CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

September 15, 2000 / Vol. 49 / No. 36

MMWR™
MORBIDITY AND MORTALITY
WEEKLY REPORT

Human Ingestion of Bacillus Anthracis-Contaminated Meat — Minnesota, August 2000

On August 25, 2000, the Minnesota Department of Health (MDH) was notified by the Minnesota Board of Animal Health (MBAH) of *Bacillus anthracis* isolated from a steer on a farm in Roseau County, Minnesota. The infected steer was one of five dead cattle found in a pasture on August 20. On the basis of phage typing of isolates cultured from tissues and blood samples by the North Dakota State University Veterinary Diagnostic Laboratory, *B. anthracis* was confirmed. This report describes the management of and public health response to human exposure to meat contaminated with anthrax.

On July 24, the farmer who owned the infected steer also had killed, gutted, and skinned a cow that was unable to rise. A local veterinarian approved the slaughter of the cow for consumption by the farmer's family. Immediately after slaughter, the farmer took the carcass (carcass X) to a custom meat-processing plant; on July 31 and August 1, carcass X was processed. Two family members ate hamburgers made from carcass X on August 15 and steaks on August 19; three other family members ate hamburgers on August 20. A sixth member prepared the meals and also may have eaten contaminated meat. All meat was reported to have been well cooked. To investigate the possibility that they had eaten contaminated meat, the family members were interviewed by MDH on August 25. Two reported gastrointestinal illness; one reported 1 day of diarrhea approximately 48 hours after eating meat from carcass X, and the second reported 3 days of abdominal pain, diarrhea, and a temperature of 102.3 F (39.1 C) beginning 24–36 hours after consumption. Both recovered without treatment. The family was advised by MDH not to eat any more of the meat, to contact a physician, and to begin antibiotic prophylaxis with ciprofloxacin (500 mg, orally, twice daily).

On August 29, samples of carcass X tested by the MDH Public Health Laboratory (MDH PHL) were found to contain gram-positive bacilli on microscopic examination. *B. anthracis* contamination was confirmed at MDH PHL and the U.S. Army Medical Research Institute for Infectious Diseases through culture on blood agar, presence of a capsule, lack of motility, gamma-phage test, and fluorescent antibody to cell wall polysaccharide and capsular antigens. On the basis of this exposure to meat highly contaminated with *B. anthracis*, the family was advised to continue chemoprophylaxis, and vaccination with anthrax vaccine was initiated (Anthrax Vaccine Adsorbed*, Bioport Corporation, Lansing, Michigan).

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

Bacillus Anthracis — *Continued*

The Minnesota Department of Agriculture (MDA) contacted the custom meat processing plant on August 28 and placed a hold on all meat processed after carcass X. On August 29, MDA inspected the plant; sanitation practices were satisfactory. Seven carcasses had been processed after carcass X. Owners of meat from the carcasses were advised not to eat any of the meat and were asked to return meat to a central location for incineration; all the meat products were accounted for and none had left Minnesota. Samples from the other carcasses and environmental swabs collected after plant cleaning tested negative for *B. anthracis*.

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Editorial Note: Anthrax is a zoonotic disease caused by the spore-forming bacterium *B. anthracis*. Human disease usually occurs through cutaneous exposure to infected animal tissue or products. Rarely, inhalation or ingestion of *B. anthracis* spores also leads to anthrax. In the United States during the early part of the 20th century, approximately 130 human cases occurred annually (*1*); two cutaneous infections have been reported since 1992.

Before this exposure, no animal anthrax cases had been reported in northern Minnesota since recordkeeping began in 1909. However, in adjacent areas of North Dakota during 2000, 120–150 cattle have died of anthrax (L. Schuler, North Dakota state veterinarian, personal communication, 2000), and 11 farms have reported anthrax-related cattle deaths in nearby Manitoba, Canada (Figure 1) (J.G. Spearman, Manitoba Department of Agriculture, personal communication, 2000).

Gastrointestinal anthrax in humans occurs 1–7 days after eating raw or undercooked meat from infected animals (*2*), and two forms of gastrointestinal disease have been reported (*3*). Disease affecting the distal gastrointestinal tract results in nausea, anorexia, and fever followed by abdominal pain and bloody stool. The case fatality rate among reported cases ranges from 25%–60% (*2*). Gastrointestinal anthrax never has been documented in the United States because livestock are vaccinated for anthrax in areas where the disease is endemic; animals routinely are inspected by federal and state meat inspectors before, during, and after slaughter; and raw meat is eaten infrequently. Anthrax has not been documented among the persons exposed to *B. anthracis*-contaminated meat described in this report; however, a serologic test to determine presence of infection is pending.

Limited experience with gastrointestinal anthrax complicates recommendations for use of postexposure prophylaxis. An extended duration of therapy is recommended for inhalational exposure because of the persistence of spores resistant to the action of antimicrobial agents (*4,5*). Upon cessation of chemoprophylaxis, such spores can cause disease several weeks after exposure. No evidence supports the existence of persistent spores associated with gastrointestinal forms of the disease; however, the meat consumed by the family in this report was highly contaminated with *B. anthracis*. Although

Bacillus Anthracis — *Continued*

FIGURE 1. Location where *Bacillus anthracis* has been isolated from steer carcasses — Roseau County, Minnesota, North Dakota, and Manitoba, Canada, 2000

possible interventions range from close observation to antibiotics alone to antibiotics with vaccination, because the family was at high risk for anthrax infection, management consisted of an extended course of ciprofloxacin combined with administration of anthrax vaccine.

Federal-inspected and state-inspected animal processing facilities are required to perform intensive cleaning after contact with an anthrax-infected carcasses[†] ; veterinary inspection is not provided at custom meat processors. Slaughter house workers who may be exposed to an anthrax-contaminated carcass should receive medical evaluation for symptoms and for possible treatment. Management of anthrax in livestock should include 1) quarantine of the herd; 2) removal of the herd from the contaminated pasture, if possible; 3) vaccination of healthy livestock; 4) treatment of symptomatic livestock; and 5) disposal of infected carcasses, preferably by burning. Bedding and other material found around the carcass (e.g., soil) should be incinerated with the carcass and buried (*6*).

Veterinarians notified of sudden death in an animal or of an animal unable to rise should consider anthrax as a diagnosis, especially in areas where anthrax is endemic (*6*). However the potential risk for animal anthrax exists in all areas of the United States.

[†] 9 CFR Part 310.9 (2000).

Bacillus Anthracis — *Continued*

Vaccination of livestock in areas where anthrax is endemic is the most effective method of prevention in animals and humans. Cases of anthrax in animals and cases of suspected human exposure should be reported immediately to the state health department, federal animal heath officials, and to CDC's National Center for Infectious Diseases, Meningitis and Special Pathogens Branch, telephone (404) 639-3158.

References

1. Brachman P, Friedlander A. Anthrax. In: Plotkin S, Mortimer E, eds. Vaccines. 2nd ed. Philadelphia, Pennsylvania: WB Saunders Co., 1994:792–39.
2. Brachman P, Kaufmann A. Anthrax. In: Evans A, Brachman P, eds. Bacterial infections of humans. New York, New York: Plenum Medical Book Company, 1998.
3. Sirisanthana T, Navachareon N, Tharavichitkul P, Sirisanthana V, Brown AE. Outbreak of oral-oropharyngeal anthrax: an unusual manifestation of human infection with *Bacillus anthracis*. Am J Trop Med Hyg 1984;33:144–50.
4. CDC. Bioterrorism alleging use of anthrax and interim guidelines for management—United States, 1998. MMWR 1999;48:69–74.
5. Friedlander AM, Welkos SL, Pitt ML, et al. Post-exposure prophylaxis against experimental inhalation anthrax. J Infect Dis 1993;167:1239–43.
6. Animal Plant Health Inspection Service. Washington, DC: US Department of Agriculture Veterinary Services, US Department of Agriculture. September 1999. Available at http://www.aphis.usda.gov/oa/pubs/anthrax.html. Accessed September 2000.

Public Health Dispatch

Outbreak of Acute Febrile Illness Among Participants in EcoChallenge Sabah 2000 — Malaysia, 2000

On September 7, 2000, CDC was notified by Idaho Department of Health about a case of acute febrile illness in a 35-year-old man; the illness was characterized by acute onset of high fever, chills, headache, and myalgias. The patient had participated in the EcoChallenge Sabah 2000 Expedition Race, a multisport event held during August 20–September 3, at various sites in Sabah in Malaysian Borneo.

This report presents preliminary findings of an ongoing investigation to identify cases of acute febrile illness among athletes who participated in the EcoChallenge Race in Borneo during August 2000. Preliminary laboratory test results indicate the probable cause of illness to be leptospirosis, a spirochete infection. The event involved jungle trekking, open water swimming, river and ocean paddling, mountain biking, canyoneering, scuba diving, and spelunking. Participating were 76 four-person teams from 26 countries, including 37 teams from the United States. Subsequently, nine other EcoChallenge participants who became ill were identified in California (five in San Diego County, two in Orange County, and two in Los Angeles). To identify additional athletes with febrile illness, an EcoChallenge participant list was obtained from race organizers, and a telephone survey was administered by CDC with the assistance of several state public health departments. As of September 13, 82 (53%) of 155 U.S.-based athletes have been contacted; 37 (45%) reported having fever and 12 (15%) were hospitalized. No deaths have been reported.

Acute Febrile Illness — Continued

On September 12, serum specimens obtained from two hospitalized athletes from Los Angeles were tested at CDC for leptospirosis using the Dip-S-Ticks* assay (Leptospira INDX Dip-S-Ticks; Integrated Diagnostics, Baltimore, Maryland) and the Pan-Bio* enzyme-linked immunosorbent assay (ELISA) IgM test (PanBio, Brisbane, Australia). One athlete tested positive with both tests on an acute-phase serum specimen obtained 4 days following onset of fever. The second athlete tested negative with both tests on the acute-phase specimen but positive with both tests on a follow-up specimen obtained 4 and 6 days following onset of fever.

On the basis of laboratory test results and the clinical features of illness, CDC advises the following to clinicians caring for EcoChallenge participants. First, asymptomatic athletes that were taking chemoprophylaxis for leptospirosis (i.e., 200 mg oral doxycycline weekly) should ensure that their final weekly dose was taken following completion of the race (*1*). Second, although the merits of one dose of postexposure chemoprophylaxis with 200 mg oral doxycycline are unknown, asymptomatic athletes who participated in the race and who were not taking chemoprophylaxis for leptospirosis may wish to discuss the single-dose option with their physician. Third, for athletes with mild symptoms consistent with leptospirosis, treatment should include 7 days of oral doxycycline, 100 mg twice daily (*2*). Finally, for hospitalized patients with severe illness (e.g., persistent high-grade fever, impaired hepatic or renal function, or severe neurologic disturbances, including coma, hemiplegia, or transverse myelitis), treatment should include 7 days of intravenous penicillin G, 1.5 million units every 6 hours (*3*). As with other spirochete infections, a Jarisch-Herxheimer reaction can develop following the initiation of penicillin therapy for leptospirosis (*4*). Although these reactions serve as an indicator of therapeutic efficacy, they can be associated with increased morbidity and mortality; patients receiving intravenous penicillin should be monitored for shocklike symptoms.

On September 13, CDC issued an advisory (http://webdev.cdc.gov/travel/other/leptomalaysia.htm) about the probable leptospirosis outbreak associated with the EcoChallenge event to raise awareness among health-care workers and participants of the event in Borneo. The Meningitis and Special Pathogens Branch (MSPB) at CDC is interested in receiving reports through state and local health departments of additional participants who have been ill or have had fever since August 21. In addition, MSPB will test clinical specimens for leptospirosis received through state and local health departments.

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References

1. Takafuji ET, Kirkpatrick ET, Miller JW, et al. An efficacy trial of doxycycline chemoprophylaxis against leptospirosis. N Engl J Med 1984;310:497–500.
2. McClain BL, Ballou WR, Harrison SM, Steinweg DL. Doxycycline therapy for leptospirosis. Ann Intern Med 1984;100:696–8.
3. Watt G, Padre LP, Tuazon ML, et al. Placebo-controlled trial of intravenous penicillin for severe and late leptospirosis. Lancet 1988;8563:433–5.
4. Tappero JW, Ashford DA, Perkins BA. *Leptospira* species (Leptospirosis) 5th ed. In: Mandell GL, Bennet JE, Dolin R, eds. Principles and practice of infectious diseases. New York, New York: Churchill Livingstone, 1999;2495–501.

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Screening With the Prostate-Specific Antigen Test — Texas, 1997

Prostate cancer is the second leading cause of cancer-related deaths among men in Texas (*1*). From 1990 to 1997, the average annual number of prostate cancer-related deaths in Texas was 1900, and the average annual death rate was 20.9 per 100,000 population (*1*). An estimated 10,186 new prostate cancer cases will occur in 2000 in Texas (*2*). Several screening methods are available for early detection of prostate cancer, including digital rectal exam, transrectal ultrasound, and prostate-specific antigen (PSA) testing, which involves a simple phlebotomy (*3*). To assess the proportion of men in Texas receiving PSA testing and to identify factors associated with receipt of this testing, the Texas Department of Health added three questions to its 1997 Behavioral Risk Factor Surveillance System (BRFSS) survey relating to PSA testing. This report summarizes this analysis and indicates that approximately 37% of men aged ≥40 years had received PSA testing and that receipt of PSA testing was associated with a doctor's recommendation.

BRFSS is a state-based, random-digit–dialed telephone survey of the civilian, noninstitutionalized U.S. population aged ≥18 years. In 1997, men aged ≥40 years who responded to the Texas BRFSS were asked, "Have you heard about the PSA blood test?", "Have you ever been told by a doctor that you should have a PSA blood test?", and "Have you ever had a PSA blood test?" Responses were weighted to provide statewide estimates; standard errors and 95% confidence intervals (CIs) were calculated, and univariate and multivatiate analyses were performed using SUDAAN.

Among respondents, 60% (95% CI=55%–65%) said they had heard of the PSA test. Of those who had heard of the test, 52% (95% CI=45%–59%) were told by their doctor that they should receive the test. Of those who had heard of the test and whose doctor recommended it, 91% (95% CI=85%–96%) reported having received the test. Overall, 37% (95% CI=32%–42%) of men received the PSA test, representing approximately 62% of men who had heard of the test. Of those who were not told by a doctor to have the test, 24% (95% CI=14%–30%) received the test.

Univariate analysis indicated that receiving the PSA test was associated with a doctor's recommendation (odds ratio [OR]=28.2; 95 CI=13.3–59.8) (Table 1). Other factors associated with receiving the test were having had a physical examination during the preceding 2 years (OR=5.4; 95 CI=2.6–11.0), being aged ≥50 years (OR=5.2; 95 CI=5.1–5.2), being covered by a health plan (OR=3.8; 95 CI=2.0–7.1), having ever received a proctoscopic examination (OR=3.4; 95 CI=2.0–5.7), being non-Hispanic (OR=2.2; 95 CI=2.2–2.3), and having ≥16 years of education (OR=1.9; 95 CI=1.2–3.0). Logistic regression analysis indicated that receiving a PSA test was associated with a doctor's recommendation (adjusted OR=80.4; 95% CI=21.4–301.9), and being aged >50 years (adjusted OR=4.0; 95% CI=1.3–12.3).

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Editorial Note: The findings in this report document a strong association between a doctor's recommendation and receipt of a PSA test, indicating that physician advice is a key determinant of whether men are tested. In Texas, approximately 60% of men who had heard of PSA testing reported receiving the test. Nearly all of the men whose doctor recommended the PSA test took that advice.

Prostate-Specific Antigen Test — Continued

TABLE 1. Percentage of men aged ≥40 years who received a prostate-specific antigen test, by selected factors — Texas, 1997

Factor	% Tested With factors	% Tested Without factors	Unadjusted odds ratio	(95% CI*)	Adjusted odds ratio†	(95% CI)
Doctor recommendation	90.1	24.4	28.2	(13.3–59.8)	80.4	(21.4–301.9)
Age ≥50 years	68.4	29.6	5.2	(5.1– 5.2)	4.0	(1.3– 12.3)
Physical examination during preceding 2 years	60.1	22.5	5.4	(2.6– 11.0)	4.5	(0.4– 21.9)
≥16 years education	45.1	29.6	1.9	(1.2– 3.0)	2.0	(0.7– 6.4)
Covered by health plan	92.1	7.8	3.8	(2.0– 7.1)	1.7	(0.4– 6.3)
Ever had proctoscopic examination	72.0	43.0	3.4	(2.0– 5.7)	1.5	(0.5– 4.1)
Non-Hispanic	57.4	37.5	2.2	(2.2– 2.3)	1.0	(0.2– 6.7)

* Confidence interval.

† Factors included in the logistic regression analysis model for the adjusted odds ratio were told to receive a PSA, ever had a proctoscopic examination, race, age, education level, marital status, having a family member diagnosed with prostate cancer, having a health plan, having a checkup during the preceding 2 years, income, prevented from seeking medical care because of cost, and Hispanic ethnicity.

Prostate cancer screening recommendations differ among national organizations. The American Cancer Society (ACS) recommends that men aged ≥50 years who receive an annual examination be offered the Digital Rectal Examination and the PSA test (*4*). ACS also recommends that men aged ≥40 years be informed about the risk for prostate cancer (*5*). In comparison, because no evidence exists that early detection and treatment influences the overall death rate from this disease and about half of the men who undergo surgical treatment of localized lesions experience side effects (e.g., incontinence and impotence) (*6*), the U.S. Preventive Services Task Force, the American College of Physicians, the American Society of Internal Medicine, the National Cancer Institute, the American Association of Family Practitioners, and the American College of Preventive Medicine do not advocate routine screening (*7,8*). Despite the conflicting recommendations, PSA testing has increased rapidly among asymptomatic men in the United States (*9*).

The findings in this report are subject to at least four limitations. First, BRFSS questions did not distinguish prostate cancer screening from diagnostic testing. Some respondents may have received PSA testing as part of a diagnostic evaluation for symptoms or to monitor treatment for existing prostate cancer. Second, respondents may have had the PSA test performed, but did not know that it had been done. Third, among men for whom PSA testing was not recommended, it is not possible to distinguish men whose physicians discouraged screening from those whose physicians did not mention screening. Finally, because the survey did not ask men how they heard about the test, the proportion of men hearing about the test from sources other than their doctor is not known.

The findings of this report suggest that interest in prostate cancer and awareness about the available screening tests for this disease is substantial. These data are consistent with information from other studies that indicate a substantial proportion of men aged >40 years have received PSA testing. Because PSA testing potentially can have an

Prostate-Specific Antigen Test — Continued

impact on statistics about prostate cancer incidence and outcomes, ongoing surveillance of the trends and determinants of the use of this procedure are warranted (*8*). As a result, CDC is incorporating questions about PSA testing in the 2001 BRFSS for every state. This effort, and continuing surveillance in states such as Texas, will provide information on the use of prostate cancer testing and facilitate a clearer delineation of the public health impact of this screening.

Although prostate cancer screening recommendations vary, one consistent element is that physicians should counsel patients about the risks for and potential benefits of treatment for early prostate cancer so that patients can participate in the decision making about whether to be screened. To counsel patients effectively about the risks for and benefits of treatment of early prostate cancer, physicians need access to current information and to incorporate it into their practices.

References

1. Bureau of Vital Statistics. Texas Cancer Mortality Statistics, 1990–1997. Austin, Texas: Texas Department of Health, 1998.
2. American Cancer Society. Texas cancer facts & figures: a sourcebook for planning and implementing programs for cancer prevention and control, 2000. Austin, Texas: American Cancer Society, 2000.
3. Brawer MK. Prostate specific antigen: current status. Cancer Clinicians 1999;49:264–81.
4. American Cancer Society. Man to man newsletter: the PSA blood test & prostate cancer, 2000. Atlanta, Georgia: American Cancer Society, 2000.
5. American Foundation for Urologic Disease. Prostate cancer resource guide. 1999 ed. Baltimore, Maryland: American Foundation for Urologic Disease Inc., 1999.
6. Stanford JL, Feng Z, Hamilton AS, et al. Urinary and sexual function after radical prostatectomy for clinically localized prostate cancer: the prostate cancer outcomes study. JAMA 2000;283:354–60.
7. US Preventive Services Task Force. Guide to clinical preventive services. 2nd ed. Washington, DC: US Department of Health and Human Services, Office of Public Health and Science, Office of Disease Prevention and Health Promotion, International Medical Publishing, Inc., 1996:119–34.
8. American Cancer Society. Prostate cancer and cancer detection guidelines, 1999. Atlanta, Georgia: American Cancer Society, 1999.
9. Potosky AL, Miller BA, Albertsen PC, Kramer BS. The role of increasing detection in the rising incidence of prostate cancer. JAMA 1995;273:548–52.

Update: West Nile Virus Activity — Northeastern United States, 2000

Surveillance data reported to CDC indicate intensified transmission and geographic expansion of the West Nile Virus (WNV) outbreak in the northeastern United States. Increasing reports of WNV infections in American crows, other avian species, and mosquitoes are being accompanied by reports of neurologic disease caused by WNV in humans, horses, and other mammals. This report updates human data through September 12 and animal data through September 8, 2000.

Since July 20, 12 persons have been hospitalized with serious central nervous system infections caused by WNV; eight had encephalitis, and four had meningitis. Patients ranged in age from 40 to 87 years; seven were men. Eight resided in Richmond County (Staten Island), New York, two in Kings County (Brooklyn), New York, and one in Hudson County, New Jersey. One person spent substantial time both in Brooklyn, New York, and Bergen County, New Jersey. Diagnoses were confirmed by ELISA for WNV-specific IgM

West Nile Virus — Continued

in cerebrospinal fluid. Subsequently, a four-fold rise in plaque-reduction neutralization antibody titer was demonstrated in four of these patients. Nine patients improved and were discharged from the hospital; three remain hospitalized.

Surveillance detected epizootic activity (15 WNV-infected dead birds and five infected mosquito pools in Staten Island; 10 infected dead birds in Hudson County; and two infected dead birds and one infected live hatch-year bird in Brooklyn) before onset of human illness on July 20 (first Staten Island case), August 6 (Hudson County), and August 15 (first Brooklyn case). The most recent onset of human illness was September 2.

Veterinary surveillance has detected WNV infection in five horses with severe neurologic disease (one horse each in Middlesex County, Massachusetts; Atlantic and Cape May counties, New Jersey; Staten Island, New York; and Washington County, Rhode Island). Onset of illness in these horses ranged from August 17 to 29. WNV infection has been confirmed in six bats (four live big brown bats [*Eptesicus fuscus*] from Albany County, New York, and two dead little brown bats [*Myotis lucifugus*] from Ontario County, New York) that originally were submitted for rabies testing. WNV infection was confirmed in a dead raccoon from New York County (Manhattan) that was found on August 19.

Mosquito surveillance has detected WNV in 237 mosquito pools in 15 counties in four states (223 pools in New York, eight in New Jersey, and three each in Connecticut and Massachusetts); 84 (36%) were from Staten Island. Of the 237 reported WNV-infected pools, 137 pools were *Culex pipiens/restuans*, 44 were *Culex pipiens*, 25 were *Culex salinarius* (23 from Staten Island, one from Bronx, and one from Queens, New York City), three were *Culex restuans,* three were *Aedes japonicus* (Orange, Rockland, and Westchester counties, New York), three were *Aedes vexans* (Brooklyn and Staten Island), two were *Aedes triseriatus* (Staten Island), and one was *Anopheles punctipennis* (Staten Island).

Avian surveillance has identified 1471 WNV-infected dead birds from 79 counties in six states (586 birds in New Jersey, 536 in New York, 241 in Connecticut, 103 in Massachusetts, four in Rhode Island, and one in New Hampshire). Since 1999, WNV has been identified in 56 avian species in the United States, 48 of which are native. In New York state, all types of submitted avian species are tested for WNV; of the 536 birds infected with WNV in 2000, 347 (65%) were American crows, 82 (15%) were blue jays, and 107 (20%) were other species. WNV antibody was documented in a serologic specimen collected August 4 from a previously seronegative sentinel chicken in Westchester County, New York.

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Editorial Note: WNV primarily circulates between birds and mosquitoes and probably only incidentally infects humans, horses, and other mammals. As a result, WNV activity in birds and mosquitoes in a specific area generally precedes WNV infection in humans

West Nile Virus — Continued

and horses (*1*). In 2000, the WNV surveillance system documented epizootic WNV infections in birds and mosquitoes as sentinel events before reports of severe neurologic WNV infection in humans and prompted immediate implementation of mosquito control. This confirms the pattern suspected in 1999 when an epizootic among American crows preceded the outbreak of 62 humans identified with WNV encephalitis and meningitis in the New York City metropolitan area (*2*).

Many counties with intense WNV activity in mosquito and avian populations during the summer of 2000 have not reported WNV infections in humans or other mammals. This is probably a result of a combination of intensive mosquito control activities and variable mosquito feeding behaviors, reservoir host behaviors, human outdoor activities, and use of protective measures. However, the 12 patients with severe central nervous system disease caused by WNV probably represent a small proportion of humans infected with WNV this season. Not all persons with neurologic WNV infection may have had the condition diagnosed or reported. Most persons with WNV infection are asymptomatic or have only nonspecific symptoms for which WNV testing is not performed routinely. A serosurvey in Queens, New York City, after the 1999 outbreak indicated that <1% of WNV-infected persons developed severe neurologic disease.

Health-care providers in areas with documented epizootic activity should consider WNV infection in persons with suspected viral meningitis (especially among adults) or encephalitis (regardless of age). Although severe WNV central nervous system disease may be more common in the elderly, eight of the 12 persons in this report were aged <65 years. In the 1999 WNV outbreak in the New York City area, the youngest patient was aged 5 years. WNV and other arboviruses (Eastern equine encephalitis, St. Louis encephalitis, and California serogroup viruses) can cause disease in the northeastern United States through the end of October and later in more southern locations.

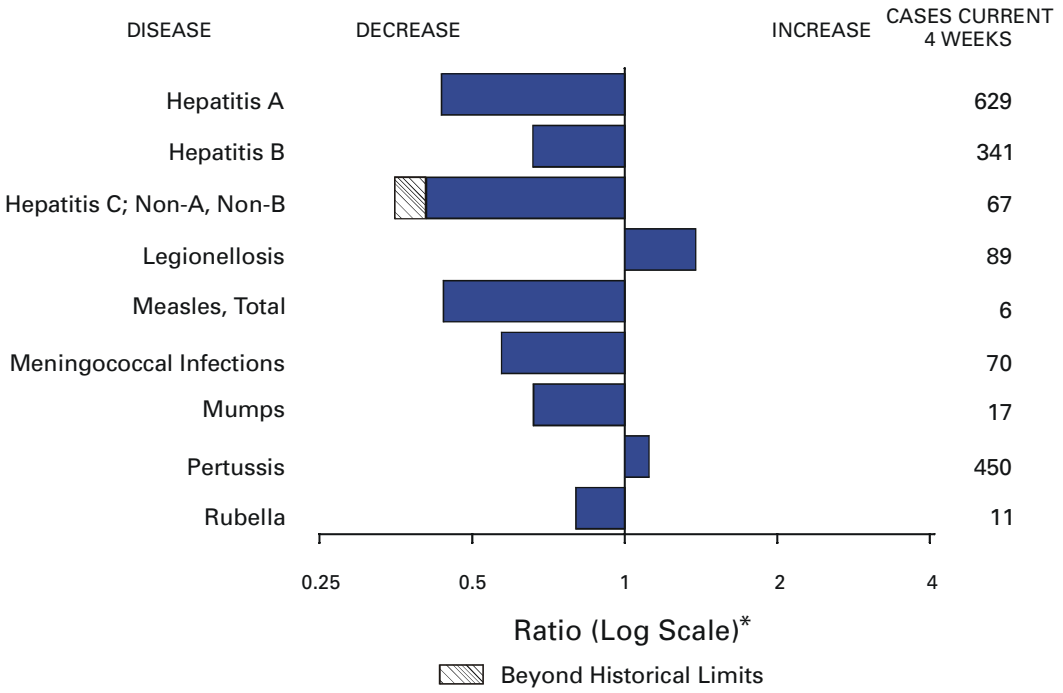
The recent diagnosis of a WNV-infected horse in southern New Jersey (Cape May County), a major stopover for birds migrating south, underscores the need for enhanced avian morbidity and mortality surveillance in areas south of New York City and New Jersey. If ongoing local WNV epizootic activity is detected, public health measures should be enhanced to reduce the risk for human infection (*3*).

References

1. CDC. Guidelines for arbovirus surveillance in the United States. Washington, DC: US Department of Health and Human Services, April 1993.
2. CDC. Guidelines for surveillance, prevention, and control of West Nile virus infection—United States. MMWR 2000;49:25–8.
3. CDC. Update: West Nile virus activity—Northeastern United States, January–August 7, 2000. MMWR 2000;49:714–7.

(Continued on page 831)

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending September 9, 2000, with historical data



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

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending September 9, 2000 (36th Week)

	Cum. 2000		Cum. 2000
Anthrax	-	HIV infection, pediatric*§	149
Brucellosis*	45	Plague	5
Cholera	1	Poliomyelitis, paralytic	-
Congenital rubella syndrome	6	Psittacosis*	8
Cyclosporiasis*	32	Rabies, human	-
Diphtheria	-	Rocky Mountain spotted fever (RMSF)	298
Encephalitis: California serogroup viral*	42	Streptococcal disease, invasive, group A	2,040
eastern equine*	-	Streptococcal toxic-shock syndrome*	62
St. Louis*	1	Syphilis, congenital¶	96
western equine*	-	Tetanus	17
Ehrlichiosis human granulocytic (HGE)*	104	Toxic-shock syndrome	109
human monocytic (HME)*	73	Trichinosis	5
Hansen disease (leprosy)*	42	Typhoid fever	227
Hantavirus pulmonary syndrome*†	22	Yellow fever	-
Hemolytic uremic syndrome, postdiarrheal*	108		

-: No reported cases.
*Not notifiable in all states.
† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (NCID).
§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP). Last update August 27, 2000.
¶ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 9, 2000, and September 11, 1999 (36th Week)

Reporting Area	AIDS		Chlamydia†		Cryptosporidiosis		*Escherichia coli* O157:H7*			
							NETSS		PHLIS	
	Cum. 2000§	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	26,662	30,098	432,553	451,458	1,219	1,634	2,824	2,293	1,722	1,830
NEW ENGLAND	1,428	1,515	14,504	14,592	58	116	250	289	255	275
Maine	25	52	982	753	13	19	18	24	22	U
N.H.	26	38	682	663	13	10	27	24	24	25
Vt.	20	11	366	334	19	25	27	24	28	14
Mass.	895	987	6,353	6,225	11	50	102	126	111	135
R.I.	63	74	1,681	1,599	2	1	11	22	12	23
Conn.	399	353	4,440	5,018	-	11	65	69	58	78
MID. ATLANTIC	5,921	7,764	38,241	46,230	98	290	285	152	108	82
Upstate N.Y.	637	890	N	N	65	91	191	98	38	-
N.Y. City	3,150	4,062	16,184	19,292	8	160	10	15	9	14
N.J.	1,202	1,461	5,555	8,478	5	20	84	39	31	49
Pa.	932	1,351	16,502	18,460	20	19	N	N	30	19
E.N. CENTRAL	2,480	1,975	69,767	75,359	286	435	571	708	217	345
Ohio	400	296	18,318	20,719	75	33	166	136	44	127
Ind.	254	244	8,788	8,172	32	27	97	55	62	40
Ill.	1,368	930	17,001	22,704	7	66	129	438	-	81
Mich.	331	401	17,564	14,240	58	34	88	79	63	59
Wis.	127	104	8,096	9,524	114	275	91	N	48	38
W.N. CENTRAL	615	674	24,681	25,544	154	147	459	377	360	425
Minn.	116	114	4,797	5,176	21	55	100	128	111	141
Iowa	65	63	3,332	3,017	51	41	149	78	76	62
Mo.	287	341	8,523	9,030	21	16	104	31	77	47
N. Dak.	2	4	352	626	9	14	14	10	15	16
S. Dak.	6	13	1,238	1,090	12	6	35	37	38	53
Nebr.	43	43	2,323	2,385	34	13	39	72	32	99
Kans.	96	96	4,116	4,220	6	2	18	21	11	7
S. ATLANTIC	7,336	8,244	87,907	96,629	263	234	247	206	151	140
Del.	131	112	1,875	1,866	5	-	-	6	-	3
Md.	845	889	9,004	9,031	10	11	21	12	1	-
D.C.	500	318	2,199	N	9	7	-	-	U	U
Va.	483	501	10,792	10,165	12	17	49	51	38	45
W. Va.	43	46	1,177	1,239	3	2	11	9	7	4
N.C.	454	554	15,431	15,779	19	6	53	48	45	47
S.C.	553	758	7,850	12,780	-	-	16	16	12	14
Ga.	873	1,230	17,502	23,825	100	97	38	21	23	1
Fla.	3,454	3,836	22,077	21,944	105	94	59	43	25	26
E.S. CENTRAL	1,325	1,354	32,333	32,051	37	21	94	95	75	71
Ky.	147	201	5,400	5,176	5	5	28	25	25	17
Tenn.	555	534	9,750	9,780	9	6	43	43	38	31
Ala.	340	334	10,534	8,866	12	8	7	19	4	19
Miss.	283	285	6,649	8,229	11	2	16	8	8	4
W.S. CENTRAL	2,716	3,181	66,989	62,786	58	59	140	73	177	93
Ark.	127	122	3,580	3,929	8	1	50	9	30	7
La.	461	597	12,810	11,420	8	22	5	10	38	11
Okla.	219	94	5,554	5,494	9	5	13	17	9	15
Tex.	1,909	2,368	45,045	41,943	33	31	72	37	100	60
MOUNTAIN	1,034	1,167	25,854	23,713	88	73	301	183	153	144
Mont.	11	7	960	1,099	8	10	26	11	-	U
Idaho	16	15	1,255	1,200	6	7	45	21	-	16
Wyo.	7	7	540	528	5	1	12	11	2	13
Colo.	238	207	7,688	5,035	38	10	115	70	61	47
N. Mex.	107	67	3,213	3,567	9	29	17	8	14	4
Ariz.	339	603	8,048	8,663	9	10	36	23	27	15
Utah	101	102	1,558	1,441	10	N	40	26	49	36
Nev.	215	159	2,592	2,180	3	6	10	13	-	13
PACIFIC	3,807	4,224	72,277	74,554	177	259	477	210	226	255
Wash.	347	245	8,595	8,034	N	N	138	73	97	119
Oreg.	112	136	3,456	4,290	14	80	115	46	63	55
Calif.	3,247	3,770	56,765	58,729	163	179	190	81	56	71
Alaska	15	13	1,633	1,287	-	-	23	-	1	1
Hawaii	86	60	1,828	2,214	-	-	11	10	9	9
Guam	14	11	-	355	-	-	N	N	U	U
P.R.	762	937	1,203	U	-	-	5	5	U	U
V.I.	25	25	U	U	U	U	U	U	U	U
Amer. Samoa	-	-	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	U	U	U	U	U	U	U	U

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

* Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

† Chlamydia refers to genital infections caused by *C. trachomatis*. Totals reported to the Division of STD Prevention, NCHSTP.

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update August 27, 2000.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending September 9, 2000, and September 11, 1999 (36th Week)

Reporting Area	Gonorrhea		Hepatitis C; Non-A, Non-B		Legionellosis		Lyme Disease	
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	226,154	245,105	2,183	1,867	602	632	7,460	9,884
NEW ENGLAND	4,070	4,493	13	13	25	47	1,719	2,890
Maine	59	45	2	2	2	3	-	22
N.H.	71	81	-	-	2	4	40	4
Vt.	44	36	3	5	3	11	13	11
Mass.	1,733	1,726	3	3	9	15	584	632
R.I.	418	404	5	3	3	5	215	281
Conn.	1,745	2,201	-	-	6	9	867	1,940
MID. ATLANTIC	23,197	27,342	429	87	126	142	4,423	5,171
Upstate N.Y.	4,685	4,421	50	42	48	35	2,293	2,694
N.Y. City	6,643	8,895	-	-	-	21	10	119
N.J.	4,180	5,302	354	-	9	12	1,151	1,329
Pa.	7,689	8,724	25	45	69	74	969	1,029
E.N. CENTRAL	42,131	47,151	166	679	157	189	258	518
Ohio	11,168	12,437	8	1	72	55	69	33
Ind.	4,124	4,358	1	1	32	26	26	15
Ill.	11,071	15,923	10	40	8	27	11	17
Mich.	12,413	10,247	147	621	32	46	-	11
Wis.	3,355	4,186	-	16	13	35	152	442
W.N. CENTRAL	10,996	11,103	456	145	49	36	175	202
Minn.	1,912	1,948	5	4	3	5	100	107
Iowa	740	748	1	-	12	11	20	20
Mo.	5,400	5,340	438	139	26	14	38	53
N. Dak.	15	61	-	-	-	-	1	1
S. Dak.	200	124	-	-	2	2	-	-
Nebr.	882	1,060	3	2	2	4	1	10
Kans.	1,847	1,822	9	-	4	-	15	11
S. ATLANTIC	65,359	72,090	94	122	127	86	714	887
Del.	1,091	1,172	-	-	5	11	104	66
Md.	6,187	6,726	16	19	45	16	412	648
D.C.	1,774	2,576	3	1	-	3	3	3
Va.	6,676	6,597	3	10	22	21	102	83
W. Va.	366	412	13	14	N	N	22	14
N.C.	12,701	13,838	13	29	11	13	37	56
S.C.	10,043	9,126	1	17	4	7	4	4
Ga.	11,178	15,989	3	1	6	-	-	-
Fla.	15,343	15,654	42	31	34	15	30	13
E.S. CENTRAL	23,713	25,408	322	202	25	36	33	71
Ky.	2,354	2,312	29	14	14	14	6	11
Tenn.	7,834	7,871	70	71	9	17	21	40
Ala.	8,229	7,798	7	1	2	3	6	17
Miss.	5,296	7,427	216	116	-	2	-	3
W.S. CENTRAL	35,048	35,902	296	339	18	8	14	39
Ark.	1,994	2,012	9	20	-	1	4	4
La.	9,360	9,003	183	232	9	4	2	7
Okla.	2,415	2,721	6	15	2	3	-	7
Tex.	21,279	22,166	98	72	7	-	8	21
MOUNTAIN	6,752	6,614	271	132	27	34	23	11
Mont.	28	33	4	4	1	-	-	-
Idaho	60	59	3	6	4	1	2	1
Wyo.	38	20	207	37	2	-	9	3
Colo.	2,086	1,693	20	25	10	9	8	2
N. Mex.	705	700	12	24	1	1	-	1
Ariz.	2,691	3,086	13	22	5	5	-	-
Utah	165	137	1	6	4	12	1	2
Nev.	979	886	11	8	-	6	3	2
PACIFIC	14,888	15,002	136	148	48	54	101	95
Wash.	1,514	1,375	22	13	15	10	6	4
Oreg.	463	620	24	12	N	N	7	10
Calif.	12,438	12,486	88	123	33	43	86	81
Alaska	220	210	-	-	-	1	2	-
Hawaii	253	311	2	-	-	-	N	N
Guam	-	41	-	1	-	-	-	-
P.R.	423	231	1	-	1	-	N	N
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

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

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending September 9, 2000, and September 11, 1999 (36th Week)

Reporting Area	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999
UNITED STATES	763	973	4,049	4,584	22,889	25,048	18,772	23,038
NEW ENGLAND	36	34	530	600	1,385	1,518	1,440	1,591
Maine	5	3	95	110	93	96	70	83
N.H.	1	2	9	35	98	95	87	100
Vt.	2	4	44	73	88	65	89	58
Mass.	10	13	194	136	751	853	775	865
R.I.	5	4	45	72	83	70	114	121
Conn.	13	8	143	174	272	339	305	364
MID. ATLANTIC	138	276	760	867	2,690	3,326	2,735	3,569
Upstate N.Y.	50	49	532	620	809	852	881	925
N.Y. City	50	156	U	U	665	1,004	661	1,013
N.J.	19	41	120	133	571	687	393	804
Pa.	19	30	108	114	645	783	800	827
E.N. CENTRAL	76	118	117	130	3,307	3,668	1,721	3,245
Ohio	16	18	40	29	909	832	453	733
Ind.	4	13	-	10	439	352	377	338
Ill.	27	50	19	7	911	1,163	1	1,133
Mich.	22	30	53	66	621	694	626	677
Wis.	7	7	5	18	427	627	264	364
W.N. CENTRAL	34	48	400	556	1,590	1,585	1,622	1,773
Minn.	13	21	66	79	313	424	443	545
Iowa	2	12	60	110	281	176	185	158
Mo.	6	11	33	20	517	502	613	634
N. Dak.	2	-	98	117	47	38	56	48
S. Dak.	-	-	65	143	69	73	76	91
Nebr.	5	-	1	3	120	141	44	122
Kans.	6	4	77	84	243	231	205	175
S. ATLANTIC	222	243	1,647	1,471	5,149	5,319	3,093	4,410
Del.	3	1	31	34	74	104	84	117
Md.	73	70	290	282	585	575	495	608
D.C.	13	13	-	-	39	59	U	U
Va.	41	51	382	375	692	929	517	798
W. Va.	2	1	89	86	113	119	93	109
N.C.	21	21	403	311	689	813	606	934
S.C.	2	10	113	107	510	359	381	313
Ga.	15	21	222	145	878	784	821	1,112
Fla.	52	55	117	131	1,569	1,577	96	419
E.S. CENTRAL	33	19	131	201	1,483	1,345	1,102	1,001
Ky.	11	6	17	31	258	284	184	196
Tenn.	8	7	68	72	398	363	482	415
Ala.	13	5	46	98	443	382	366	323
Miss.	1	1	-	-	384	316	70	67
W.S. CENTRAL	10	14	65	341	1,795	2,362	2,619	1,865
Ark.	3	2	20	14	453	385	329	120
La.	2	10	-	-	118	503	407	430
Okla.	5	2	45	76	278	291	175	237
Tex.	-	-	-	251	946	1,183	1,708	1,078
MOUNTAIN	36	33	187	149	1,949	2,125	1,398	1,882
Mont.	1	4	52	47	69	45	-	1
Idaho	2	3	9	-	91	68	-	68
Wyo.	-	1	43	32	48	41	14	41
Colo.	19	15	-	1	533	561	451	541
N. Mex.	-	2	17	8	166	295	149	232
Ariz.	6	2	55	54	505	616	451	564
Utah	4	4	9	4	349	362	333	386
Nev.	4	2	2	3	188	137	-	49
PACIFIC	178	188	212	269	3,541	3,800	3,042	3,702
Wash.	22	18	-	-	359	449	376	623
Oreg.	31	15	7	2	225	332	253	364
Calif.	122	143	184	260	2,758	2,720	2,238	2,484
Alaska	-	1	21	7	42	35	23	18
Hawaii	3	11	-	-	157	264	152	213
Guam	-	-	-	-	-	31	U	U
P.R.	-	-	53	54	260	383	U	U
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

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

* Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending September 9, 2000, and September 11, 1999 (36th Week)

Reporting Area	Shigellosis* NETSS Cum. 2000	Shigellosis* NETSS Cum. 1999	Shigellosis* PHLIS Cum. 2000	Shigellosis* PHLIS Cum. 1999	Syphilis (Primary & Secondary) Cum. 2000	Syphilis (Primary & Secondary) Cum. 1999	Tuberculosis Cum. 2000	Tuberculosis Cum. 1999
UNITED STATES	12,751	10,618	6,604	6,414	4,027	4,645	8,053	10,814
NEW ENGLAND	243	527	239	497	54	41	277	285
Maine	10	4	12	-	1	-	9	13
N.H.	4	13	7	11	1	1	14	10
Vt.	3	5	-	3	-	3	4	1
Mass.	165	440	150	416	36	22	168	157
R.I.	19	17	28	16	4	1	25	29
Conn.	42	48	42	51	12	14	57	75
MID. ATLANTIC	1,476	711	856	519	192	206	1,559	1,814
Upstate N.Y.	559	202	177	48	8	16	181	222
N.Y. City	583	242	402	172	89	87	856	928
N.J.	210	164	135	163	35	48	369	378
Pa.	124	103	142	136	60	55	153	286
E.N. CENTRAL	2,735	1,978	737	1,065	783	824	858	1,081
Ohio	240	322	96	97	55	65	200	175
Ind.	1,167	183	124	56	279	280	60	94
Ill.	639	787	2	621	195	298	421	523
Mich.	518	292	472	232	218	152	119	220
Wis.	171	394	43	59	36	29	58	69
W.N. CENTRAL	1,481	857	1,182	580	41	103	315	336
Minn.	359	164	499	191	4	9	105	133
Iowa	398	23	217	22	10	9	25	33
Mo.	497	560	361	283	22	69	129	118
N. Dak.	12	2	14	2	-	-	2	2
S. Dak.	5	11	3	6	-	-	13	12
Nebr.	71	57	9	43	2	6	13	12
Kans.	139	40	79	33	3	10	28	26
S. ATLANTIC	1,983	1,643	560	392	1,348	1,525	1,762	2,217
Del.	11	12	10	7	7	6	-	21
Md.	146	106	69	37	198	278	175	183
D.C.	49	42	U	U	39	35	19	37
Va.	322	88	221	44	95	116	185	186
W. Va.	4	7	3	3	2	3	21	32
N.C.	134	152	73	67	361	356	220	317
S.C.	96	90	68	48	134	192	87	201
Ga.	177	146	54	61	251	300	388	421
Fla.	1,044	1,000	62	125	261	239	667	819
E.S. CENTRAL	656	906	352	561	601	812	518	704
Ky.	236	185	53	128	59	74	68	110
Tenn.	255	554	269	375	365	459	245	246
Ala.	38	86	27	50	83	156	205	215
Miss.	127	81	3	8	94	123	-	133
W.S. CENTRAL	1,317	1,745	1,899	754	575	728	833	1,499
Ark.	154	61	44	20	70	44	134	119
La.	80	142	124	77	156	208	73	115
Okla.	79	409	29	132	91	142	92	119
Tex.	1,004	1,133	1,702	525	258	334	534	1,146
MOUNTAIN	764	644	386	444	158	161	347	368
Mont.	6	7	U	U	-	1	10	10
Idaho	41	16	-	9	1	1	9	12
Wyo.	5	3	2	1	1	-	2	3
Colo.	141	114	66	88	7	1	49	48
N. Mex.	97	84	58	62	19	8	29	41
Ariz.	317	321	197	231	124	144	145	157
Utah	58	44	63	47	1	2	32	29
Nev.	99	55	-	6	5	4	71	68
PACIFIC	2,096	1,607	393	1,602	275	245	1,584	2,510
Wash.	344	72	300	75	48	48	185	165
Oreg.	122	61	68	60	5	4	24	73
Calif.	1,594	1,449	-	1,443	221	190	1,222	2,115
Alaska	8	-	3	-	-	1	63	39
Hawaii	28	25	22	24	1	2	90	118
Guam	-	11	U	U	-	-	-	52
P.R.	9	111	U	U	95	119	-	151
V.I.	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U

N: Not notifiable. U: Unavailable. -: No reported cases.
*Individual cases can be reported through both the National Electronic Telecommunications System for Surveillance (NETSS) and the Public Health Laboratory Information System (PHLIS).

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending September 9, 2000, and September 11, 1999 (36th Week)

Reporting Area	*H. influenzae*, Invasive		Hepatitis (Viral), By Type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
	Cum. 2000†	Cum. 1999	Cum. 2000	Cum. 1999	Cum. 2000	Cum. 1999	2000	Cum. 2000	2000	Cum. 2000	Cum. 2000	Cum. 1999
UNITED STATES	805	840	7,773	11,231	4,560	4,842	1	49	-	17	66	67
NEW ENGLAND	55	60	216	204	44	106	-	2	-	4	6	11
Maine	1	5	14	5	5	1	-	-	-	-	-	-
N.H.	12	11	18	11	12	10	-	2	-	1	3	1
Vt.	4	5	9	6	6	2	-	-	-	3	3	-
Mass.	24	24	81	77	7	37	-	-	-	-	-	8
R.I.	2	1	16	13	14	24	-	-	-	-	-	-
Conn.	12	14	78	92	-	32	-	-	-	-	-	2
MID. ATLANTIC	134	146	769	801	660	611	-	14	-	5	19	5
Upstate N.Y.	70	59	147	177	94	136	-	9	-	-	9	2
N.Y. City	28	44	238	248	314	183	-	5	-	4	9	3
N.J.	27	38	118	96	83	93	-	-	-	-	-	-
Pa.	9	5	266	280	169	199	-	-	-	1	1	-
E.N. CENTRAL	114	142	944	2,124	494	509	-	8	-	-	8	2
Ohio	42	48	200	468	78	70	-	2	-	-	2	-
Ind.	25	20	60	77	36	32	-	-	-	-	-	1
Ill.	40	59	341	518	85	44	-	4	-	-	4	-
Mich.	7	11	330	1,007	294	336	-	2	-	-	2	1
Wis.	-	4	13	54	1	27	-	-	-	-	-	-
W.N. CENTRAL	46	53	653	533	542	192	-	2	-	1	3	-
Minn.	24	33	164	54	27	37	-	-	-	1	1	-
Iowa	-	2	62	101	34	28	-	2	-	-	2	-
Mo.	13	5	321	316	435	106	-	-	-	-	-	-
N. Dak.	1	1	2	2	2	-	-	-	-	-	-	-
S. Dak.	-	2	1	8	1	1	-	-	-	-	-	-
Nebr.	4	4	21	39	24	15	-	-	-	-	-	-
Kans.	4	6	82	13	19	5	-	-	-	-	-	-
S. ATLANTIC	213	187	994	1,275	851	780	-	3	-	-	3	5
Del.	-	-	-	2	-	1	U	-	U	-	-	-
Md.	56	49	146	221	86	110	-	-	-	-	-	-
D.C.	-	4	20	53	27	19	-	-	-	-	-	-
Va.	31	14	106	110	104	66	-	2	-	-	2	3
W. Va.	6	6	49	29	9	20	-	-	-	-	-	-
N.C.	19	28	111	110	165	182	-	-	-	-	-	-
S.C.	11	5	44	29	11	57	-	-	-	-	-	-
Ga.	54	51	181	346	142	99	-	-	-	-	-	-
Fla.	36	30	337	375	307	226	-	1	-	-	1	2
E.S. CENTRAL	37	51	302	292	327	343	-	-	-	-	-	2
Ky.	12	6	35	54	57	33	-	-	-	-	-	2
Tenn.	17	27	110	116	160	171	-	-	-	-	-	-
Ala.	7	15	46	43	36	68	-	-	-	-	-	-
Miss.	1	3	111	79	74	71	-	-	-	-	-	-
W.S. CENTRAL	46	51	1,211	2,222	454	855	-	-	-	-	-	7
Ark.	2	2	103	32	69	54	-	-	-	-	-	-
La.	7	11	30	170	52	139	-	-	-	-	-	-
Okla.	35	34	199	390	113	112	-	-	-	-	-	-
Tex.	2	4	879	1,630	220	550	-	-	-	-	-	7
MOUNTAIN	77	68	698	909	359	422	-	11	-	1	12	1
Mont.	1	1	4	16	5	16	U	-	U	-	-	-
Idaho	3	1	19	31	6	22	-	-	-	-	-	-
Wyo.	1	1	39	6	23	10	-	-	-	-	-	-
Colo.	11	11	141	168	60	72	-	1	-	1	2	-
N. Mex.	17	18	58	38	74	136	-	-	-	-	-	-
Ariz.	36	30	350	515	142	103	-	-	-	-	-	1
Utah	7	4	40	36	17	24	U	3	U	-	3	-
Nev.	1	2	47	99	32	39	-	7	-	-	7	-
PACIFIC	83	82	1,986	2,871	829	1,024	1	9	-	6	15	34
Wash.	5	3	198	222	70	46	-	2	-	1	3	5
Oreg.	21	29	139	187	70	78	-	-	-	-	-	12
Calif.	28	39	1,627	2,438	671	877	-	5	-	3	8	16
Alaska	6	5	9	7	8	13	-	1	-	-	1	-
Hawaii	23	6	13	17	10	10	1	1	-	2	3	1
Guam	-	-	-	1	-	2	U	-	U	-	-	1
P.R.	1	2	87	218	96	160	-	-	-	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U	U

N: Not notifiable. U: Unavailable. - : No reported cases.
*For imported measles, cases include only those resulting from importation from other countries.
†Of 160 cases among children aged <5 years, serotype was reported for 68 and of those, 18 were type b.

TABLE III. (Cont'd) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending September 9, 2000, and September 11, 1999 (36th Week)

Reporting Area	Meningococcal Disease		Mumps			Pertussis			Rubella		
	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999	2000	Cum. 2000	Cum. 1999
UNITED STATES	1,488	1,752	2	256	259	102	3,968	4,209	1	110	225
NEW ENGLAND	90	81	-	4	6	4	914	496	1	12	7
Maine	9	5	-	-	-	-	31	-	-	-	-
N.H.	9	11	-	-	1	3	82	77	-	2	-
Vt.	2	4	-	-	1	1	173	41	-	-	-
Mass.	53	45	-	1	4	-	577	346	-	8	7
R.I.	8	4	-	1	-	-	14	20	1	1	-
Conn.	9	12	-	2	-	-	37	12	-	1	-
MID. ATLANTIC	143	168	1	19	34	5	374	690	-	9	30
Upstate N.Y.	46	46	1	8	7	5	170	537	-	2	18
N.Y. City	30	49	-	4	9	-	44	37	-	7	5
N.J.	31	39	-	3	1	-	34	19	-	-	4
Pa.	36	34	-	4	17	-	126	97	-	-	3
E.N. CENTRAL	252	315	1	27	34	16	459	383	-	1	2
Ohio	63	111	-	7	11	9	238	156	-	-	-
Ind.	37	45	1	1	4	6	68	52	-	-	1
Ill.	64	82	-	6	9	-	45	67	-	1	1
Mich.	68	46	-	13	8	1	53	39	-	-	-
Wis.	20	31	-	-	2	-	55	69	-	-	-
W.N. CENTRAL	128	171	-	17	9	12	325	284	-	-	124
Minn.	17	38	-	-	1	9	191	127	-	-	5
Iowa	22	31	-	6	4	1	40	43	-	-	30
Mo.	72	62	-	5	1	1	49	52	-	-	2
N. Dak.	2	3	-	-	-	1	3	4	-	-	-
S. Dak.	5	11	-	-	-	-	3	5	-	-	-
Nebr.	4	9	-	3	-	-	9	4	-	-	87
Kans.	6	17	-	3	3	-	30	49	-	-	-
S. ATLANTIC	243	287	-	40	39	18	329	294	-	61	34
Del.	-	8	U	-	-	U	8	4	U	-	-
Md.	22	44	-	9	3	1	77	93	-	-	1
D.C.	-	3	-	-	2	-	3	-	-	-	-
Va.	35	36	-	8	8	14	58	17	-	-	-
W. Va.	10	5	-	-	-	-	1	2	-	-	-
N.C.	32	34	-	5	8	2	76	76	-	52	33
S.C.	18	35	-	11	3	-	23	14	-	7	-
Ga.	38	49	-	2	4	-	27	26	-	-	-
Fla.	88	73	-	5	11	1	56	62	-	2	-
E.S. CENTRAL	107	122	-	6	11	1	84	73	-	5	2
Ky.	24	24	-	-	-	-	40	22	-	1	-
Tenn.	44	49	-	2	-	-	25	30	-	1	-
Ala.	29	30	-	2	8	1	18	18	-	3	2
Miss.	10	19	-	2	3	-	1	3	-	-	-
W.S. CENTRAL	103	182	-	23	36	6	207	157	-	4	6
Ark.	12	31	-	2	-	-	29	18	-	-	-
La.	28	54	-	3	10	-	3	9	-	-	-
Okla.	22	27	-	-	1	3	13	30	-	-	-
Tex.	41	70	-	18	25	3	162	100	-	4	6
MOUNTAIN	105	106	-	18	10	15	528	501	-	2	16
Mont.	4	2	U	1	-	U	24	2	U	-	-
Idaho	6	8	-	-	1	2	48	117	-	-	-
Wyo.	-	4	-	2	-	-	5	2	-	-	-
Colo.	28	27	-	1	3	13	296	188	-	1	1
N. Mex.	7	13	-	1	N	-	74	71	-	-	-
Ariz.	50	32	-	4	-	-	57	66	-	1	13
Utah	7	13	U	4	3	U	15	51	U	-	1
Nev.	3	7	-	5	3	-	9	4	-	-	1
PACIFIC	317	320	-	102	80	25	748	1,331	-	16	4
Wash.	38	51	-	6	2	20	248	544	-	7	-
Oreg.	50	55	N	N	N	4	96	31	-	-	-
Calif.	215	202	-	75	65	1	358	722	-	9	4
Alaska	6	6	-	7	1	-	19	4	-	-	-
Hawaii	8	6	-	14	12	-	27	30	-	-	-
Guam	-	1	U	-	1	U	-	2	U	-	-
P.R.	6	9	-	-	-	-	2	19	-	-	-
V.I.	U	U	U	U	U	U	U	U	U	U	U
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	U	U	U	U	U	U	U	U	U	U	U

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

TABLE IV. Deaths in 122 U.S. cities,* week ending September 9, 2000 (36th Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	578	419	100	37	12	10	57
Boston, Mass.	177	115	44	13	3	2	12
Bridgeport, Conn.	27	19	5	3	-	-	3
Cambridge, Mass.	20	16	2	2	-	-	2
Fall River, Mass.	28	23	4	-	-	1	-
Hartford, Conn.	55	34	14	4	2	1	7
Lowell, Mass.	27	22	4	1	-	-	1
Lynn, Mass.	9	9	-	-	-	-	-
New Bedford, Mass.	24	21	-	2	1	-	4
New Haven, Conn.	44	29	9	2	1	3	5
Providence, R.I.	49	39	4	2	2	2	7
Somerville, Mass.	2	2	-	-	-	-	-
Springfield, Mass.	41	30	6	3	1	1	4
Waterbury, Conn.	27	22	3	1	1	-	6
Worcester, Mass.	48	38	5	4	1	-	6
MID. ATLANTIC	1,699	1,194	312	136	28	28	94
Albany, N.Y.	33	27	3	1	-	1	3
Allentown, Pa.	15	12	3	-	-	-	1
Buffalo, N.Y.	99	72	21	3	2	1	7
Camden, N.J.	32	20	6	3	-	3	1
Elizabeth, N.J.	10	7	2	1	-	-	-
Erie, Pa.§	36	27	8	-	1	-	3
Jersey City, N.J.	39	26	8	4	1	-	-
New York City, N.Y.	1,021	698	194	89	21	19	48
Newark, N.J.	62	30	17	14	1	-	1
Paterson, N.J.	24	16	6	2	-	-	4
Philadelphia, Pa.	U	U	U	U	U	U	U
Pittsburgh, Pa.§	42	32	7	2	-	1	6
Reading, Pa.	22	18	1	2	1	-	2
Rochester, N.Y.	110	83	18	7	1	1	6
Schenectady, N.Y.	28	23	5	-	-	-	4
Scranton, Pa.§	39	34	3	2	-	-	2
Syracuse, N.Y.	56	48	3	3	-	2	4
Trenton, N.J.	13	7	3	3	-	-	-
Utica, N.Y.	18	14	4	-	-	-	2
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,826	1,175	400	147	57	46	117
Akron, Ohio	42	31	8	3	-	-	6
Canton, Ohio	43	31	9	2	1	-	3
Chicago, Ill.	480	266	121	48	23	22	43
Cincinnati, Ohio	52	36	6	8	2	-	2
Cleveland, Ohio	103	64	26	9	-	4	3
Columbus, Ohio	164	110	35	13	2	4	13
Dayton, Ohio	85	65	14	4	2	-	6
Detroit, Mich.	186	104	56	16	7	2	5
Evansville, Ind.	30	27	3	-	-	-	-
Fort Wayne, Ind.	50	40	6	2	1	1	2
Gary, Ind.	17	10	4	1	2	-	-
Grand Rapids, Mich.	59	39	9	4	6	1	1
Indianapolis, Ind.	156	99	31	12	6	8	13
Lansing, Mich.	29	16	10	3	-	-	1
Milwaukee, Wis.	75	43	23	7	2	-	5
Peoria, Ill.	38	26	9	1	1	1	4
Rockford, Ill.	40	28	8	4	-	-	2
South Bend, Ind.	26	17	7	1	-	1	1
Toledo, Ohio	91	68	11	8	2	2	5
Youngstown, Ohio	60	55	4	1	-	-	2
W.N. CENTRAL	694	494	119	36	28	17	66
Des Moines, Iowa	51	36	9	4	2	-	8
Duluth, Minn.	31	24	3	3	1	-	2
Kansas City, Kans.	15	10	2	2	1	-	3
Kansas City, Mo.	113	75	15	10	9	4	5
Lincoln, Nebr.	25	19	4	-	-	2	1
Minneapolis, Minn.	141	101	25	5	4	6	13
Omaha, Nebr.	57	39	13	2	3	-	7
St. Louis, Mo.	82	52	16	6	4	4	10
St. Paul, Minn.	109	87	18	1	2	1	7
Wichita, Kans.	70	51	14	3	2	-	10
S. ATLANTIC	906	577	195	78	34	22	54
Atlanta, Ga.	U	U	U	U	U	U	U
Baltimore, Md.	173	115	34	16	7	1	14
Charlotte, N.C.	88	60	15	6	5	2	4
Jacksonville, Fla.	125	78	32	10	2	3	13
Miami, Fla.	88	43	23	18	4	-	5
Norfolk, Va.	38	21	10	5	1	1	1
Richmond, Va.	50	22	15	3	8	2	3
Savannah, Ga.	44	30	8	2	1	3	5
St. Petersburg, Fla.	41	30	8	1	-	2	3
Tampa, Fla.	136	101	27	5	2	1	5
Washington, D.C.	100	54	23	12	4	7	1
Wilmington, Del.	23	23	-	-	-	-	-
E.S. CENTRAL	711	441	164	58	28	20	50
Birmingham, Ala.	149	100	26	12	6	5	11
Chattanooga, Tenn.	46	36	7	3	-	-	2
Knoxville, Tenn.	97	61	28	5	2	1	3
Lexington, Ky.	50	32	15	1	1	1	6
Memphis, Tenn.	160	89	46	16	2	7	9
Mobile, Ala.	64	41	9	8	4	2	2
Montgomery, Ala.	32	21	11	-	-	-	2
Nashville, Tenn.	113	61	22	13	13	4	15
W.S. CENTRAL	1,206	779	242	108	41	22	72
Austin, Tex.	48	32	11	4	-	1	3
Baton Rouge, La.	44	30	7	6	-	1	-
Corpus Christi, Tex.	46	32	7	5	1	1	1
Dallas, Tex.	164	94	36	21	7	6	8
El Paso, Tex.	56	46	6	3	-	1	3
Ft. Worth, Tex.	86	58	19	6	2	1	3
Houston, Tex.	273	170	66	29	6	2	13
Little Rock, Ark.	54	36	3	1	1	1	2
New Orleans, La.	84	36	21	9	15	1	7
San Antonio, Tex.	173	127	33	10	2	1	13
Shreveport, La.	70	45	12	4	4	5	6
Tulsa, Okla.	108	73	21	10	3	1	13
MOUNTAIN	852	551	169	78	33	21	49
Albuquerque, N.M.	66	45	14	7	-	-	4
Boise, Idaho	35	25	9	1	-	-	2
Colo. Springs, Colo.	54	35	11	2	3	3	2
Denver, Colo.	74	46	19	7	1	1	4
Las Vegas, Nev.	187	119	33	20	11	4	11
Ogden, Utah	29	17	5	5	1	1	1
Phoenix, Ariz.	163	104	31	15	6	7	10
Pueblo, Colo.	28	20	5	2	1	-	2
Salt Lake City, Utah	90	63	12	10	3	2	7
Tucson, Ariz.	126	77	30	9	7	3	6
PACIFIC	1,185	822	218	86	36	20	88
Berkeley, Calif.	13	9	4	-	-	-	1
Fresno, Calif.	76	52	19	4	1	-	4
Glendale, Calif.	25	22	2	1	-	-	4
Honolulu, Hawaii	51	39	9	1	1	1	5
Long Beach, Calif.	78	59	9	6	4	-	9
Los Angeles, Calif.	364	236	73	37	12	6	23
Pasadena, Calif.	34	20	5	4	2	3	1
Portland, Oreg.	43	29	8	2	2	2	3
Sacramento, Calif.	U	U	U	U	U	U	U
San Diego, Calif.	141	96	29	11	3	2	8
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	130	95	22	7	3	3	12
Santa Cruz, Calif.	24	19	3	1	-	1	3
Seattle, Wash.	89	62	17	6	3	1	7
Spokane, Wash.	41	27	8	4	1	1	3
Tacoma, Wash.	76	57	10	2	4	-	5
TOTAL	9,657	¶6,452	1,919	764	297	206	647

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.

Notice to Readers

Satellite Broadcast on HIV Prevention

"HIV Prevention Update: Men Who Have Sex With Men," a satellite broadcast, is scheduled for Thursday, November 30, 2000, at 1–3 p.m. eastern standard time. CDC and the Public Health Training Network are sponsoring this forum, which will focus on activities and resources to prevent human immunodeficiency virus (HIV) infection among men who have sex with men (MSM). Viewers will hear about CDC activities and programs occurring throughout the country.

This broadcast is designed for organizations and persons who provide HIV prevention and other health and social services for MSM. This audience includes public health programs, community-based organizations, and policymakers. Speakers will discuss the HIV epidemic among MSM, factors contributing to increases in risk behaviors, effective HIV prevention programs for MSM, and resources and technical assistance for conducting HIV prevention programs for this population. Viewers can fax questions and comments before and during the broadcast.

Additional information for organizations and potential viewers is available through the World-Wide Web site for the broadcast, http://www.cdcnpin.org/broadcast, and CDC's Fax Information System, telephone (888) 232-3299, by entering document number 130030 and a return fax number. Organizations setting up viewing sites are encouraged to register online or by fax as early as possible so that viewers may access information about viewing locations when visiting the web site or calling the information line.

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