	345	398	385	707	56	74	N	N	36	43
Tex.	1,397	3,345	1,393	3,672	156	155	N	N	38	20
MOUNTAIN	2,013	1,815	686	998	432	391	31	6	38	58
Mont.	176	90	4	2	-	1	-	-	-	-
Idaho	131	148	12	26	8	18	N	N	N	N
Wyo.	47	71	5	6	8	2	9	5	-	-
Colo.	476	412	135	254	125	112	-	-	35	44
N. Mex.	224	225	106	205	70	96	5	-	-	10
Ariz.	609	535	336	406	180	132	N	N	N	N
Utah	207	180	41	41	38	28	15	1	3	4
Nev.	143	154	47	58	3	2	2	-	-	-
PACIFIC	4,059	4,274	1,358	2,146	331	520	93	4	-	-
Wash.	476	472	95	143	53	56	-	-	N	N
Oreg.	361	361	59	200	N	N	N	N	N	N
Calif.	2,871	3,209	1,156	1,757	178	358	N	N	N	N
Alaska	50	57	5	8	-	-	-	-	N	N
Hawaii	301	175	43	38	100	106	93	4	-	-
Guam	-	40	-	33	-	-	-	-	-	-
P.R.	225	537	8	25	N	N	N	N	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	3	U	-	U	-	U	-	U	-	U

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

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending October 23, 2004, and October 18, 2003 (42nd Week)\*

Reporting area	Syphilis				Tuberculosis		Typhoid fever		Varicella (Chickenpox)	
	Primary & secondary		Congenital		Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003						
UNITED STATES	5,950	5,626	271	355	8,197	10,100	238	304	14,461	12,952
NEW ENGLAND	156	166	5	1	289	342	19	26	607	2,515
Maine	2	7	-	-	-	19	-	-	180	644
N.H.	4	16	3	-	13	11	-	2	-	-
Vt.	-	-	-	-	-	8	-	-	427	577
Mass.	98	105	-	-	185	176	13	15	-	142
R.I.	21	18	1	-	29	42	1	2	-	5
Conn.	31	20	1	1	62	86	5	7	-	1,147
MID. ATLANTIC	774	693	38	56	1,629	1,778	54	72	73	31
Upstate N.Y.	79	32	3	9	202	228	9	12	-	-
N.Y. City	464	395	12	30	815	915	18	34	-	-
N.J.	126	138	22	17	343	351	13	21	-	-
Pa.	105	128	1	-	269	284	14	5	73	31
E.N. CENTRAL	665	740	48	61	942	921	17	32	4,525	4,396
Ohio	175	169	1	3	159	162	5	2	1,090	1,009
Ind.	46	36	8	11	101	105	-	4	-	-
Ill.	266	309	12	18	418	439	-	16	-	-
Mich.	151	211	27	28	193	165	10	10	3,043	2,683
Wis.	27	15	-	1	71	50	2	-	392	704
W.N. CENTRAL	125	124	5	4	349	375	8	6	129	47
Minn.	15	37	1	-	140	154	4	2	-	-
Iowa	5	8	-	-	29	26	-	2	N	N
Mo.	78	48	2	4	85	97	2	1	5	-
N. Dak.	-	2	-	-	3	-	-	-	81	47
S. Dak.	-	2	-	-	8	16	-	-	43	-
Nebr.	5	5	-	-	27	16	2	1	-	-
Kans.	22	22	2	-	57	66	-	-	-	-
S. ATLANTIC	1,544	1,480	40	71	1,551	1,959	41	44	1,902	1,766
Del.	8	6	1	-	-	23	-	-	4	24
Md.	287	254	7	11	191	194	11	9	-	-
D.C.	67	41	1	-	66	-	-	-	21	25
Va.	85	68	2	1	213	209	7	14	486	475
W. Va.	2	2	-	-	15	19	-	-	1,137	1,027
N.C.	150	128	9	16	233	247	6	7	N	N
S.C.	97	84	6	11	151	136	-	-	254	215
Ga.	268	393	1	13	11	418	7	5	-	-
Fla.	580	504	13	19	671	713	10	9	-	-
E. S. CENTRAL	325	259	18	11	434	546	7	5	-	-
Ky.	34	30	1	1	92	95	3	-	-	-
Tenn.	105	111	8	2	156	183	4	2	-	-
Ala.	141	96	7	6	153	175	-	3	-	-
Miss.	45	22	2	2	33	93	-	-	-	-
W. S. CENTRAL	974	747	43	63	774	1,489	19	29	5,199	3,734
Ark.	34	41	-	2	87	73	-	-	-	-
La.	223	126	-	1	-	-	-	-	46	14
Okla.	24	55	2	1	131	117	1	1	-	-
Tex.	693	525	41	59	556	1,299	18	28	5,153	3,720
MOUNTAIN	294	259	45	29	382	358	6	6	2,026	463
Mont.	-	-	-	-	4	5	-	-	-	-
Idaho	18	10	2	2	4	8	-	1	-	-
Wyo.	3	-	-	-	3	3	-	-	34	43
Colo.	36	27	-	3	85	79	1	3	1,556	-
N. Mex.	46	52	1	6	18	39	-	-	83	2
Ariz.	155	155	42	18	175	172	2	2	-	-
Utah	7	5	-	-	33	30	1	-	353	418
Nev.	29	10	-	-	60	22	2	-	-	-
PACIFIC	1,093	1,158	29	59	1,847	2,332	67	84	-	-
Wash.	107	64	-	-	186	197	6	3	-	-
Oreg.	24	37	-	-	65	87	2	3	-	-
Calif.	955	1,050	28	58	1,472	1,910	53	77	-	-
Alaska	1	1	-	-	32	46	-	-	-	-
Hawaii	6	6	1	1	92	92	6	1	-	-
Guam	-	1	-	-	-	41	-	-	-	121
P.R.	112	165	5	13	62	86	-	-	230	496
V.I.	4	1	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	-	U	10	U	-	U	-	U

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

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

TABLE III. Deaths in 122 U.S. cities,\* week ending October 23, 2004 (42nd Week)

Reporting Area	All causes, by age (years)							Reporting Area	All causes, by age (years)						
	All Ages	≥65	45-64	25-44	1-24	<1	P&I <sup>†</sup> Total		All Ages	≥65	45-64	25-44	1-24	<1	P&I <sup>†</sup> Total
NEW ENGLAND	558	399	101	35	9	14	43	S. ATLANTIC	1,249	758	306	109	44	32	82
Boston, Mass.	146	94	36	8	4	4	11	Atlanta, Ga.	145	75	45	16	7	2	6
Bridgeport, Conn.	27	17	7	2	-	1	1	Baltimore, Md.	241	138	69	25	7	2	29
Cambridge, Mass.	12	12	-	-	-	-	1	Charlotte, N.C.	97	58	23	9	5	2	6
Fall River, Mass.	27	20	3	3	1	-	5	Jacksonville, Fla.	159	99	36	13	4	7	8
Hartford, Conn.	52	31	13	5	1	2	5	Miami, Fla.	107	68	21	12	5	1	7
Lowell, Mass.	29	25	3	1	-	-	5	Norfolk, Va.	40	26	8	3	1	2	1
Lynn, Mass.	9	6	3	-	-	-	-	Richmond, Va.	53	31	14	5	2	1	5
New Bedford, Mass.	25	18	3	3	1	-	3	Savannah, Ga.	48	29	16	2	1	-	3
New Haven, Conn.	U	U	U	U	U	U	U	St. Petersburg, Fla.	55	44	9	1	-	1	1
Providence, R.I.	95	70	17	3	-	5	5	Tampa, Fla.	181	128	33	9	6	5	14
Somerville, Mass.	2	1	-	1	-	-	-	Washington, D.C.	103	48	31	10	5	9	2
Springfield, Mass.	48	31	9	5	2	1	4	Wilmington, Del.	20	14	1	4	1	-	-
Waterbury, Conn.	28	24	2	2	-	-	1	E.S. CENTRAL	804	534	188	46	18	18	55
Worcester, Mass.	58	50	5	2	-	1	2	Birmingham, Ala.	178	121	41	11	2	3	18
MID. ATLANTIC	2,257	1,578	452	140	38	46	127	Chattanooga, Tenn.	104	75	22	3	3	1	5
Albany, N.Y.	45	34	4	4	2	1	3	Knoxville, Tenn.	74	45	17	9	2	1	-
Allentown, Pa.	19	15	4	-	-	-	-	Lexington, Ky.	53	34	14	2	1	2	9
Buffalo, N.Y.	79	57	16	4	1	1	8	Memphis, Tenn.	131	81	37	6	3	4	7
Camden, N.J.	29	15	6	4	1	3	-	Mobile, Ala.	73	49	18	4	2	-	3
Elizabeth, N.J.	19	13	4	1	1	-	2	Montgomery, Ala.	42	26	11	3	1	1	3
Erie, Pa.	54	42	7	3	2	-	7	Nashville, Tenn.	149	103	28	8	4	6	10
Jersey City, N.J.	34	19	10	3	1	1	-	W.S. CENTRAL	1,456	922	332	117	45	40	78
New York City, N.Y.	1,119	781	238	72	10	17	43	Austin, Tex.	87	57	16	10	2	2	3
Newark, N.J.	59	29	18	6	2	2	3	Baton Rouge, La.	67	56	10	1	-	-	-
Paterson, N.J.	U	U	U	U	U	U	U	Corpus Christi, Tex.	38	28	4	1	2	3	2
Philadelphia, Pa.	327	213	71	22	12	9	21	Dallas, Tex.	235	115	73	26	13	8	20
Pittsburgh, Pa. <sup>‡</sup>	14	9	4	1	-	-	2	El Paso, Tex.	90	58	18	10	1	3	4
Reading, Pa.	30	24	6	-	-	-	4	Ft. Worth, Tex.	143	85	36	7	8	7	4
Rochester, N.Y.	163	130	22	8	-	3	12	Houston, Tex.	330	215	74	29	8	4	26
Schenectady, N.Y.	33	27	5	-	1	-	3	Little Rock, Ark.	88	56	20	5	3	4	3
Scranton, Pa.	35	28	4	2	-	1	1	New Orleans, La.	35	25	8	2	-	-	-
Syracuse, N.Y.	129	95	21	5	3	5	13	San Antonio, Tex.	192	127	41	17	4	3	10
Trenton, N.J.	33	19	7	2	2	3	1	Shreveport, La.	33	21	7	3	-	2	2
Utica, N.Y.	17	12	4	1	-	-	2	Tulsa, Okla.	118	79	25	6	4	4	4
Yonkers, N.Y.	19	16	1	2	-	-	2	MOUNTAIN	1,003	671	196	89	33	13	66
E.N. CENTRAL	2,102	1,442	445	138	36	41	187	Albuquerque, N.M.	121	85	27	4	2	3	6
Akron, Ohio	69	46	13	7	-	3	11	Boise, Idaho	38	28	7	2	1	-	4
Canton, Ohio	38	26	9	2	1	-	3	Colorado Springs, Colo.	59	37	12	7	1	2	4
Chicago, Ill.	334	195	96	27	9	7	31	Denver, Colo.	106	69	22	14	-	1	5
Cincinnati, Ohio	78	59	15	1	-	3	10	Las Vegas, Nev.	247	167	54	19	5	2	15
Cleveland, Ohio	220	166	37	11	2	4	8	Ogden, Utah	45	32	11	-	2	-	3
Columbus, Ohio	203	131	45	17	5	5	21	Phoenix, Ariz.	88	59	11	11	5	1	6
Dayton, Ohio	141	112	19	5	3	2	14	Pueblo, Colo.	33	25	6	1	1	-	3
Detroit, Mich.	187	93	67	16	7	4	15	Salt Lake City, Utah	133	85	23	12	10	3	10
Evansville, Ind.	41	37	2	1	-	1	4	Tucson, Ariz.	133	84	23	19	6	1	10
Fort Wayne, Ind.	64	50	9	3	1	1	4	PACIFIC	1,607	1,128	314	103	36	26	142
Gary, Ind.	13	11	-	-	2	-	1	Berkeley, Calif.	19	10	6	2	1	-	4
Grand Rapids, Mich.	56	45	8	2	1	-	5	Fresno, Calif.	115	89	18	7	-	1	9
Indianapolis, Ind.	215	143	43	20	2	7	21	Glendale, Calif.	17	15	-	2	-	-	2
Lansing, Mich.	32	24	6	1	1	-	8	Honolulu, Hawaii	67	44	16	4	1	2	2
Milwaukee, Wis.	88	59	21	8	-	-	8	Long Beach, Calif.	65	43	16	5	1	-	7
Peoria, Ill.	61	42	14	2	1	2	2	Los Angeles, Calif.	462	337	84	25	8	8	45
Rockford, Ill.	47	37	6	3	1	-	4	Pasadena, Calif.	U	U	U	U	U	U	U
South Bend, Ind.	41	30	7	4	-	-	1	Portland, Oreg.	128	90	20	13	3	2	5
Toledo, Ohio	110	89	14	5	-	2	11	Sacramento, Calif.	U	U	U	U	U	U	U
Youngstown, Ohio	64	47	14	3	-	-	5	San Diego, Calif.	125	86	23	9	6	1	13
W.N. CENTRAL	730	471	155	53	33	18	40	San Francisco, Calif.	125	78	28	12	4	3	16
Des Moines, Iowa	96	74	12	4	3	3	5	San Jose, Calif.	196	133	45	9	4	5	23
Duluth, Minn.	37	28	9	-	-	-	1	Santa Cruz, Calif.	24	19	4	1	-	-	-
Kansas City, Kans.	45	30	12	1	2	-	4	Seattle, Wash.	118	74	27	10	5	2	6
Kansas City, Mo.	83	59	14	6	4	-	4	Spokane, Wash.	55	44	8	1	-	2	5
Lincoln, Nebr.	34	27	-	4	2	1	6	Tacoma, Wash.	91	66	19	3	3	-	5
Minneapolis, Minn.	62	35	15	5	5	2	3	TOTAL	11,766 <sup>†</sup>	7,903	2,489	830	292	248	820
Omaha, Nebr.	79	53	17	2	4	3	4								
St. Louis, Mo.	156	78	48	17	6	7	6								
St. Paul, Minn.	42	30	6	3	1	2	3								
Wichita, Kans.	96	57	22	11	6	-	4								

U: Unavailable. -:No reported cases.

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

† Pneumonia and influenza.

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

§ Total includes unknown ages.

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