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High-Risk Sexual Behavior by HIV-Positive Men Who Have Sex with Men — 16 Sites, United States, 2000–2002

The majority of persons living with human immunodeficiency virus (HIV) in the United States are men who have sex with men (MSM) (*1*). High-risk sexual behavior by HIV-positive MSM exposes sex partners to HIV. The risk for transmitting HIV from an infected partner to an uninfected partner through unprotected insertive anal intercourse (UIAI) is greater than the risk for transmission through receptive anal intercourse or oral sex (*2*). Differences in sexual risk behavior might be associated with the perceived HIV serostatus of the partner (i.e., HIV positive, HIV negative, or unknown serostatus) (*3*), as well as with the sex partner type (i.e., steady or nonsteady [*4*]). During May 2000–December 2002, HIV-positive MSM were interviewed in a behavioral surveillance survey at surveillance sites in 16 states*. This report describes insertive anal intercourse practices reported by these MSM; findings indicated that a large percentage of HIV-positive MSM were sexually abstinent, practiced safer sexual behavior by having protected insertive anal intercourse, or had UIAI with an HIV-positive partner. However, a small percentage of HIV-positive MSM reported UIAI with partners who were HIV negative or whose serostatus was unknown; for this group, more intensive and comprehensive HIV-prevention efforts are needed to eliminate this risk behavior.

Information on selected behavioral characteristics of MSM with HIV/acquired immunodeficiency syndrome (AIDS) was obtained from CDC's Supplement to HIV/AIDS Surveillance (SHAS) project (*5*). SHAS is a cross-sectional, multisite study aimed at supplementing information routinely collected in HIV/AIDS surveillance. Trained staff conducted face-to-face interviews with persons aged ≥18 years who had HIV infection or AIDS recently reported to the 16 surveillance sites. Questionnaire modules included questions on demographics, drug use, sexual behavior, HIV testing and medical therapy, and use of health and social services. For sexually active MSM, insertive anal intercourse and condom use at last sexual encounter were compared by serostatus of the partner. Questions on sexual behavior were specific to the last sexual encounter with the most recent partner. Differences in behavior by partner type were evaluated by using the chi-square test ($p<0.05$); in analyses stratified by partner serostatus, percentages, odds ratios, confidence intervals, and statistical levels of significance were computed.

During May 2000–December 2002, a total of 2,491 HIV-positive MSM were interviewed. MSM were defined as men categorized in the national HIV/AIDS reporting hierarchy as either "men who have sex with men" or "men who have sex with men and inject drugs," or as men who, in the interview, reported having sex with a man during the preceding 12 months or self-identified their sexual orientation as "gay" or "bisexual." Of 1,923 (77%) MSM who had HIV diagnosed for ≥12 months (Table 1), 1,177 (61%) reported having sex (i.e., any oral or anal intercourse) with a man during the preceding 12 months, 586 (31%) reported they were abstinent, and 160 (8%) reported they had sex but not with a man. The median number of male sex partners during this period was two (range: one to 500 sex partners). Data on sexual risk behavior were available for 1,153 MSM, who were categorized into two mutually exclusive groups based on the

* Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Kansas, Maryland, Michigan, Minnesota, New Jersey, New Mexico, South Carolina, Texas, and Washington.

INSIDE

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relationship of the sex partner(s): those who reported having only a steady partner (i.e., committed to that partner above anyone else) or any nonsteady partner. A total of 422 (37%) MSM reported having only steady male sex partners during the preceding 12 months; 408 (97%) reported having only one steady partner. A total of 731 (63%) MSM reported having nonsteady male sex partners during the preceding 12 months; 86 (12%) reported having only one partner.

A significantly higher percentage of men with nonsteady partners (36%) did not know the serostatus of their most recent partner, compared with men who only had steady partners (8%; $p<0.01$). Among the sexually active MSM, 30% reported oral sex exclusively and 13% reported anal sex exclusively at last sexual encounter; 55% reported both behaviors. Overall, 40% of sexually active MSM reported insertive anal intercourse at last sexual encounter; of these, 25% did not use a condom. No significant differences were observed by partner type (steady versus nonsteady) for insertive anal intercourse at last sexual encounter (43% versus 38%, respectively) or not using a condom for insertive anal intercourse (28% versus 24%, respectively); therefore, data were combined by partner type. Insertive anal intercourse at last sexual encounter was significantly less likely with HIV-negative partners and partners of unknown serostatus than with HIV-positive partners (Table 2). Among men who had insertive anal intercourse at last sexual encounter, UIAI was significantly less likely with HIV-negative partners than with HIV-positive partners. No difference was observed when UIAI among HIV-positive partners was compared with UIAI among partners of unknown serostatus.

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Editorial Note: The findings in this report indicate that approximately 40% of MSM who had HIV diagnosed for ≥12 months did not have sex with a man (i.e., were abstinent or had sex with a woman) during the 12 months preceding the interview. Among sexually active MSM, anal sex was less common than oral sex. Insertive anal intercourse was significantly less likely with HIV-negative partners or unknown serostatus partners, compared with HIV-positive partners. Condom use for insertive anal intercourse was significantly higher with HIV-negative partners than with HIV-positive partners. Abstinence or sexual behaviors with a lower risk for transmitting HIV (e.g., oral sex, insertive anal intercourse with a seroconcordant partner, or protected insertive anal intercourse) were the common behaviors among this population of HIV-positive MSM.

Certain HIV-positive MSM reported behavior that had a greater risk for HIV transmission. For MSM who had insertive

TABLE 1. Number and percentage of men who have sex with men with HIV diagnosed for ≥12 months, and of these, number and percentage who were sexually active with a male partner during the preceding 12 months, by selected characteristics — 16 sites*, United States, May 2000–December 2002

			Sexually active with a male partner during preceding 12 months			
			Yes		No	
Characteristic	No.†	(%)	No.†	(%)	No.†	(%)
Age group (yrs)						
18–29	206	(10.7)	161	(78.2)	45	(21.8)
30–39	797	(41.5)	540	(67.8)	257	(32.2)
40–49	691	(35.9)	383	(55.4)	308	(44.6)
≥50	229	(11.9)	93	(40.6)	136	(59.4)
Race/Ethnicity						
White, non-Hispanic	701	(36.5)	470	(67.1)	231	(32.9)
Black, non-Hispanic	774	(40.3)	417	(53.9)	357	(46.1)
Hispanic	356	(18.5)	232	(65.2)	124	(34.8)
American Indian/ Alaska Native	28	(1.5)	14	(50.0)	14	(50.0)
Asian/Pacific Islander	5	(0.3)	4	(80.0)	1	(20.0)
Other§	56	(2.9)	37	(66.1)	19	(33.9)
Education						
<12 yrs	324	(16.8)	159	(49.1)	165	(50.9)
≥12 yrs	1,595	(82.9)	1,016	(63.7)	579	(36.3)
Sexual self-identity						
Heterosexual	215	(11.2)	17	(7.9)	198	(92.1)
Homosexual/Gay	1,295	(67.3)	958	(74.0)	337	(26.0)
Bisexual	336	(17.5)	159	(47.3)	177	(52.7)
Other	50	(2.6)	28	(56.0)	22	(44.0)
Unknown/Refused	27	(1.4)	15	(55.5)	12	(44.4)
Disease status at interview						
HIV	590	(30.7)	391	(66.3)	99	(33.7)
AIDS	1,317	(68.5)	773	(58.7)	544	(41.3)
Total	**1,923**	**(100.0)**	**1,177**	**(61.2)**	**746**	**(38.8)**

* Located in Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Kansas, Maryland, Michigan, Minnesota, New Jersey, New Mexico, South Carolina, Texas, and Washington.
† Numbers might not sum to total because of missing data.
§ Includes those who self-identified as multiple races.

anal intercourse with partners who were HIV negative or whose serostatus they did not know, 14% and 25%, respectively, did not use a condom. No significant difference in UIAI was observed between those with HIV-positive or serostatus-unknown partners. The assumption by HIV-positive MSM that partners of unknown serostatus are seroconcordant might be inaccurate, resulting in high-risk behavior with partners who are HIV negative. Recent outbreaks of sexually transmitted diseases (STDs) among MSM, including many who were HIV positive (*6*), indicate a possible resurgence of high-risk sexual behavior in this population.

In response to the growing number of persons living with HIV/AIDS, CDC has increased its focus on prevention efforts for persons infected with HIV (those who have and have not yet received a diagnosis). In 2003, CDC launched Advancing HIV Prevention: New Strategies for a Changing Epidemic, a new initiative aimed at reducing barriers to early diagnosis of HIV and increasing access to quality medical care, treatment, and ongoing prevention services for HIV-infected persons (*7*). One key strategy is to prevent new HIV infections by helping persons with HIV and their partners reduce risk behavior and maintain behavior change. Current guidelines recommend routine provider-delivered prevention messages and STD screening for persons who are HIV positive (*8*). For those persons who have difficulty initiating and sustaining safer behaviors (e.g., adopting consistent condom use during insertive anal intercourse), higher-level interventions such as individualized support and counseling through prevention case management (*9*) or multisession behavioral interventions (*10*) might prove beneficial.

The findings in this report are subject to at least four limitations. First, recruitment for SHAS was not random; participants might not represent all persons reported with HIV or

TABLE 2. Number and percentage of sexually active men who have sex with men with HIV diagnosed for ≥12 months who had insertive anal intercourse (with or without a condom) at last sexual encounter, by partner HIV serostatus — 16 sites*, United States, May 2000–December 2002

	Insertive anal intercourse at last sexual encounter (with or without condom)				Did not use a condom at last insertive anal intercourse			
Partner HIV serostatus	No.	(%)	Crude odds ratio	(95% CI†)	No.	(%)	Crude odds ratio	(95% CI)
HIV-positive	196/406	(48)	referent		68/194§	(35)	referent	
HIV-negative	155/446	(35)	0.6	(0.4–0.8)¶	21/155	(14)	0.3	(0.2–0.5)†
Unknown serostatus	105/295	(36)	0.6	(0.4–0.8)¶	26/105	(25)	0.6	(0.4–1.1)

* Located in Arizona, California, Colorado, Connecticut, Delaware, Florida, Georgia, Kansas, Maryland, Michigan, Minnesota, New Jersey, New Mexico, South Carolina, Texas, and Washington.
† Confidence interval.
§ Data are missing for two MSM.
¶ Statistically different from referent group (p<0.001).

AIDS from the participating sites. Second, data on sexual behaviors were self-reported and subject to recall and desirability biases. No assessment was conducted of how participants determined the serostatus of their most recent male sex partner or whether the participants had disclosed their own HIV-positive status to their sex partners. Third, the analysis was limited to UIAI with male partners and did not examine differences in receptive anal intercourse or oral sex (behaviors with a lower per-episode risk for transmitting HIV [*2*]) by partner type or serostatus. Finally, behavioral data were available for only the most recent sexual encounter with the most recent partner and did not include information about motivations for behavior (e.g., whether HIV-positive MSM were abstinent, limiting sexual contact to seroconcordant partners, or substituting lower-risk sex as an HIV-risk–reduction strategy).

Unprotected sexual intercourse between HIV serodiscordant partners can lead to HIV transmission. This analysis suggests that although the majority of HIV-positive MSM are sexually active, most engage in behaviors with less risk for HIV transmission than UIAI. Nonetheless, UIAI occurred in 6% of the sexual encounters with HIV-negative and unknown serostatus partners. Sexual behaviors and risk-reduction strategies of HIV-positive MSM are complex and dependent on many factors, including partner relationship and perceived serostatus. To stop HIV transmission, public health authorities and health-care providers must provide effective HIV-prevention activities to those who continue to demonstrate risk behaviors.

References

1. CDC. HIV/AIDS surveillance report 2002;14:7,17–20.
2. Vittinghoff E, Douglas J, Judson F, et al. Per-contact risk of human immunodeficiency virus transmission between male sexual partners. Am J Epidemiol 1999;150:306–11.
3. Hoff CC, Stall R, Paul J, et al. Differences in sexual behavior among HIV discordant and concordant gay men in primary relationships. J Acquir Immun Defic Syndr Hum Retrovirol 1997;14:72–8.
4. Koblin BA, Chesney MA, Jusnik MJ, et al. High-risk behaviors among men who have sex with men in 6 US cities: baseline data from the EXPLORE study. Am J Public Health 2003;93:926–32.
5. Buehler JW, Diaz T, Hersh BS, et al. The supplement to HIV-AIDS surveillance project: an approach for monitoring HIV risk behaviors. Public Health Rep 1996;111(Suppl 1):133–7.
6. CDC. Outbreak of syphilis among men who have sex with men—Southern California, 2000. MMWR 2001;50:117–20.
7. CDC. Advancing HIV prevention: new strategies for a changing epidemic—United States, 2003. MMWR 2003;52:329–32.
8. CDC. Incorporating HIV prevention into the medical care of persons living with HIV: recommendation of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR 2003;52(No. RR-12).
9. CDC. Advancing HIV prevention: interim guidance for selected interventions 2004. Atlanta, GA: US Department of Health and Human Services, CDC, National Center for HIV, STD, and TB Prevention, 2003. Available at http://www.cdc.gov/hiv/partners/Interim-Guidance.htm.
10. Kalichman SC, Rompa D, Cage M, et al. Effectiveness of an intervention to reduce HIV transmission risks in HIV-positive people. Am J Prev Med 2001;21:84–92.

Imported Lassa Fever — New Jersey, 2004

Lassa fever is an acute viral illness caused by Lassa virus, which is hosted by rodents in the *Mastomys natalensis* species complex and rarely imported to countries outside of those areas in Africa where the disease is endemic (*1*). Lassa fever is characterized by fever, muscle aches, sore throat, nausea, vomiting, and chest and abdominal pain. Approximately 15%–20% of patients hospitalized for Lassa fever die from the illness; however, approximately 80% of human infections with Lassa virus are mild or asymptomatic, and 1% of infections overall result in death (*1*). On August 28, 2004, a man aged 38 years residing in New Jersey died from Lassa fever after returning from travel to West Africa. This report summarizes the clinical and epidemiologic investigations conducted by federal, state, and local public health agencies. The findings illustrate the need for clinicians and public health officials to remain alert to emerging infectious diseases and to institute appropriate measures to promptly identify and limit spread of unusual pathogens.

Case Report

The patient, a businessman who was born in Liberia, had resided in the United States for 5 years. During the 4-month period preceding hospitalization, he had been in West Africa, commuting frequently between Liberia and Sierra Leone, where he owned farms. One day in August, the patient began to experience fever, chills, severe sore throat, diarrhea, and back pain. Two days later, he left Freetown, Sierra Leone, and traveled by airplane through London, England, arriving in Newark, New Jersey. He then traveled from Newark to his home by train.

Within hours of his arrival in the United States, the patient sought treatment and was hospitalized in Trenton, New Jersey, for persistent fever, chills, sore throat, diarrhea, and back pain. On admission, the patient was alert and had a temperature of 103.6°F (39.8°C). Differential diagnoses at this time included malaria and typhoid fever. On the third and fourth days of hospitalization, despite treatment with antimalarial and antibiotic therapy, the patient's condition deteriorated, and adult respiratory distress syndrome was diagnosed. He was subsequently intubated and mechanically ventilated. Yellow fever and Lassa fever were considered as possible diagnoses. The New Jersey Department of Health and Senior Services (NJDHSS) was notified, CDC was consulted, and arrangements to administer intravenous ribavirin under an investigational new drug protocol were initiated. However, 6 hours later, the patient died before the drug could be administered.

Clinical and postmortem specimens were sent to CDC for specific diagnostic testing. Lassa fever was confirmed by using serum antigen detection, immunohistochemical staining of postmortem liver-biopsy specimens, virus isolation in cell culture (Figure 1), and sequencing of Lassa virus by reverse transcriptase-polymerase chain reaction.

Investigation

An investigation was conducted to identify persons who might have had direct contact with the patient or his body fluids while he was ill. Contacts were categorized into low- and high-risk categories on the basis of multiple criteria (Box).

A total of 188 persons had contact with the patient during the period when he was likely infectious; of these, five persons were classified as at high risk and 183 as at low risk. The five at high risk were the patient's wife, three of their children, and the patient's brother, who was a hospital visitor; each reportedly had unprotected exposure to the patient's body fluids during his illness. Contacts at low risk included nine other family members, 139 health-care workers employed at the Trenton hospital (including 42 laboratory workers, 32 nurses, and 11 physicians), and 16 laboratory workers employed at commercial laboratories in Virginia and California. In addition, 19 contacts at low risk were exposed as passengers on the flight from London to Newark.

The NJDHSS notified CDC's Division of Global Migration and Quarantine (DGMQ) of possible travel-related exposures. Because the patient reported illness onset 3 days before air travel, DGMQ searched for those airline passengers who had been seated within 6 feet of the patient. Passengers were traced by using information from travel reservation records and customs declaration forms. Nineteen passengers seated near the patient were identified (Figure 2). Within 5 days of notification, 13 of the 19 passengers had been interviewed; within 8 days, three more had been contacted. The remaining three could not be contacted. Seventeen of 19 passengers were citizens of the United Kingdom, and authorities in that country were notified; two of the passengers were U.S. citizens. Interviewed passengers did not report contact with the patient's body fluids and were considered to have low-risk exposure. All passengers contacted were healthy; none reported fever as of September 14, which marked the end of the 21-day incubation period for Lassa fever for this group.

All contacts at high risk (i.e., five family members) were monitored for temperature of ≥101°F (≥38.3°C) twice daily for 21 days after their last potential exposure to the patient on August 28. A public health nurse visited the family contacts each morning and recorded their temperatures. In the afternoon, the contacts recorded their own temperatures and reported the results.

The majority of contacts at low risk (i.e., nine other family members and 139 health-care workers) were instructed to

BOX. Level of risk related to exposure to a patient with Lassa fever

High risk

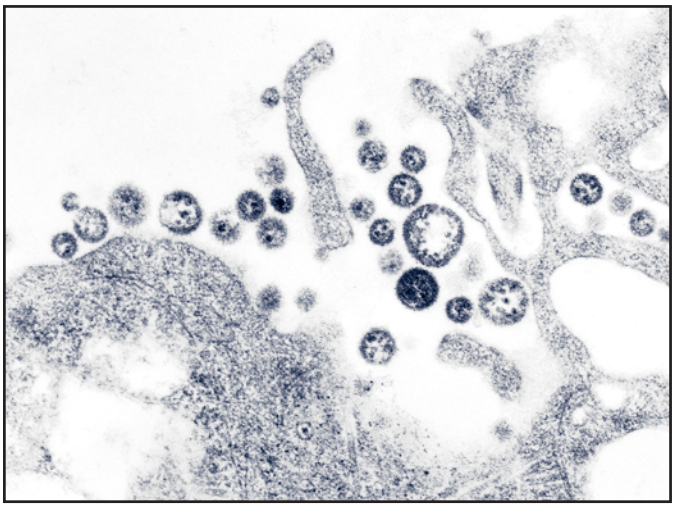
- Exposure from a percutaneous injury (e.g., a needlestick or cut with a sharp object) to blood, tissue, or other body fluids that are potentially infectious (e.g., urine, vomitus, or stool).
- Exposure from direct, unprotected contact with potentially infectious material (e.g., touching vomitus with an ungloved hand).
- Mucosal exposure (e.g., of eyes, nose, or mouth) to splashes or droplets of potentially infectious blood and body fluids or sexual contact with a symptomatic patient.

Low risk

- Sharing a room or sitting in a vehicle within 6 feet (i.e., coughing distance) of a potentially infectious patient without direct contact with a potentially infectious material.
- Providing routine medical care while using personal protective equipment (PPE) appropriately.
- Routine cleaning and laundry of contaminated linens and surfaces while using PPE appropriately.
- Transport of a potentially infectious patient or specimen without direct contact with potentially infectious material.
- Handling of clinical specimens while using PPE appropriately.

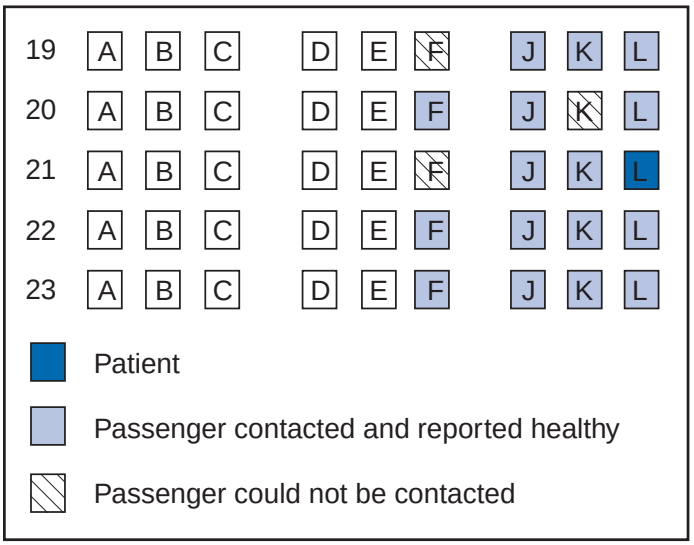
Source: Special Pathogens Branch, Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases, CDC.

FIGURE 1. Electron micrograph image of Lassa virus



Photo/CDC

FIGURE 2. Airplane row numbers and seat letters for Lassa fever patient and nearby passengers and contact status of passengers — London-Newark flight, August 2004



record their own temperatures at least twice daily and report the results. Other contacts at low risk (i.e., the 16 laboratory workers and 19 air passengers) were asked to self monitor for temperature of ≥101°F (≥38.3°C) and other symptoms compatible with Lassa fever.

No restriction was placed on work or movement for asymptomatic adults at either high or low risk. However, to facilitate monitoring, the patient's children were restricted from participating in school activities. None of the contacts at high risk reported any illness compatible with Lassa fever as of September 18, which ended their 21-day incubation period.

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Editorial Note: This report describes the first case of imported Lassa fever diagnosed in the United States since 1989 (*2*). In West Africa, Lassa fever is endemic, causing 100,000–300,000 human infections and approximately 5,000 deaths each year (*1*).

Other than in regions where it is endemic, Lassa fever is encountered rarely. Cases identified in areas where Lassa fever is not endemic usually are imported, often by persons returning from West Africa (*2*). To date, approximately 20 cases of imported Lassa fever have been reported worldwide. The risk for human-to-human transmission of Lassa fever is low (*3,4*); however, health-care–associated transmission has occurred in areas where Lassa fever is endemic, and one instance of asymptomatic seroconversion was reported in a European physician (*4*). Meticulous adherence to appropriate infection-control practices to prevent unprotected exposure to blood or other body fluids is essential to the safe management of patients with possible Lassa fever and to the protection of health-care workers (*2*). Family members and others visiting a hospitalized patient must be instructed to adhere to infection-control precautions and avoid exposure to potentially infectious blood or body fluids.

In the absence of proven effectiveness, oral ribavirin prophylaxis was not recommended for persons who might have been exposed to the patient described in this report. Instead, a standard treatment regimen of intravenous ribavirin was recommended for any contacts with clinical evidence of infection during the incubation period. However, none of the contacts had illness compatible with Lassa fever.

Increasing international travel has resulted in importation of microbial agents not endemic to the United States, posing diagnostic challenges to health-care providers. In addition to routine evaluation, clinicians should consider both uncommon and common causes of fever (e.g., malaria) in persons arriving from Africa. Clinical histories should include careful assessment of travel to regions where uncommon diseases are endemic (e.g., for Lassa fever, Liberia, Nigeria, and Sierra Leone). Every effort should be made to expedite delivery of clinical specimens to appropriate diagnostic laboratories.

The nonspecific presentation of Lassa fever and related viral infections that can cause viral hemorrhagic fever syndromes underscores the need for consistent application of infection-control practices. Suspected cases of Lassa fever or related infections should be reported immediately to hospital infection-control professionals and to state and local health departments for treatment recommendations and to facilitate implementation of infection-control precautions and tracing of contacts. Clinicians also should consult CDC's Special Pathogens Branch (telephone 404-639-1115), where specialized containment facilities exist to allow diagnostic confirmation by serologic, virologic, molecular, and pathology techniques. State health departments should notify DGMQ immediately of travel-related importations of suspected communicable diseases to ensure that prompt risk assessments, notifications, and appropriate containment measures are implemented for exposed travelers.

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References

1. CDC. Lassa fever fact sheet. Atlanta, GA: US Department of Health and Human Services, CDC; 2004. Available at http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/lassaf.htm.
2. Johnson KM, Monath TP. Imported Lassa fever—reexamining the algorithms. N Engl J Med 1990;323:1139–41.
3. Holmes GP, McCormick JB, Trock SC, et al. Lassa fever in the United States: investigation of a case and new guidelines for management. N Engl J Med 1990;323:1120–3.
4. Haas WH, Breuer T, Pfaff G, et al. Imported Lassa fever in Germany: surveillance and management of contact persons. Clin Infect Dis 2003;36:1254–8.

Emergency Measles Control Activities — Darfur, Sudan, 2004

The Darfur region of Sudan, composed of three states with a population of approximately six million, has experienced civil conflict during the previous year, resulting in the internal displacement of approximately one million residents and an exodus of an estimated 170,000 persons to neighboring Chad. The conflict has left a vulnerable population with limited access to food, health care, and other basic necessities. In addition, measles vaccination coverage has been adversely affected; in 2003, coverage was reported to be 46%, 57%, and 77% in North, West, and South Darfur, respectively. This report describes measles-control activities in Darfur region conducted by the Federal Ministry of Health (FMOH) in Sudan in collaboration with the United Nations and nongovernmental organizations (NGOs) during March–August 2004. Ongoing measles transmission in camps for internally displaced persons (IDPs) and neighboring communities in Darfur led to a regionwide measles vaccination campaign targeting all children aged 9 months–15 years, resulting in a reduction in reported measles cases. Once security is improved, ongoing efforts to increase measles vaccine coverage will be required to eliminate persistent susceptibility to measles in the Darfur population.

Measles Vaccination Activities

During March–April 2004, the Expanded Program on Immunization (EPI) at FMOH received reports of measles outbreaks among displaced populations in West and North Darfur. In response to these outbreaks, the state ministries of health and various NGOs conducted vaccination campaigns in IDP camps and neighboring communities, targeting children aged 9 months–5 years; these campaigns vaccinated approximately 80,000 children. In addition, clinics were established in IDP camps to vaccinate current and incoming residents. Despite these measures, measles virus transmission continued to occur both within the camps and in neighboring communities.

In early April, FMOH, the World Health Organization (WHO), and UNICEF conducted an assessment of the feasibility of a regionwide measles vaccination campaign in the context of lack of security, population movements, and the approaching rainy season. State-level EPI managers reported that approximately 83% of children aged 9 months–15 years in the region were accessible. The majority of the inaccessible areas were in West Darfur, from which much of the population had fled to Chad. On the basis of these assessments, a measles vaccination campaign targeting children aged 9 months–15 years was planned in the accessible areas of the Darfur region.

Authorities hoped that the negotiations between opposing parties necessary to permit widespread access to vaccination also might result in alleviation of civil conflict. Donor agencies pledged resources toward campaign activities, including renewal of the vaccine cold chain (i.e., maintaining proper vaccine temperatures during storage and handling to preserve potency) and reestablishment of EPI services. Because of widespread malnutrition and low poliomyelitis vaccine coverage, polio vaccination and vitamin A supplementation for children aged <5 years were included in the campaign.

A technical group composed of provincial health staff, NGOs, and international partners was established for campaign planning. State- and district-level staff participated in workshops in Khartoum during the first half of May 2004 to review campaign guidelines and develop a schedule for campaign planning. Extensive social mobilization was undertaken through mass media and community-level activities. In late May, training sessions were held for 6,259 vaccinators, 522 team leaders, and 206 supervisors.

A mass measles vaccination campaign was launched on June 5 in South Darfur and on June 12 in West and North Darfur and continued for 10 days in each state. Activities included vaccination using a combination of fixed posts and outreach immunization teams, the use of checklists to monitor vaccination sessions, social mobilization activities, and surveillance for adverse events after vaccination. In addition, rapid convenience surveys were used to monitor coverage in hard-to-reach areas. At the state level, meetings were held at the end of each working day to review progress and address

problems. Tally sheets were used to monitor campaign coverage, and data were sent to the federal level for compilation and analysis. Vaccination sites included 500 fixed centers, 1,088 temporary posts, and 189 mobile teams.

Approximately 93% of the accessible population and 77% of the total target population were vaccinated during the campaign (Table 1). Coverage were highest in South Darfur, an area with limited conflict, and lowest in West Darfur, where a substantial percentage of the population was inaccessible because of lack of security. Officials negotiated an agreement with rebel forces, allowing campaign staff to enter conflict areas in South Darfur, but were unable to negotiate similar agreements in West Darfur. In addition, the start of the rainy season limited access in parts of West Darfur.

Measles Surveillance

During the measles outbreak in Darfur, WHO collaborated with FMOH and other partners to develop a system for routine surveillance and early outbreak detection of 12 epidemic diseases, including measles (*1*). Data are compiled at the state level and transmitted to FMOH weekly. Alert thresholds for outbreaks were agreed upon for selected diseases, and a surveillance bulletin was developed to disseminate data to key stakeholders. During the course of establishing surveillance in the IDP camps, three serologically confirmed measles outbreaks were investigated retrospectively. A total of 725 measles cases and 108 deaths were identified in outbreaks that occurred during March–June in West and North Darfur (Table 2).

Transmission of measles virus continued to be observed in Darfur after completion of the mass campaign (Figure). Of the 89 measles patients identified during July 10–August 6, a total of 45 (51%) were from West Darfur, 33 (37%) from North Darfur, and 11 (12%) from South Darfur. Maintaining high-quality surveillance is necessary for enabling early detection of and response to outbreaks. When security improves, FMOH plans to repeat a mass campaign in these areas; this step will be critical in protecting remaining susceptible persons, thereby stopping transmission.

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TABLE 1. Reported measles vaccination campaign coverage, by state — Darfur, Sudan, 2004

State	Total target population*	Target population in accessible areas*	No. vaccinated	% coverage in accessible areas	% coverage of total population
South Darfur	1,260,324	1,197,308	1,216,590	102	97
North Darfur	657,774	512,058	490,166	96	75
West Darfur	688,984	461,619	301,446	65	44
Total	**2,607,082**	**2,170,985**	**2,008,202**	**93**	**77**

Source: Expanded Program on Immunization at the Federal Ministry of Health in Sudan.
* Children aged 9 months–15 years. Estimated target population before the conflict.

TABLE 2. Number of measles-related cases and deaths in internally displaced persons located in West and North Darfur before mass vaccination campaigns, by location — Darfur, Sudan, 2004

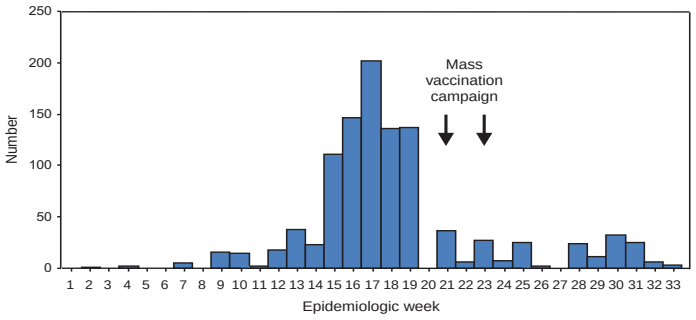
Location	Dates of outbreak	No. of cases	No. of deaths	Case-fatality rate
Fur Baranga, West Darfur	March 1–April 27	48	NA*	NA
El-Mashtal, North Darfur	March 27–June 16	521	88	17%
Habilla, West Darfur	April 1–June 3	142	20	14%

* Data not available.

Editorial Note: In October 2003, FMOH developed a comprehensive strategy for measles mortality reduction in Sudan based on the WHO-UNICEF campaign (*2*). The strategy includes increasing routine measles vaccination coverage among infants, providing a second opportunity for measles immunization, strengthening measles surveillance, and improving case management of children with measles. The strategy calls for a nationwide supplemental vaccination campaign for all children aged 9 months–15 years. A pilot campaign was conducted in four northern states in January 2004, after which plans were under way to cover the remainder of the northern states in Sudan in late 2004. The civil conflict in Darfur created a public health emergency, necessitating the modification of these plans for immediate response in Darfur.

Outbreaks of measles are common among refugee and displaced populations, and measles often is a leading cause of death in these settings (*3–7*). Overcrowding increases the likelihood of infection, and young age and malnutrition are associated with increased severity of disease (*4*). Consequently, measles vaccination is a priority health intervention for areas affected by humanitarian emergencies. The SPHERE Project guidelines (*8*), revised in 2004, provide minimum standards in disaster response. These guidelines recommend measles vaccination at the earliest opportunity for all children aged 6 months–15 years (*8*). Recent experience in Afghanistan suggests that large-scale measles vaccination campaigns are possible in a country affected by conflict and can substantially limit morbidity and mortality attributable to measles (*9,10*). In addition to measles control efforts in Darfur, measles vaccination campaigns were conducted

FIGURE. Number of measles cases, by epidemiologic week — Darfur, Sudan, 2004



during June–August 2004 in the 10 refugee camps in eastern Chad to which refugees from Darfur had fled. Reported vaccine coverage in these camp-based campaigns ranged from 80% to 92%. As of August 2, these camps housed 165,685 persons. Sixty-five percent of weekly mortality reports and 60% of weekly morbidity reports from these camps are available for June 28–July 25 (United Nations High Commissioner for Refugees, unpublished data, 2004); during this period, 66 measles cases and 15 measles deaths were reported.

The high case-fatality rate (CFR) observed in Darfur and refugee camps in neighboring Chad is consistent with studies in similar settings and emphasizes the importance of providing measles vaccination as early as possible in such populations. The initial response to the measles outbreaks in Darfur included vaccination campaigns for children aged <5 years in IDP camps and surrounding communities and the vaccination of incoming residents in these camps. Although these efforts were important for providing protection to individual children who were vaccinated, they had limited impact on virus transmission because of the restricted target age group, the continuous movement of the displaced population, and the low vaccination coverage in the surrounding communities.

The unique circumstances in Darfur presented challenges to the rapid mobilization of a mass measles vaccination campaign. The substantial numbers of displaced persons residing throughout broad geographic areas created a situation in which the entire population needed to be targeted. Considerable resources were needed to purchase vaccine, reestablish the cold chain, and support operational aspects of the campaign. In addition, the challenging physical environment and lack of security in the region presented formidable logistic constraints that required extensive planning and support.

The findings in this report are subject to at least three limitations. First, the retrospective outbreak investigations described in this report might have resulted in incomplete ascertainment of measles cases or measles deaths. Either of these factors could lead to an inaccurate estimate of CFRs. Second, coverage figures for these campaigns were calculated by dividing the total number of doses administered by the estimated target population of the community before the conflict. No coverage surveys were conducted after these campaigns. Finally, coverage was reported to be lowest in the insecure areas of West Darfur. However, some of the target population might have relocated to Chad, thus resulting in falsely low coverage estimates.

Despite low coverage in some areas, this campaign resulted in the vaccination of approximately three quarters of the total target population and appears to have reduced morbidity and mortality attributable to measles. This experience demonstrates that a large-scale vaccination campaign can rapidly and successfully be conducted in an area of conflict. However, a multisectoral approach with commitment of all stakeholders is needed to ensure success. The future challenge will be to ensure rebuilding of the EPI infrastructure and reestablishing of routine vaccination services when the security situation is normalized.

Acknowledgments

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References

1. World Health Organization. Setting up an early warning system for epidemic-prone diseases in the Darfur humanitarian crisis. Wkly Epidemiol Rec 2004;79:246–7.
2. World Health Organization-UNICEF. Measles mortality reduction and regional elimination: strategic plan 2001–2005. Geneva, Switzerland: World Health Organization; 2001:1–31.
3. Moore PS, Marfin AA, Quenemoen LE, et al. Mortality rates in displaced and resident populations of central Somalia during 1992 famine. Lancet 1993;341:935–8.
4. Toole MJ, Waldman RJ. Refugees and displaced persons. War, hunger, and public health. JAMA 1993;270:600–5.
5. Marfin AA, Moore J, Collins C, et al. Infectious disease surveillance during emergency relief to Bhutanese refugees in Nepal. JAMA 1994;272:377–81.
6. Porter JD, Gastellu-Etchegorry M, Navarre I, et al. Measles outbreaks in the Mozambican refugee camps in Malawi: the continued need for an effective vaccine. Int J Epidemiol 1990;19:1072–7.
7. Shears P, Berry AM, Murphy R, et al. Epidemiological assessment of the health and nutrition of Ethiopian refugees in emergency camps in Sudan, 1985. BMJ 1987;295:314–8.
8. Sphere Project. The SPHERE Project: humanitarian charter and minimum standards in disaster response. Revised ed. Oxford, England: Oxfam; 2004.
9. CDC. Nationwide measles vaccination campaign for children aged 6 months–12 years, Afghanistan, 2002. MMWR 2003;52:363–6.
10. Dadgar N, Ansari A, Naleo T, et al. Implementation of a mass measles campaign in central Afghanistan, December 2001 to May 2002. J Infect Dis 2003;187(Suppl 1):S186–S190.

West Nile Virus Activity — United States, September 22–28, 2004

During September 22–28, a total of 180 cases of human West Nile virus (WNV) illness were reported in the District of Columbia (DC) and 24 states (Alabama, Arizona, California, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, Ohio, Pennsylvania, Texas, Utah, Wisconsin, and Wyoming).

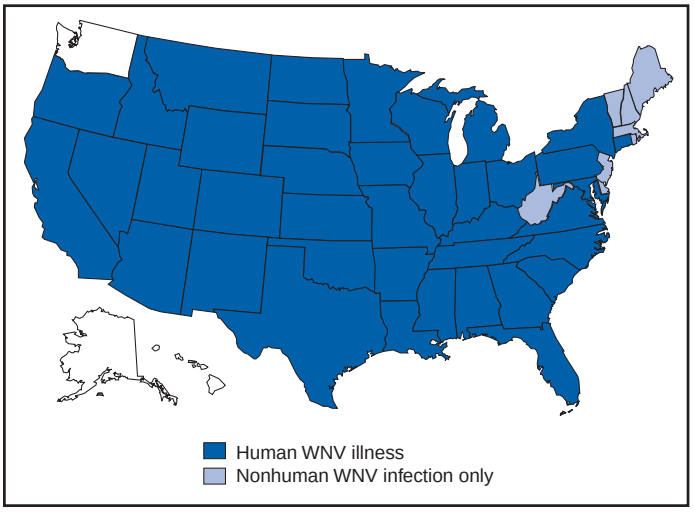
During 2004, a total of 40 states have reported 1,784 cases of human WNV illness to CDC through ArboNET (Figure, Table). Of these, 563 (32%) cases were reported in California, 362 (20%) in Arizona, and 225 (13%) in Colorado. A total of 1,015 (58%) of the 1,752 cases for which such data were available occurred in males; the median age of patients was 51 years (range: 1 month–99 years). Illness onset ranged from April 23 to September 18; a total of 56 cases were fatal.

A total of 157 presumptive West Nile viremic blood donors (PVDs) have been reported to ArboNET in 2004. Of these, 53 (34%) were reported in California; 37 (24%) in Arizona; 15 in Texas; 12 in New Mexico; five each in Colorado, Louisiana, and Nevada; four in Georgia; three each in Florida, Oklahoma, and South Dakota; two each in Minnesota, Missouri, and Wisconsin; and one each in Iowa, Michigan, Nebraska, New Jersey, North Dakota, and Pennsylvania. Of the 157 PVDs, three persons aged 35, 69, and 77 years subsequently had neuroinvasive illness, and 36 persons (median age: 53 years; range: 17–73 years) subsequently had West Nile fever.

In addition, during 2004, a total of 4,400 dead corvids and 1,054 other dead birds with WNV infection have been reported in 45 states and New York City. WNV infections have been reported in horses in 35 states, one bat in Wisconsin, five dogs in Nevada and New Mexico, three squirrels in Arizona, and 13 unidentified animal species in eight states (Arizona, Idaho, Illinois, Iowa, Missouri, Nevada, New York, and South Carolina). WNV seroconversions have been reported in 858 sentinel chicken flocks in 13 states (Alabama, Arizona, Arkansas, California, Delaware, Florida, Iowa, Louisiana, Nebraska, Nevada, Pennsylvania, South Dakota, and Utah) and in 25 wild hatchling birds in Missouri and Ohio. Four seropositive sentinel horses were reported in Minnesota and Puerto Rico. A total of 6,156 WNV-positive mosquito pools have been reported in 34 states, DC, and New York City.

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



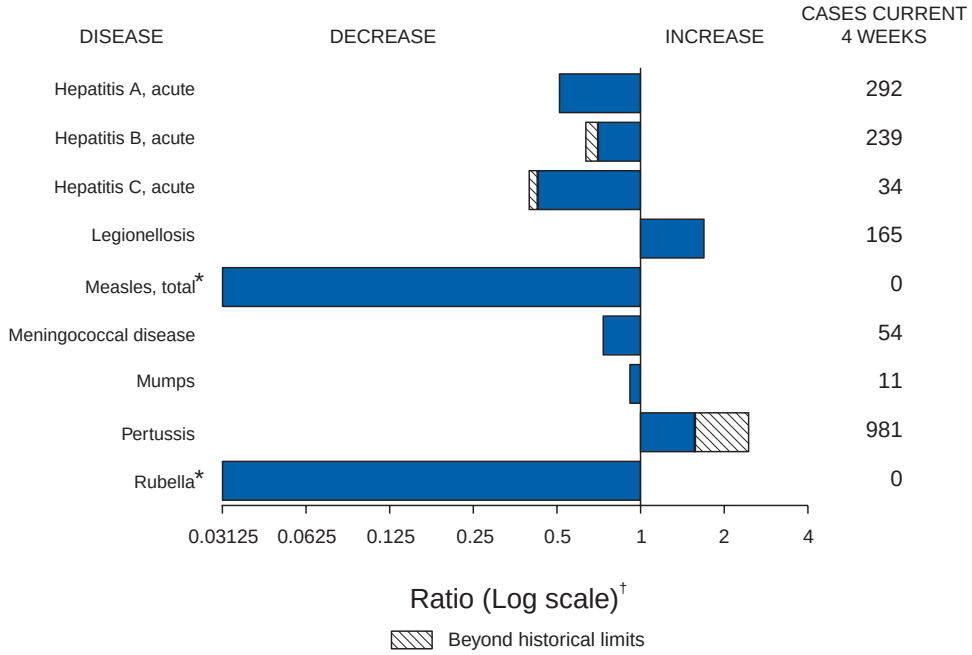
* As of 3 a.m., Mountain Standard Time, September 28, 2004.

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

Area	Neuroinvasive disease†	West Nile fever§	Other clinical/ unspecified¶	Total reported to CDC**	Deaths
Alabama	12	0	0	**12**	0
Arizona	125	65	172	**362**	7
Arkansas	5	6	0	**11**	0
California	125	200	238	**563**	16
Colorado	32	193	0	**225**	2
Connecticut	0	1	0	**1**	0
District of Columbia	1	0	0	**1**	0
Florida	26	5	0	**31**	1
Georgia	6	5	1	**12**	0
Idaho	0	0	2	**2**	0
Illinois	21	16	1	**38**	1
Indiana	2	0	1	**3**	1
Iowa	7	5	3	**15**	1
Kansas	13	18	0	**31**	1
Kentucky	1	4	0	**5**	0
Louisiana	42	8	0	**50**	3
Maryland	5	5	1	**11**	0
Michigan	5	1	0	**6**	0
Minnesota	11	16	0	**27**	2
Mississippi	20	4	1	**25**	3
Missouri	19	4	3	**26**	1
Montana	1	3	1	**5**	0
Nebraska	2	20	0	**22**	0
Nevada	23	16	0	**39**	0
New Mexico	26	42	4	**72**	4
New York	3	2	0	**5**	0
North Carolina	2	0	0	**2**	0
North Dakota	2	17	0	**19**	1
Ohio	4	1	0	**5**	1
Oklahoma	4	1	0	**5**	1
Oregon	0	1	0	**1**	0
Pennsylvania	5	2	0	**7**	0
South Carolina	0	1	0	**1**	0
South Dakota	5	33	0	**38**	1
Tennessee	5	1	0	**6**	0
Texas	59	12	0	**71**	8
Utah	5	4	0	**9**	0
Virginia	2	0	1	**3**	0
Wisconsin	4	4	1	**9**	1
Wyoming	2	5	1	**8**	0
Total	**632**	**721**	**431**	**1,784**	**56**

* As of September 28, 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.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals September 25, 2004, with historical data



* No measles or rubella cases were reported for the current 4-week period yielding a ratio for week 38 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 September 25, 2004 (38th Week)*

	Cum. 2004	Cum. 2003		Cum. 2004	Cum. 2003
Anthrax	-	-	Hemolytic uremic syndrome, postdiarrheal†	101	109
Botulism:	-	-	HIV infection, pediatric†¶	113	149
foodborne	10	9	Measles, total	24**	51††
infant	54	51	Mumps	145	160
other (wound & unspecified)	7	20	Plague	1	1
Brucellosis†	79	69	Poliomyelitis, paralytic	-	-
Chancroid	27	43	Psittacosis†	8	9
Cholera	4	1	Q fever†	53	54
Cyclosporiasis†	193	58	Rabies, human	3	1
Diphtheria	-	-	Rubella	15	6
Ehrlichiosis:	-	-	Rubella, congenital syndrome	-	1
human granulocytic (HGE)†	202	237	SARS-associated coronavirus disease†§§	-	8
human monocytic (HME)†	194	182	Smallpox†¶¶	-	NA
human, other and unspecified	19	37	*Staphylococcus aureus*:	-	-
Encephalitis/Meningitis:	-	-	Vancomycin-intermediate (VISA)†¶¶	4	NA
California serogroup viral†§	53	95	Vancomycin-resistant (VRSA)†¶¶	2	NA
eastern equine†§	3	13	Streptococcal toxic-shock syndrome†	82	129
Powassan†§	-	-	Tetanus	10	15
St. Louis†§	7	35	Toxic-shock syndrome	100	95
western equine†§	-	-	Trichinosis	5	1
Hansen disease (leprosy)†	61	66	Tularemia†	60	61
Hantavirus pulmonary syndrome†	17	18	Yellow fever	-	-

-: 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 August 29, 2004.
** Of 24 cases reported, 11 were indigenous, and 13 were imported from another country.
†† Of 51 cases reported, 31 were indigenous, and 20 were imported from another country.
§§ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases (notifiable as of July 2003).
¶¶ Not previously notifiable.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 25, 2004, and September 20, 2003 (38th Week)*

Reporting area	AIDS		Chlamydia†		Coccidiodomycosis		Cryptosporidiosis		Encephalitis/Meningitis West Nile§	
	Cum. 2004¶	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	27,094	30,856	634,401	622,372	4,273	2,621	2,356	2,321	632	2,584
NEW ENGLAND	873	1,058	22,054	20,000	-	-	130	142	-	22
Maine	15	49	1,480	1,436	N	N	17	16	-	-
N.H.	30	25	1,229	1,138	-	-	25	17	-	2
Vt.	13	14	750	768	-	-	21	24	-	-
Mass.	289	475	9,921	7,918	-	-	42	62	-	11
R.I.	98	79	2,463	2,187	-	-	4	12	-	2
Conn.	428	416	6,211	6,553	N	N	21	11	-	7
MID. ATLANTIC	5,955	6,860	78,248	77,177	-	-	315	294	8	181
Upstate N.Y.	683	672	16,267	14,111	N	N	85	81	1	-
N.Y. City	3,288	3,508	24,052	24,934	-	-	64	86	2	48
N.J.	1,014	1,206	11,389	11,441	-	-	22	13	-	17
Pa.	970	1,474	26,540	26,691	N	N	144	114	5	116
E.N. CENTRAL	2,398	2,919	107,130	112,543	12	7	688	710	36	117
Ohio	487	554	25,280	30,611	N	N	184	87	4	65
Ind.	276	378	13,328	12,564	N	N	73	71	2	14
Ill.	1,126	1,342	28,523	34,669	-	-	69	76	21	23
Mich.	386	509	27,361	22,304	12	7	123	95	5	9
Wis.	123	136	12,638	12,395	-	-	239	381	4	6
W.N. CENTRAL	597	567	38,951	36,017	5	2	288	378	59	652
Minn.	149	110	6,965	7,900	N	N	101	108	11	45
Iowa	47	63	4,864	3,757	N	N	63	71	7	77
Mo.	263	268	14,981	12,975	3	1	47	28	19	31
N. Dak.	14	3	1,086	1,149	N	N	9	11	2	94
S. Dak.	7	8	1,857	1,859	-	-	23	32	5	145
Nebr.**	33	38	3,699	3,317	2	1	23	12	2	183
Kans.	84	77	5,499	5,060	N	N	22	116	13	77
S. ATLANTIC	8,434	8,966	125,587	117,363	-	3	391	255	42	149
Del.	108	183	2,092	2,160	N	N	-	3	-	10
Md.	991	1,147	13,956	11,724	-	3	14	16	5	43
D.C.	523	764	2,390	2,293	-	-	11	8	1	3
Va.	481	697	15,268	13,784	-	-	42	32	2	16
W. Va.	57	60	2,077	1,865	N	N	4	4	-	1
N.C.	427	852	21,309	19,004	N	N	57	30	2	15
S.C.**	509	597	14,734	10,200	-	-	15	5	-	2
Ga.	1,185	1,375	23,432	25,691	-	-	149	87	6	16
Fla.	4,153	3,291	30,329	30,642	N	N	99	70	26	43
E.S. CENTRAL	1,336	1,424	41,237	40,649	4	1	99	99	38	75
Ky.	160	111	4,088	5,934	N	N	30	20	1	11
Tenn.**	533	607	16,242	14,731	N	N	28	32	5	17
Ala.	316	344	8,839	10,677	-	-	20	37	12	21
Miss.	327	362	12,068	9,307	4	1	21	10	20	26
W.S. CENTRAL	3,181	3,116	79,112	77,403	2	-	61	79	110	529
Ark.	134	146	5,326	5,743	1	-	14	12	5	18
La.	655	417	16,584	15,021	1	-	2	2	42	77
Okla.	133	162	8,182	8,379	N	N	16	10	4	43
Tex.**	2,259	2,391	49,020	48,260	-	-	29	55	59	391
MOUNTAIN	973	1,185	35,101	35,484	2,751	1,742	134	100	214	859
Mont.	5	11	1,637	1,397	N	N	34	17	1	75
Idaho	15	18	2,066	1,784	N	N	19	20	-	-
Wyo.	15	5	778	718	2	1	3	3	2	92
Colo.	166	313	8,557	9,380	N	N	46	26	32	614
N. Mex.	140	90	4,212	5,465	16	7	10	8	26	72
Ariz.	385	485	11,669	9,953	2,664	1,700	17	5	125	4
Utah	54	47	2,416	2,698	25	6	3	14	5	-
Nev.	193	216	3,766	4,089	44	28	2	7	23	2
PACIFIC	3,347	4,761	106,981	105,736	1,499	866	250	264	125	-
Wash.	291	309	12,882	11,781	N	N	36	25	-	-
Oreg.	219	184	5,972	5,092	-	-	29	32	-	-
Calif.	2,727	4,184	83,469	82,160	1,499	866	183	207	125	-
Alaska	37	13	2,663	2,792	-	-	-	-	-	-
Hawaii	73	71	1,995	3,911	-	-	2	-	-	-
Guam	2	5	-	459	-	-	-	-	-	-
P.R.	403	787	2,368	1,732	N	N	N	N	-	-
V.I.	10	25	143	295	-	-	-	-	-	-
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).

† Chlamydia refers to genital infections caused by *C. trachomatis*.

§ 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 August 29, 2004.

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

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 25, 2004, and September 20, 2003 (38th Week)*

Reporting area	*Escherichia coli*, 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	1,746	1,717	160	174	126	112	12,582	13,222	223,392	237,739
NEW ENGLAND	112	107	36	32	21	11	1,129	1,067	5,176	5,114
Maine	8	8	-	-	-	-	94	123	166	142
N.H.	14	13	5	3	-	-	27	27	91	87
Vt.	10	13	-	-	-	-	122	91	65	62
Mass.	50	43	9	8	21	11	513	537	2,344	2,012
R.I.	6	1	1	-	-	-	91	82	616	704
Conn.	24	29	21	21	-	-	282	207	1,894	2,107
MID. ATLANTIC	196	189	22	18	25	28	2,687	2,642	25,035	29,747
Upstate N.Y.	91	66	11	9	10	14	976	705	5,231	5,555
N.Y. City	31	6	-	-	-	-	710	867	7,672	9,738
N.J.	29	27	3	2	5	-	263	374	4,369	5,976
Pa.	45	90	8	7	10	14	738	696	7,763	8,478
E.N. CENTRAL	322	396	32	27	23	14	1,726	2,284	44,212	50,341
Ohio	76	74	9	14	17	14	588	627	12,805	16,175
Ind.	46	66	-	-	-	-	-	-	4,832	4,828
Ill.	49	85	1	2	1	-	338	689	12,452	15,548
Mich.	64	60	5	-	5	-	515	529	10,869	9,686
Wis.	87	111	17	11	-	-	285	439	3,254	4,104
W.N. CENTRAL	390	287	25	34	16	17	1,437	1,420	12,292	12,520
Minn.	91	100	13	16	1	1	546	523	2,202	2,164
Iowa	108	61	-	-	-	-	217	198	854	940
Mo.	66	57	12	9	7	1	358	367	6,370	6,242
N. Dak.	12	8	-	3	6	6	18	28	74	58
S. Dak.	27	20	-	4	-	-	42	53	209	159
Nebr.	58	18	-	2	-	-	104	103	728	1,084
Kans.	28	23	-	-	2	9	152	148	1,855	1,873
S. ATLANTIC	129	110	27	35	32	28	2,026	1,894	56,796	58,482
Del.	2	5	N	N	N	N	35	33	652	847
Md.	20	12	3	2	1	1	86	76	5,960	5,597
D.C.	1	1	-	-	-	-	46	37	1,811	1,769
Va.	28	30	9	9	-	-	376	242	6,150	6,448
W. Va.	2	3	-	-	-	-	27	31	685	636
N.C.	-	-	-	-	21	21	N	N	11,232	10,977
S.C.	7	1	-	-	-	-	45	99	7,197	5,946
Ga.	20	23	10	5	-	-	595	614	10,175	12,745
Fla.	49	35	5	19	10	6	816	762	12,934	13,517
E.S. CENTRAL	70	60	1	1	8	5	273	260	17,888	20,156
Ky.	21	20	1	1	5	5	N	N	1,821	2,627
Tenn.	30	26	-	-	3	-	147	117	6,047	6,085
Ala.	12	11	-	-	-	-	126	143	5,375	6,776
Miss.	7	3	-	-	-	-	-	-	4,645	4,668
W.S. CENTRAL	60	69	2	4	1	4	239	218	30,255	31,982
Ark.	11	9	1	-	-	-	96	113	2,599	3,051
La.	3	3	-	-	-	-	34	9	7,695	8,545
Okla.	15	21	-	-	-	-	106	96	3,476	3,362
Tex.	31	36	1	4	1	4	3	-	16,485	17,024
MOUNTAIN	174	206	14	20	-	5	1,095	1,107	7,471	7,569
Mont.	12	12	-	-	-	-	51	77	49	78
Idaho	38	46	7	14	-	-	128	137	63	55
Wyo.	7	2	1	-	-	-	18	16	46	33
Colo.	43	52	2	3	-	5	389	315	1,900	2,097
N. Mex.	8	9	1	3	-	-	54	36	574	891
Ariz.	20	25	N	N	N	N	138	188	2,785	2,746
Utah	31	41	2	-	-	-	235	241	365	264
Nev.	15	19	1	-	-	-	82	97	1,689	1,405
PACIFIC	293	293	1	3	-	-	1,970	2,330	24,267	21,828
Wash.	105	70	-	1	-	-	252	230	1,936	1,951
Oreg.	51	84	1	2	-	-	337	311	842	671
Calif.	126	131	-	-	-	-	1,267	1,662	20,574	17,948
Alaska	1	2	-	-	-	-	56	61	413	404
Hawaii	10	6	-	-	-	-	58	66	502	854
Guam	N	N	-	-	-	-	-	2	-	50
P.R.	-	1	-	-	-	-	72	206	175	193
V.I.	-	-	-	-	-	-	-	-	49	65
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 September 25, 2004, and September 20, 2003 (38th Week)*

Reporting area	*Haemophilus influenzae*, invasive								Hepatitis (viral, acute), by type	
	All ages		Age <5 years							
	All serotypes		Serotype b		Non-serotype b		Unknown serotype		A	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	1,388	1,393	10	20	68	89	140	150	4,100	4,756
NEW ENGLAND	119	97	1	2	5	5	3	3	769	231
Maine	12	4	-	-	-	-	-	1	10	8
N.H.	14	11	-	1	2	-	-	-	17	13
Vt.	6	7	-	-	-	-	1	-	8	6
Mass.	49	45	1	1	-	5	2	1	655	129
R.I.	3	5	-	-	-	-	-	1	19	11
Conn.	35	25	-	-	3	-	-	-	60	64
MID. ATLANTIC	282	302	-	1	4	3	32	38	465	968
Upstate N.Y.	96	111	-	1	4	3	5	8	68	87
N.Y. City	59	51	-	-	-	-	11	10	182	346
N.J.	57	56	-	-	-	-	3	8	93	160
Pa.	70	84	-	-	-	-	13	12	122	375
E.N. CENTRAL	218	233	-	3	6	3	34	41	399	459
Ohio	81	58	-	-	2	-	14	10	38	83
Ind.	39	36	-	-	4	-	1	4	81	48
Ill.	50	87	-	-	-	-	11	20	132	140
Mich.	17	19	-	3	-	3	6	1	119	148
Wis.	31	33	-	-	-	-	2	6	29	40
W.N. CENTRAL	89	87	2	-	3	6	9	12	142	133
Minn.	37	34	1	-	3	6	-	2	28	37
Iowa	1	-	1	-	-	-	-	-	38	20
Mo.	33	35	-	-	-	-	6	9	44	42
N. Dak.	3	2	-	-	-	-	-	-	1	-
S. Dak.	-	1	-	-	-	-	-	-	3	-
Nebr.	8	1	-	-	-	-	1	-	8	11
Kans.	7	14	-	-	-	-	2	1	20	23
S. ATLANTIC	346	303	-	1	18	12	27	16	808	1,130
Del.	-	-	-	-	-	-	-	-	5	6
Md.	49	69	-	-	4	5	-	-	87	113
D.C.	-	1	-	-	-	-	-	-	5	30
Va.	28	39	-	-	-	-	1	5	95	65
W. Va.	13	14	-	-	-	-	3	-	4	13
N.C.	44	33	-	-	5	3	1	1	75	71
S.C.	4	5	-	-	-	-	-	1	24	30
Ga.	120	57	-	-	-	-	20	6	290	505
Fla.	88	85	-	1	9	4	2	3	223	297
E.S. CENTRAL	57	57	1	1	-	2	7	5	133	128
Ky.	5	5	-	-	-	1	-	-	29	25
Tenn.	37	31	-	-	-	1	5	3	76	75
Ala.	12	19	1	1	-	-	2	2	7	14
Miss.	3	2	-	-	-	-	-	-	21	14
W.S. CENTRAL	58	64	1	2	6	10	1	4	284	465
Ark.	2	5	-	-	-	1	-	-	54	23
La.	10	19	-	-	-	2	1	4	33	37
Okla.	45	37	-	-	6	7	-	-	19	9
Tex.	1	3	1	2	-	-	-	-	178	396
MOUNTAIN	153	129	3	6	19	22	21	13	357	355
Mont.	-	-	-	-	-	-	-	-	5	7
Idaho	5	4	-	-	-	-	2	1	17	12
Wyo.	1	1	-	-	-	-	1	-	4	1
Colo.	38	25	-	-	-	-	5	5	43	54
N. Mex.	30	15	-	-	6	4	5	1	17	17
Ariz.	56	64	-	6	8	9	4	4	219	198
Utah	12	10	2	-	2	5	3	2	41	26
Nev.	11	10	1	-	3	4	1	-	11	40
PACIFIC	66	121	2	4	7	26	6	18	743	887
Wash.	3	9	2	-	-	6	1	2	44	44
Oreg.	34	30	-	-	-	-	2	2	54	45
Calif.	17	53	-	4	7	20	1	9	621	780
Alaska	4	18	-	-	-	-	1	5	5	8
Hawaii	8	11	-	-	-	-	1	-	19	10
Guam	-	-	-	-	-	-	-	-	-	2
P.R.	-	-	-	-	-	-	-	-	19	61
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 September 25, 2004, and September 20, 2003 (38th 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	4,633	5,051	763	773	1,301	1,503	455	482	12,058	15,611
NEW ENGLAND	258	258	7	6	39	74	25	35	1,475	3,019
Maine	1	1	-	-	-	2	5	6	53	116
N.H.	27	12	-	-	7	7	2	3	157	118
Vt.	5	3	3	6	3	5	1	-	40	34
Mass.	142	169	3	-	6	41	3	14	403	1,356
R.I.	5	8	-	-	8	3	1	-	166	402
Conn.	78	65	1	-	15	16	13	12	656	993
MID. ATLANTIC	890	570	89	90	354	439	109	102	8,273	10,378
Upstate N.Y.	66	63	10	10	70	109	35	24	2,713	3,280
N.Y. City	79	152	-	-	32	52	14	17	-	181
N.J.	521	141	-	-	66	63	18	22	2,252	2,489
Pa.	224	214	79	80	186	215	42	39	3,308	4,428
E.N. CENTRAL	414	359	80	118	357	310	78	66	780	793
Ohio	94	98	5	7	166	171	34	18	59	48
Ind.	33	28	7	7	58	22	16	5	14	18
Ill.	63	51	11	17	18	36	5	18	-	63
Mich.	201	148	57	82	108	65	21	17	21	6
Wis.	23	34	-	5	7	16	2	8	686	658
W.N. CENTRAL	277	236	178	160	38	56	9	12	367	273
Minn.	39	28	15	7	7	3	3	3	270	189
Iowa	13	8	-	1	4	9	1	-	36	38
Mo.	180	162	163	150	18	28	3	5	50	41
N. Dak.	4	2	-	-	2	1	-	-	-	-
S. Dak.	-	2	-	-	3	2	-	-	-	-
Nebr.	28	20	-	2	1	5	2	3	6	2
Kans.	13	14	-	-	3	8	-	1	5	3
S. ATLANTIC	1,430	1,432	133	115	281	387	78	93	990	930
Del.	26	6	1	-	12	19	N	N	119	168
Md.	117	91	13	6	55	94	10	15	575	562
D.C.	15	9	1	-	8	11	-	1	6	5
Va.	191	132	16	7	38	72	14	9	117	68
W. Va.	27	22	19	1	6	14	2	5	15	17
N.C.	138	110	10	10	28	28	16	15	92	66
S.C.	60	120	7	24	3	6	1	2	8	3
Ga.	499	489	15	9	36	29	15	24	9	10
Fla.	357	453	51	58	95	114	20	22	49	31
E.S. CENTRAL	333	335	79	61	64	86	20	21	39	48
Ky.	45	51	23	10	25	35	4	5	13	10
Tenn.	163	143	32	15	27	28	10	5	16	13
Ala.	54	71	4	5	11	18	4	9	2	7
Miss.	71	70	20	31	1	5	2	2	8	18
W.S. CENTRAL	196	787	100	134	48	50	27	40	35	84
Ark.	58	63	2	3	-	2	2	1	8	-
La.	46	95	57	88	4	1	2	2	3	6
Okla.	43	46	3	2	3	6	-	2	-	-
Tex.	49	583	38	41	41	41	23	35	24	78
MOUNTAIN	343	443	40	39	66	48	19	29	26	12
Mont.	2	13	2	1	1	3	-	2	-	-
Idaho	10	7	-	1	7	3	1	2	6	3
Wyo.	7	27	2	-	5	2	-	-	2	2
Colo.	42	61	8	9	17	9	9	9	3	-
N. Mex.	11	31	7	-	3	2	-	2	-	1
Ariz.	184	202	5	7	11	9	-	9	6	1
Utah	33	38	4	-	18	14	2	2	9	2
Nev.	54	64	12	21	4	6	7	3	-	3
PACIFIC	492	631	57	50	54	53	90	84	73	74
Wash.	39	53	17	16	9	8	8	5	10	2
Oreg.	88	85	13	10	N	N	5	4	27	13
Calif.	346	470	23	22	45	45	73	71	34	56
Alaska	14	4	-	-	-	-	-	-	2	3
Hawaii	5	19	4	2	-	-	4	4	N	N
Guam	-	9	-	3	-	-	-	-	-	-
P.R.	42	96	-	-	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.
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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 25, 2004, and September 20, 2003 (38th 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	916	936	1,001	1,242	9,983	5,978	4,119	5,258	1,009	616
NEW ENGLAND	56	47	51	58	1,106	804	475	439	17	7
Maine	5	2	8	5	2	12	36	47	-	-
N.H.	5	5	4	3	49	74	22	19	-	-
Vt.	4	1	2	2	60	56	21	28	-	-
Mass.	26	23	30	36	961	606	204	158	15	7
R.I.	3	1	1	2	22	14	28	52	1	-
Conn.	13	15	6	10	12	42	164	135	1	-
MID. ATLANTIC	215	250	125	151	2,069	658	418	691	64	37
Upstate N.Y.	34	41	29	35	1,463	290	384	314	2	-
N.Y. City	94	129	23	36	92	91	5	6	16	12
N.J.	47	50	28	19	167	101	-	62	22	16
Pa.	40	30	45	61	347	176	29	309	24	9
E.N. CENTRAL	84	86	139	196	2,216	594	124	132	24	17
Ohio	26	14	54	47	419	187	61	44	14	7
Ind.	13	2	21	37	103	44	9	17	4	1
Ill.	17	37	12	52	318	63	37	21	2	5
Mich.	18	23	41	35	169	85	15	39	4	4
Wis.	10	10	11	25	1,207	215	2	11	-	-
W.N. CENTRAL	51	39	73	94	1,302	289	384	541	93	53
Minn.	18	20	21	21	230	107	65	27	-	1
Iowa	3	5	13	18	93	78	88	89	-	2
Mo.	17	4	20	38	224	59	35	29	76	43
N. Dak.	3	1	2	1	643	6	49	47	-	-
S. Dak.	1	2	2	1	18	3	10	113	4	4
Nebr.	2	-	4	6	25	7	53	91	12	2
Kans.	7	7	11	9	69	29	84	145	1	1
S. ATLANTIC	246	233	181	221	474	463	1,444	2,040	476	346
Del.	5	2	4	8	7	7	9	43	-	1
Md.	52	53	10	24	85	64	157	269	59	81
D.C.	11	8	4	5	3	-	-	-	-	-
Va.	36	28	14	19	135	77	371	404	23	24
W. Va.	-	4	5	4	17	14	50	69	4	5
N.C.	17	19	26	30	62	90	475	603	332	159
S.C.	9	3	11	20	42	92	115	171	16	15
Ga.	46	53	20	24	30	27	265	293	25	54
Fla.	70	63	87	87	93	92	2	188	17	7
E.S. CENTRAL	27	22	48	62	221	122	108	169	144	95
Ky.	4	5	8	14	54	39	20	29	1	1
Tenn.	7	4	14	15	130	58	31	94	81	50
Ala.	11	7	13	17	25	16	48	45	33	18
Miss.	5	6	13	16	12	9	9	1	29	26
W.S. CENTRAL	81	99	90	138	493	521	861	924	165	53
Ark.	7	4	14	13	54	40	43	25	86	-
La.	3	4	28	34	10	8	-	2	5	-
Okla.	7	4	8	13	33	62	87	157	70	40
Tex.	64	87	40	78	396	411	731	740	4	13
MOUNTAIN	36	30	53	65	984	726	170	145	21	7
Mont.	-	-	3	3	37	5	21	20	3	1
Idaho	1	1	6	6	29	63	7	14	3	2
Wyo.	-	1	3	2	25	123	4	4	4	2
Colo.	13	15	12	18	484	251	40	34	1	2
N. Mex.	2	1	6	8	114	52	4	5	2	-
Ariz.	10	7	12	21	155	118	84	54	2	-
Utah	6	4	4	-	128	88	7	10	6	-
Nev.	4	1	7	7	12	26	3	4	-	-
PACIFIC	120	130	241	257	1,118	1,801	135	177	5	1
Wash.	14	20	24	26	512	494	-	-	-	-
Oreg.	15	9	51	41	325	377	6	6	3	-
Calif.	88	96	158	175	257	919	121	163	2	1
Alaska	-	-	3	4	8	2	8	8	-	-
Hawaii	3	5	5	11	16	9	-	-	-	-
Guam	-	1	-	-	-	1	-	-	-	-
P.R.	-	1	5	8	4	2	44	58	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

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TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending September 25, 2004, and September 20, 2003 (38th Week)*

Reporting area	Salmonellosis		Shigellosis		Streptococcal disease, invasive, group A		*Streptococcus pneumoniae*, invasive			
							Drug resistant, all ages		Age <5 years	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	28,750	30,440	8,370	17,029	3,673	4,492	1,657	1,515	500	516
NEW ENGLAND	1,562	1,577	215	240	153	392	22	75	54	6
Maine	70	99	2	6	8	23	2	-	3	-
N.H.	110	111	6	6	16	27	-	-	N	N
Vt.	41	52	2	6	8	18	7	6	1	3
Mass.	894	937	140	167	104	174	N	N	43	N
R.I.	91	86	13	10	17	11	13	10	7	3
Conn.	356	292	52	45	-	139	-	59	U	U
MID. ATLANTIC	4,116	3,600	873	1,819	580	785	106	97	84	77
Upstate N.Y.	921	814	359	313	191	297	44	53	58	57
N.Y. City	934	988	272	309	79	113	U	U	U	U
N.J.	638	609	164	298	136	149	-	-	6	2
Pa.	1,623	1,189	78	899	174	226	62	44	20	18
E.N. CENTRAL	3,774	4,242	761	1,451	709	1,072	368	333	119	221
Ohio	987	1,048	129	250	188	253	258	219	60	77
Ind.	450	420	173	120	84	105	110	114	25	21
Ill.	1,072	1,466	251	780	152	272	-	-	-	82
Mich.	657	605	91	196	243	307	N	N	N	N
Wis.	608	703	117	105	42	135	N	N	34	41
W.N. CENTRAL	1,800	1,768	332	560	245	273	14	11	75	57
Minn.	447	386	50	72	123	134	-	-	50	40
Iowa	357	272	61	52	N	N	N	N	N	N
Mo.	488	670	130	284	53	60	9	7	10	2
N. Dak.	31	27	3	6	10	13	-	3	2	4
S. Dak.	75	83	9	13	12	20	5	1	-	-
Nebr.	119	114	22	69	12	22	-	-	5	5
Kans.	283	216	57	64	35	24	N	N	8	6
S. ATLANTIC	7,785	7,252	2,079	5,218	789	753	885	824	40	16
Del.	81	75	6	154	3	6	4	1	N	N
Md.	627	618	113	491	130	184	-	14	29	-
D.C.	44	32	29	61	8	7	5	-	3	6
Va.	891	728	119	303	61	90	N	N	N	N
W. Va.	170	104	5	-	19	31	88	57	8	10
N.C.	1,110	891	242	788	100	91	N	N	U	U
S.C.	635	469	269	360	37	36	65	117	N	N
Ga.	1,416	1,405	525	945	252	148	263	182	N	N
Fla.	2,811	2,930	771	2,116	179	160	460	453	N	N
E.S. CENTRAL	1,844	2,086	589	684	175	158	109	106	2	-
Ky.	265	310	53	81	51	39	23	14	N	N
Tenn.	473	547	300	239	124	119	85	92	N	N
Ala.	484	507	193	220	-	-	-	-	N	N
Miss.	622	722	43	144	-	-	1	-	2	-
W.S. CENTRAL	2,341	4,577	1,776	4,348	213	213	44	61	90	83
Ark.	426	564	57	86	16	6	6	19	8	5
La.	511	649	217	366	2	1	38	42	18	17
Okla.	300	332	348	629	52	67	N	N	35	41
Tex.	1,104	3,032	1,154	3,267	143	139	N	N	29	20
MOUNTAIN	1,785	1,616	587	835	399	372	28	4	36	56
Mont.	164	78	4	2	-	1	-	-	-	-
Idaho	125	134	11	24	8	18	N	N	N	N
Wyo.	43	68	4	6	7	2	9	3	-	-
Colo.	440	374	123	197	110	107	-	-	33	43
N. Mex.	190	204	86	171	66	90	5	-	-	9
Ariz.	544	468	294	353	172	127	N	N	N	N
Utah	162	159	32	35	34	25	12	1	3	4
Nev.	117	131	33	47	2	2	2	-	-	-
PACIFIC	3,743	3,722	1,158	1,874	410	474	81	4	-	-
Wash.	391	398	82	126	53	41	-	-	N	N
Oreg.	321	335	55	183	N	N	N	N	N	N
Calif.	2,731	2,783	970	1,523	281	342	N	N	N	N
Alaska	43	53	5	7	-	-	-	-	N	N
Hawaii	257	153	46	35	76	91	81	4	-	-
Guam	-	37	-	30	-	-	-	-	-	-
P.R.	169	484	7	20	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 September 25, 2004, and September 20, 2003 (38th Week)*

Reporting area	Syphilis: Primary & secondary		Syphilis: Congenital		Tuberculosis		Typhoid fever		Varicella (Chickenpox)	
	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003	Cum. 2004	Cum. 2003
UNITED STATES	5,331	5,080	250	328	7,385	9,048	208	276	13,338	11,574
NEW ENGLAND	142	155	4	-	274	300	19	23	591	2,316
Maine	2	6	-	-	-	18	-	-	180	642
N.H.	3	15	3	-	12	11	-	2	-	-
Vt.	-	-	-	-	-	8	-	-	411	510
Mass.	93	100	-	-	177	151	13	13	-	128
R.I.	18	16	-	-	23	40	1	2	-	4
Conn.	26	18	1	-	62	72	5	6	-	1,032
MID. ATLANTIC	711	601	35	49	1,521	1,593	45	61	71	26
Upstate N.Y.	73	31	2	8	188	201	8	10	-	-
N.Y. City	426	336	11	27	787	827	14	30	-	-
N.J.	114	118	21	14	299	315	12	17	-	-
Pa.	98	116	1	-	247	250	11	4	71	26
E.N. CENTRAL	589	689	47	56	854	833	16	31	4,120	3,939
Ohio	161	157	1	3	149	148	5	2	1,055	951
Ind.	42	34	8	10	89	95	-	4	-	-
Ill.	226	289	10	18	367	395	-	15	-	-
Mich.	139	194	28	25	185	148	9	10	2,673	2,364
Wis.	21	15	-	-	64	47	2	-	392	624
W.N. CENTRAL	118	114	3	4	317	342	8	6	125	42
Minn.	15	34	1	-	128	138	4	2	-	-
Iowa	5	8	-	-	23	21	-	2	N	N
Mo.	73	43	1	4	77	89	2	1	5	-
N. Dak.	-	2	-	-	3	-	-	-	77	42
S. Dak.	-	1	-	-	8	16	-	-	43	-
Nebr.	5	5	-	-	27	15	2	1	-	-
Kans.	20	21	1	-	51	63	-	-	-	-
S. ATLANTIC	1,396	1,344	36	66	1,461	1,685	38	39	1,739	1,634
Del.	7	4	1	-	-	-	-	-	4	21
Md.	268	233	5	10	183	162	11	8	-	-
D.C.	62	37	1	-	63	-	1	-	20	22
Va.	70	63	2	1	167	180	5	13	466	442
W. Va.	2	2	-	-	14	12	-	-	1,001	956
N.C.	137	118	8	16	223	219	6	6	N	N
S.C.	95	81	6	7	140	119	-	-	248	193
Ga.	223	353	1	13	11	382	6	5	-	-
Fla.	532	453	12	19	660	611	9	7	-	-
E.S. CENTRAL	302	231	17	11	398	478	6	5	-	-
Ky.	33	29	1	1	77	85	2	-	-	-
Tenn.	98	95	8	2	144	164	4	2	-	-
Ala.	131	85	6	6	144	154	-	3	-	-
Miss.	40	22	2	2	33	75	-	-	-	-
W.S. CENTRAL	864	660	39	58	648	1,368	14	27	4,911	3,208
Ark.	34	40	-	2	84	67	-	-	-	-
La.	196	100	-	1	-	-	-	-	45	10
Okla.	19	47	2	1	112	107	1	-	-	-
Tex.	615	473	37	54	452	1,194	13	27	4,866	3,198
MOUNTAIN	270	231	43	28	351	325	5	6	1,781	409
Mont.	-	-	-	-	4	5	-	-	-	-
Idaho	15	4	2	2	4	5	-	1	-	-
Wyo.	1	-	-	-	2	3	-	-	27	39
Colo.	27	27	-	3	80	68	1	3	1,365	-
N. Mex.	46	46	1	5	18	36	-	-	68	1
Ariz.	152	139	40	18	161	157	2	2	-	-
Utah	4	5	-	-	29	29	1	-	321	369
Nev.	25	10	-	-	53	22	1	-	-	-
PACIFIC	939	1,055	26	56	1,561	2,124	57	78	-	-
Wash.	97	56	-	-	163	181	4	3	-	-
Oreg.	21	30	-	-	58	80	2	3	-	-
Calif.	817	962	26	55	1,235	1,738	45	71	-	-
Alaska	-	1	-	-	28	46	-	-	-	-
Hawaii	4	6	-	1	77	79	6	1	-	-
Guam	-	1	-	-	-	41	-	-	-	104
P.R.	93	153	5	13	60	75	-	-	215	423
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 September 25, 2004 (38th Week)

Reporting Area	All causes, by age (years)						P&I† Total
	All Ages	≥65	45–64	25–44	1–24	<1	
NEW ENGLAND	488	350	87	32	8	11	35
Boston, Mass.	108	73	19	9	1	6	12
Bridgeport, Conn.	35	26	6	2	-	1	2
Cambridge, Mass.	16	13	1	-	2	-	-
Fall River, Mass.	14	11	2	1	-	-	-
Hartford, Conn.	57	34	15	7	-	1	1
Lowell, Mass.	20	18	2	-	-	-	2
Lynn, Mass.	12	11	1	-	-	-	1
New Bedford, Mass.	17	13	3	1	-	-	2
New Haven, Conn.	32	22	7	2	-	1	6
Providence, R.I.	49	39	5	2	3	-	-
Somerville, Mass.	6	5	1	-	-	-	-
Springfield, Mass.	47	27	14	4	-	2	6
Waterbury, Conn.	16	14	1	1	-	-	-
Worcester, Mass.	59	44	10	3	2	-	3
MID. ATLANTIC	1,889	1,302	400	132	25	29	89
Albany, N.Y.	43	31	8	3	1	-	2
Allentown, Pa.	18	13	3	1	-	1	-
Buffalo, N.Y.	76	47	20	3	3	3	2
Camden, N.J.	20	11	5	3	-	1	1
Elizabeth, N.J.	14	11	2	-	1	-	-
Erie, Pa.	39	27	9	2	-	1	2
Jersey City, N.J.	36	27	7	2	-	-	-
New York City, N.Y.	999	681	216	72	13	16	47
Newark, N.J.	54	26	15	12	-	1	3
Paterson, N.J.	14	8	4	1	1	-	-
Philadelphia, Pa.	224	170	39	13	2	-	9
Pittsburgh, Pa.§	24	16	7	-	1	-	1
Reading, Pa.	17	10	6	-	-	1	3
Rochester, N.Y.	129	98	20	8	1	2	4
Schenectady, N.Y.	17	12	5	-	-	-	1
Scranton, Pa.	29	28	1	-	-	-	1
Syracuse, N.Y.	73	41	20	8	2	2	10
Trenton, N.J.	22	12	6	3	-	1	-
Utica, N.Y.	17	15	2	-	-	-	1
Yonkers, N.Y.	24	18	5	1	-	-	2
E.N. CENTRAL	1,912	1,237	442	136	48	49	122
Akron, Ohio	50	32	12	2	1	3	6
Canton, Ohio	48	36	9	3	-	-	5
Chicago, Ill.	315	187	76	30	13	9	22
Cincinnati, Ohio	55	39	11	3	2	-	3
Cleveland, Ohio	238	151	67	16	4	-	11
Columbus, Ohio	176	110	40	17	4	5	15
Dayton, Ohio	97	70	21	2	3	1	14
Detroit, Mich.	151	74	50	12	6	9	10
Evansville, Ind.	41	33	6	2	-	-	-
Fort Wayne, Ind.	80	54	19	2	2	3	4
Gary, Ind.	21	12	4	3	2	-	-
Grand Rapids, Mich.	60	43	8	4	1	4	6
Indianapolis, Ind.	164	113	34	9	1	7	8
Lansing, Mich.	34	23	6	4	1	-	1
Milwaukee, Wis.	95	65	20	5	3	2	5
Peoria, Ill.	59	28	17	9	3	2	2
Rockford, Ill.	42	27	10	4	-	1	2
South Bend, Ind.	41	35	4	-	1	1	3
Toledo, Ohio	77	57	15	3	1	1	5
Youngstown, Ohio	68	48	13	6	-	1	-
W.N. CENTRAL	528	360	115	25	13	14	32
Des Moines, Iowa	U	U	U	U	U	U	U
Duluth, Minn.	23	20	2	1	-	-	2
Kansas City, Kans.	24	15	5	2	-	2	3
Kansas City, Mo.	91	57	27	3	3	1	7
Lincoln, Nebr.	44	31	6	3	3	1	4
Minneapolis, Minn.	47	31	11	4	-	1	2
Omaha, Nebr.	84	58	19	3	-	4	4
St. Louis, Mo.	87	59	20	4	-	3	5
St. Paul, Minn.	54	35	12	2	3	2	2
Wichita, Kans.	74	54	13	3	4	-	3
S. ATLANTIC	1,262	781	317	104	37	18	79
Atlanta, Ga.	152	79	43	16	10	4	8
Baltimore, Md.	177	101	55	17	4	-	15
Charlotte, N.C.	109	70	23	9	3	3	9
Jacksonville, Fla.	149	99	30	11	5	3	9
Miami, Fla.	109	65	27	14	2	1	4
Norfolk, Va.	49	34	7	1	5	2	3
Richmond, Va.	70	47	17	4	2	-	1
Savannah, Ga.	58	42	10	4	1	1	5
St. Petersburg, Fla.	64	45	15	3	1	-	6
Tampa, Fla.	212	142	49	14	4	2	15
Washington, D.C.	91	45	32	10	-	2	2
Wilmington, Del.	22	12	9	1	-	-	2
E.S. CENTRAL	836	556	193	59	25	3	35
Birmingham, Ala.	224	150	49	19	5	1	12
Chattanooga, Tenn.	85	55	21	4	4	1	4
Knoxville, Tenn.	117	75	31	10	-	1	3
Lexington, Ky.	33	22	9	1	1	-	3
Memphis, Tenn.	152	98	39	13	2	-	-
Mobile, Ala.	71	51	14	3	3	-	3
Montgomery, Ala.	40	30	7	2	1	-	5
Nashville, Tenn.	114	75	23	7	9	-	5
W.S. CENTRAL	1,407	856	344	120	49	38	62
Austin, Tex.	70	39	18	10	2	1	5
Baton Rouge, La.	41	24	9	8	-	-	-
Corpus Christi, Tex.	44	30	10	3	-	1	2
Dallas, Tex.	215	117	58	23	8	9	9
El Paso, Tex.	75	51	16	7	1	-	2
Ft. Worth, Tex.	127	76	33	6	5	7	4
Houston, Tex.	313	179	77	35	15	7	23
Little Rock, Ark.	61	35	18	3	2	3	-
New Orleans, La.	61	38	17	4	2	-	-
San Antonio, Tex.	207	145	39	11	7	5	11
Shreveport, La.	62	38	15	1	4	4	6
Tulsa, Okla.	131	84	34	9	3	1	-
MOUNTAIN	880	579	186	68	27	16	51
Albuquerque, N.M.	67	49	13	5	-	-	5
Boise, Idaho	43	33	6	2	-	2	4
Colo. Springs, Colo.	51	32	13	6	-	-	4
Denver, Colo.	101	59	29	7	4	2	6
Las Vegas, Nev.	212	129	44	26	10	2	8
Ogden, Utah	44	28	12	1	1	2	2
Phoenix, Ariz.	67	43	11	3	5	2	3
Pueblo, Colo.	42	34	6	1	1	-	5
Salt Lake City, Utah	99	64	22	8	3	2	11
Tucson, Ariz.	154	108	30	9	3	4	3
PACIFIC	1,545	1,078	293	99	40	35	110
Berkeley, Calif.	20	12	4	2	-	2	1
Fresno, Calif.	110	76	23	7	3	1	4
Glendale, Calif.	16	15	1	-	-	-	2
Honolulu, Hawaii	63	49	6	5	1	2	6
Long Beach, Calif.	57	43	10	2	-	2	8
Los Angeles, Calif.	287	193	50	26	12	6	19
Pasadena, Calif.	24	17	6	1	-	-	3
Portland, Oreg.	100	74	18	6	2	-	6
Sacramento, Calif.	188	132	44	7	2	3	13
San Diego, Calif.	157	110	30	9	2	6	10
San Francisco, Calif.	90	66	16	4	3	1	7
San Jose, Calif.	132	92	27	7	4	2	17
Santa Cruz, Calif.	27	22	4	1	-	-	1
Seattle, Wash.	109	67	23	12	5	2	7
Spokane, Wash.	66	44	17	-	1	4	6
Tacoma, Wash.	99	66	14	10	5	4	-
TOTAL	10,747¶	7,099	2,377	775	272	213	615

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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