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Cardiac Deaths After a Mass Smallpox Vaccination Campaign — New York City, 1947

During the first wave of the 2003 smallpox vaccination campaign, two ischemic cardiac deaths occurred in civilian vaccinees aged 55 and 57 years, and one occurred in a military vaccinee aged 55 years, 4–17 days after vaccination with the New York City Board of Health (NYCBOH) vaccinia strain (1–3). Whether these and 13 other recognized military and civilian nonfatal ischemic events among vaccinees were associated with smallpox vaccination is unclear. The same NYCBOH strain was used in 1947 to vaccinate approximately six million New York City (NYC) residents (80% of the population) during a 4-week period (April 4–May 2) after a smallpox outbreak (Figure 1). To determine whether smallpox vaccination increased the risk for cardiac death in 1947, the NYC Department of Health and Mental Hygiene (DOHMH) analyzed data from NYC death certificates during that period. This report summarizes the results of that analysis, which found no increases in cardiac, atherosclerotic, or all-cause deaths. The findings are consistent with a growing body of evidence suggesting that ischemic cardiac deaths observed after the 2003 campaign might have been unrelated to vaccine.

In April 2003, data were extracted from NYC death certificates filed during March–June 1947 and from the same period in 1946 and 1948 (N = 81,529). DOHMH estimated the relative risk for cardiac deaths in the period after vaccination compared with other periods, adjusting for secular trends. The number of adults vaccinated on each of the 29 days of the vaccination campaign was estimated by using DOHMH records and articles from local newspapers and magazines (4). Death certificates issued in NYC during March–June in 1946–1948 were obtained from the NYC Municipal Archives. Date of death, age of decedent, and primary and other cause-of-death data (classified according to the *International Classification of Diseases, Fifth Revision* [ICD-5] codes) were abstracted from all records. Causes of death were defined as cardiac if the

FIGURE 1. New York City residents line up for vaccinations during a smallpox vaccination campaign — New York City, 1947



Photo/Associated Press

ICD-5 codes for primary or other cause included pericarditis (090), acute endocarditis (091), chronic endocarditis (092), myocardial disease (093), coronary artery diseases (094), or other disease of the heart (095). Certificates with illegible primary cause-of-death codes (0.6% of records) were excluded.

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Centers for Disease Control and Prevention

Julie L. Gerberding, M.D., M.P.H.
Director

Dixie E. Snider, M.D., M.P.H.
(Acting) Deputy Director for Public Health Science

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(Acting) Associate Director for Science

Epidemiology Program Office

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Visual Information Specialists

Kim L. Bright, M.B.A.
Quang M. Doan, M.B.A.
Erica R. Shaver
Information Technology Specialists

Division of Public Health Surveillance and Informatics

Notifiable Disease Morbidity and 122 Cities Mortality Data

Robert F. Fagan
Deborah A. Adams
Felicia J. Connor
Lateka Dammond
Donna Edwards
Patsy A. Hall
Pearl C. Sharp

Approximately 6.4 million NYC residents were vaccinated during April 4–May 2, 1947 (4) (Figure 2), including an estimated 500,000–1,000,000 persons each day during the peak 5 days of the vaccination campaign (April 17–21). The putative high-risk period for cardiac death was an estimated 4–17 days after vaccination, corresponding to the range of onset dates of cardiac events observed during the 2003 campaign. On the basis of these estimates, 2-week and 4-week risk periods were identified.

Daily mortality rates during the postvaccination risk periods were compared with rates during other periods. Counts of cardiac deaths were modeled by using Poisson regression analysis, adjusting for a long-term temporal trend during 1946–1948 and a seasonal trend during March–June each year.

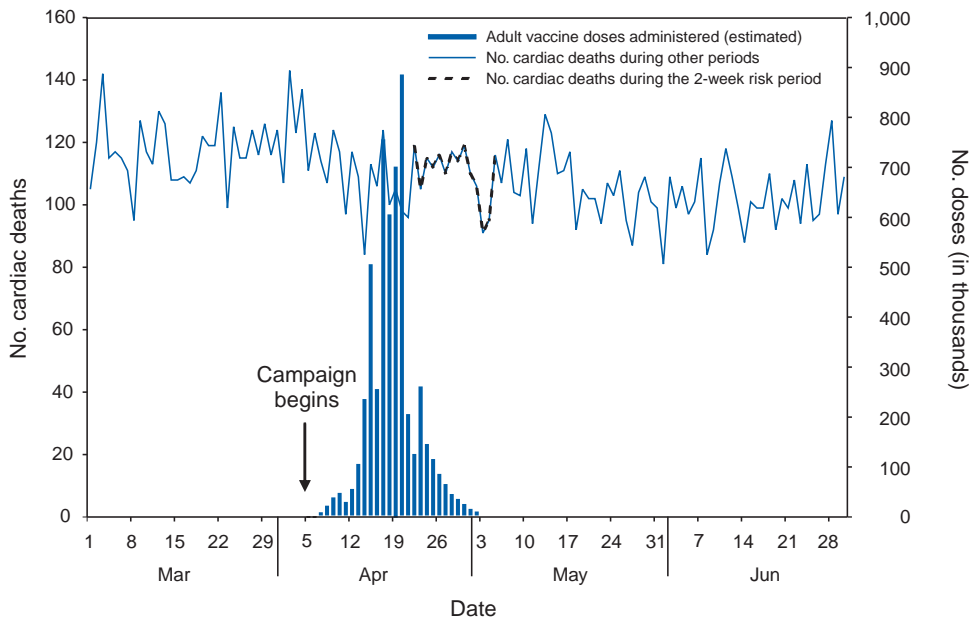
Of the 81,010 legible records available, 39,150 (48%) listed cardiac disease and 9,112 (11%) specified coronary artery or atherosclerotic disease as a cause of death. Counts of cardiac deaths ranged from 72 to 149 deaths per day during the study period (Figure 3). The difference in the rate of cardiac deaths was not statistically significant during the 2-week risk period compared with other periods among persons aged 50–64 years (rate ratio: 1.05; 95% confidence interval [CI] = 0.95–1.15) or among all adults (rate ratio: 1.01; 95% CI = 0.95–1.07) (Table). Similarly, no statistically significant increases in risk were observed in all-cause deaths, atherosclerotic deaths, or deaths caused by myo/pericarditis during the 4-week risk period compared with other periods.

Reported by: T Frieden, F Mostashari, SP Schwartz, New York City Dept of Health and Mental Hygiene, New York. LE Thorpe, Div of Adult Community Health, National Center for Chronic Disease Prevention and Health Promotion; AM Karpati, Epidemiology Program Office; MA Marx, SE Manning, EIS officers, CDC.

Editorial Note: The findings in this report indicate that incidence of cardiac deaths did not increase after the 1947 mass smallpox vaccination campaign in NYC. The large number and proportion of persons vaccinated in a short time permitted a focused assessment of cardiac deaths after vaccination. These results suggest that cardiac deaths observed in 2003 might have been unrelated to smallpox vaccination. However, factors that could limit the applicability of the 1947 study results to the 2003 vaccination campaign include 1) changes in characteristics or administration of the vaccine, 2) changes in population distribution of cardiac risk factors, and 3) differences in the vaccination and smallpox infection history (i.e., immunity status) of vaccine recipients in the two periods.

Both campaigns used the same NYCBOH vaccinia strain. Although long-term storage might have resulted in antigenic shift of the vaccine, DNA viruses such as vaccinia are not prone to antigenic variability (5). Both campaigns

FIGURE 2. Number of adult smallpox vaccination doses administered and number of cardiac deaths in estimated risk period for fatal cardiac adverse events — New York City, March–June 1947



administered the vaccine intradermally. In 1947, vaccinators used various multiple-pressure techniques; the 2003 technique involved multiple punctures with a bifurcated needle to administer the vaccine. Both campaigns used a vaccine that contained a mixture of lymph and other components. Before 1960, the vaccine consisted of wet glycerinated lymph (with a titer of $\geq 10^6$ plaque-forming units [pfu]/mL) composed of 50% glycerine and 50% calf lymph (6). Currently, lyophilized NYCBOH vaccinia containing calf lymph is mixed with a diluent containing polymixin B, streptomycin, chlortetracycline, and neomycin to a titer of $\geq 10^8$ pfu/mL. However, no evidence has been found to indicate that these changes would lead to increases in cardiac adverse events after vaccination.

Each of the 2003 vaccinees with cardiac fatalities had multiple risk factors for cardiac disease, including hypertension, hyperlipidemia, and smoking, and each had been vaccinated for smallpox in childhood. If risk factors for cardiac death were more prevalent in 2003 than in 1947, the number of cardiac-associated deaths probably would be greater among 2003 campaign vaccinees than among those in 1947. However, the prevalence of these three risk factors and cardiac mortality rates was substantially higher in 1947 than in 2003 (7,8). In addition, the 1947 vaccination campaign encouraged residents to participate regardless of health status, whereas the first wave of the 2003 campaign targeted only military, health-care, and emergency response professionals, all of whom were screened for noncardiac health problems and contraindications to vaccination.

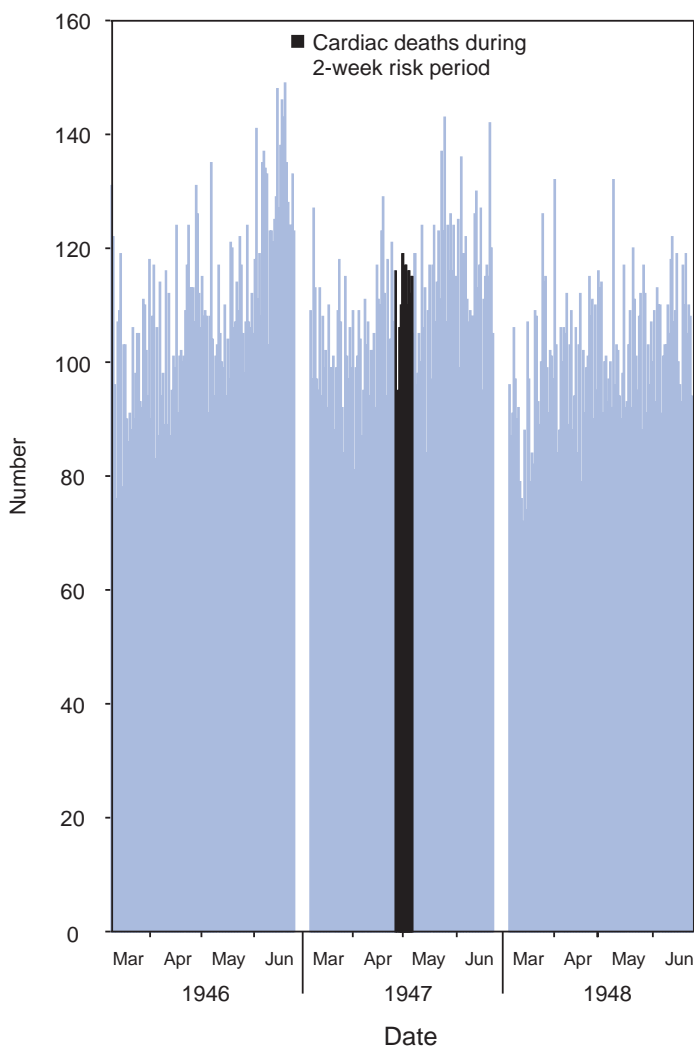
If a greater proportion of those vaccinated in 1947 were revaccinees compared with those vaccinated in 2003, and if previous vaccination reduced the risk for subsequent cardiac mortality, the 1947 findings would underestimate the risk for cardiac death after vaccination in 2003. However, nearly all of the 2003 civilian vaccinees were born before 1971, when childhood smallpox vaccination was routine in the United States, and would have received the smallpox vaccine once during childhood.

This was an ecologic study; data about individual vaccination status for the 1947 population were unavailable. However, approximately 80% of the NYC population was vaccinated during the 1947 campaign. Although the 20% who were not vaccinated during the campaign might have differed systematically from the general population, any bias probably

would not be substantial enough to alter the results of this study qualitatively.

Myo/pericarditis after smallpox vaccination has been described previously (9) and has been observed in both civilians and military personnel vaccinated during the 2003 campaign. However, autopsy findings indicate that the 2003 cardiac deaths were linked not to myo/pericarditis but directly to ischemic events (2). In contrast to studies of inflammatory complications, few data support the association of ischemic cardiac adverse events with smallpox vaccination. Only one case series was found describing the experience of eight French vaccinees (of 12 million) aged 53–83 years who experienced acute ischemic events after smallpox vaccination, five of whom died (10).

Smallpox vaccination is recommended for military personnel and civilian first responders without contraindications who are identified as part of terrorism preparedness and first-response teams. New screening guidelines have been instituted to minimize potential ischemic risks by excluding persons with known cardiac disease or three or more cardiac risk factors. Although this study casts doubt on the causal link between death caused by cardiac adverse events and smallpox vaccination, in the absence of a smallpox outbreak, all potential volunteers should be screened for risk factors, and those at high risk for adverse reactions to vaccination should be excluded.

FIGURE 3. Number of daily cardiac deaths during risk periods compared with other periods — New York City, March–June 1946–1948**Acknowledgments**

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TABLE. Rate ratios of cardiac deaths comparing postvaccination periods with reference periods*, by outcome — New York City, March–June 1946–1948

| Outcome (ICD-5 [†] code) | Postvaccination period | Rate ratio | (95% CI) [§] |
|--------------------------------------|--------------------------|------------|-----------------------|
| All cardiac deaths (090–095) | April 22–May 5 (2-week) | 1.01 | (0.96–1.07) |
| Persons aged 50–64 years | | 1.05 | (0.95–1.15) |
| Atherosclerotic cardiac deaths (094) | April 22–May 5 (2-week) | 1.06 | (0.97–1.16) |
| Persons aged 50–64 years | | 1.00 | (0.86–1.15) |
| Myo/pericarditis deaths (090, 093) | April 22–May 5 (2-week) | 1.00 | (0.94–1.07) |
| All deaths | April 22–May 5 (2-week) | 1.00 | (0.97–1.04) |
| All cardiac deaths (090–095) | April 16–May 13 (4-week) | 0.99 | (0.95–1.04) |

* All models are adjusted for long-term temporal and seasonal trends.

[†] International Classification of Diseases, Fifth Revision.

[§] Confidence interval.

Follow-Up of Deaths Among U.S. Postal Service Workers Potentially Exposed to *Bacillus anthracis* — District of Columbia, 2001–2002

In October 2001, two letters contaminated with *Bacillus anthracis* spores were processed by mechanical and manual methods at the U.S. Postal Service (USPS) Brentwood Mail Processing and Distribution Center in the District of Columbia. Four postal workers at the Brentwood facility became ill with what was diagnosed eventually as inhalational anthrax; two died. The facility was closed on October 21, and postexposure prophylaxis was recommended for approximately 2,500 workers and business visitors (1). Subsequent reports of deaths of facility workers prompted concern about whether mortality was unusually high among workers, perhaps related to the anthrax attacks. To evaluate the rates and causes of death among workers at the Brentwood facility during October 12, 2001–October 11, 2002, CDC, in collaboration with state and local health departments, analyzed death certificate data. In addition, these data were compared with aggregate mortality data from the five USPS facilities contaminated with *B. anthracis* during the fall 2001 anthrax attacks. This report summarizes the results of that analysis, which indicate that rates and causes of death among Brentwood workers during the 12 months after the anthrax attacks of 2001 were not different from rates and causes of deaths that occurred during the preceding 5 years.

Deaths among Brentwood workers were identified through review of death certificates, which were obtained from the USPS Office of Personnel Management, the District of Columbia Health Department, and state health departments in Maryland and Virginia. Cause-specific deaths were compared with actuary/mortality tables from the National Center for Health Statistics. Aggregate mortality data for the five USPS facilities were obtained from the USPS Human Resources Management. Death rates for each USPS fiscal year were calculated by dividing the total number of deaths occurring at the respective facility by the number of USPS personnel assigned to that facility as of October 12, 2001. For each contaminated postal facility, a general linear model was used to compare death rates during the 5 years preceding the study period with the death rate during the study period.

During the study period, 2,646 persons were employed at the Brentwood facility; 2,434 (92%) were black, and 1,496 (57%) were male. A total of 11 deaths occurred among facility workers during this period, excluding the two deaths resulting from known inhalational anthrax (Table 1); deaths occurred during eight of 12 months. Of the 11 deaths, 10 (91%) were among blacks, and four (36%) were among

TABLE 1. Age, sex, race, and cause of death of U.S. Postal Service workers* at the Brentwood Mail Processing and Distribution Center — District of Columbia, October 12, 2001–October 11, 2002

| Age at death (yrs) | Sex | Race | Cause of death |
|--------------------|--------|-------|----------------|
| 43 | Male | Black | Heart disease |
| 51 | Female | White | Cancer |
| 53 | Female | Black | Cancer |
| 55 | Male | Black | Heart disease |
| 55 | Male | Black | Heart disease |
| 59 | Female | Black | Heart disease |
| 59 | Male | Black | Heart disease |
| 59 | Male | Black | Heart disease |
| 62 | Male | Black | Liver disease |
| 62 | Female | Black | Liver disease |
| 65 | Male | Black | Septicemia |

* N = 11; excludes two previously known deaths resulting from inhalational anthrax.

female workers; these proportions were not statistically different from the expected proportion of deaths in this population. The median age of workers at death was 56 years (range: 43–65 years) for both males and females, compared with the median worker age of 52 years (range: 25–75 years). Six (55%) deaths resulted from heart disease, two (18%) from malignant neoplasm, two (18%) from liver disease, and one from septicemia after a prolonged coma resulting from a cerebrovascular accident. On the basis of comparisons with U.S. mortality data (2), the rates of these causes of death among Brentwood workers during the study period did not differ from the rates for expected causes of death for the U.S. population, adjusted for age and race. Although annual death rates for workers from the five contaminated USPS facilities varied, consistent with differences in demographics, no statistically significant differences were observed between death rates during the study period and those during the 5 years preceding the study period (Table 2).

Reported by: K Berry, MD, S Colvin, MD, District of Columbia Health Dept. D Blythe, MD, Maryland State Dept of Health. RB Stroube, MD, CD Woolard, PhD, B Essex, Virginia Dept of Health. EA Bresnitz, MD, New Jersey Dept of Health. JA Hayslett, PharmD, PM Dull, MD, EAS Whitney, MPH, DB Reissman, MD, TH Taylor, Jr., MS, B Plikaytis, MSc, N Rosenstein, MD, B Perkins, MD, DA Ashford, DVM, R Pinner, MD, National Center for Infectious Diseases, CDC.

Editorial Note: The findings in this report suggest that the rates and causes of death among workers of the Brentwood mail facility during the 12 months after the anthrax attacks of 2001 were not different from those expected for this population. Although death certificate data might be subject to misclassification (3,4), the listed causes of death for the 11 workers do not raise suspicion of anthrax or mortality caused by adverse drug reactions.

TABLE 2. Number* of U.S. Postal Service (USPS) workers and death rates†, by USPS facility and fiscal year§ — United States, 1997–2002

| Facility | No. | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | p value |
|---|-------|------|------|------|------|------|------|---------|
| Brentwood P&DC†, Washington, D.C. | 2,646 | 4.54 | 6.80 | 3.78 | 4.54 | 2.65 | 4.16 | 0.86 |
| Southern New Jersey P&DC, Bellmawr, New Jersey | 714 | 7.00 | 5.60 | 4.20 | 7.00 | 4.20 | 2.80 | 0.14 |
| Trenton P&DC, Trenton, New Jersey | 963 | 3.12 | 2.08 | 4.15 | 2.08 | 3.12 | 4.15 | 0.26 |
| Morgan P&DC, New York City, New York | 4,662 | 3.70 | 3.04 | 2.83 | 1.96 | 2.83 | 2.39 | 0.52 |
| Southern Connecticut P&DC, Wallingford, Connecticut | 1,724 | 2.32 | 1.16 | 0.58 | 0 | 1.16 | 1.74 | 0.50 |

* As of October 2002.

† Per 1,000 workers.

§ USPS fiscal year is approximately October–September (varies slightly by year).

¶ Processing and distribution center.

If another anthrax attack were to occur, prevention of deaths would probably depend on heightened surveillance and rapid diagnostics to identify an attack and prompt prophylaxis with antibiotics and vaccination. Three types of surveillance are needed: 1) pre-event surveillance systems to detect the initial case of anthrax, which signals a new outbreak or release; 2) event surveillance to focus on continuous case-finding; and 3) postevent surveillance to identify any cases that might have been missed and morbidity and mortality associated with treatment or prophylaxis. In each stage of surveillance, the goals, priorities, and methods differ. Evaluation of unexplained deaths is an ongoing surveillance initiative that is part of CDC's Emerging Infections Program (5).

Monitoring of death rates among persons potentially exposed to *B. anthracis* spores during the anthrax attacks of 2001 continues; however, the onset of anthrax disease 2 years after the exposures is unlikely. Through December 2003, CDC, in collaboration with federal, state, and local partners, will continue to assess mortality among postal workers potentially exposed to *B. anthracis* at the USPS facilities and rates of adverse events among all 10,000 persons for whom ≥ 60 days of postexposure prophylaxis was recommended (6).

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Recognition of Illness Associated With Exposure to Chemical Agents — United States, 2003

Since September 11, 2001, concern has increased about potential terrorist attacks involving the use of chemical agents. In addition, recent cases involving intentional or inadvertent contamination of food with chemicals have highlighted the need for health-care providers and public health officials to be alert for patients in their communities who have signs and symptoms consistent with chemical exposures (1–3). For example, in February 2003, a Michigan supermarket worker was charged with intentionally contaminating 200 lbs. of meat with a nicotine-containing insecticide (3). Although intentional release of chemical agents might be an overt event (i.e., one whose nature reveals itself), such as release of a nerve agent in a subway or a large explosion of a chemical container, a chemical release might instead be a covert event (i.e., an unrecognized release in which the presence of ill persons might be the first sign of an exposure), such as deliberate contamination of food, water, or a consumer product. To increase the likelihood that health-care providers will recognize a chemical-release-related illness and that public health authorities will implement the appropriate emergency response and public health actions, CDC identified examples of chemical-induced illness (Table) and created appropriate guidance for health-care providers and public health personnel. This report summarizes the epidemiologic clues and clinical signs or patterns of illness that might suggest covert release of a chemical agent. CDC is working to develop national surveillance capabilities for detecting chemical-release-related illnesses.

A covert release of a chemical agent might not be identified easily for at least five reasons. First, symptoms of exposure to some chemical agents (e.g., ricin) might be similar to those of common diseases (e.g., gastroenteritis). Second, immediate symptoms of certain chemical exposures might be nonexistent or mild despite the risk for long-term effects (e.g.,

TABLE. Selected* clinical syndromes and potential chemical etiologies

| Category | Clinical syndrome | Potential chemical etiology |
|---|--|---|
| Cholinergic crisis | <ul style="list-style-type: none"> • Salivation, diarrhea, lacrimation, bronchorrhea, diaphoresis, and/or urination • Miosis, fasciculations, weakness, bradycardia or tachycardia, hypotension or hypertension, altered mental status, and/or seizures | <ul style="list-style-type: none"> • Nicotine[†] • Organophosphate insecticides[†] <ul style="list-style-type: none"> — decreased acetylcholinesterase activity • Carbamate insecticides • Medicinal carbamates (e.g., physostigmine) |
| Generalized muscle rigidity | <ul style="list-style-type: none"> • Seizure-like, generalized muscle contractions or painful spasms (neck and limbs) and usually tachycardia and hypertension | <ul style="list-style-type: none"> • Strychnine <ul style="list-style-type: none"> — intact sensorium |
| Oropharyngeal pain and ulcerations | <ul style="list-style-type: none"> • Lip, mouth, and pharyngeal ulcerations and burning pain | <ul style="list-style-type: none"> • Paraquat[†] <ul style="list-style-type: none"> — dyspnea and hemoptysis secondary to pulmonary edema or hemorrhage; can progress to pulmonary fibrosis over days to weeks • Diquat • Caustics (i.e., acids and alkalis) • Inorganic mercuric salts • Mustards (e.g., sulfur) |
| Cellular hypoxia | <ul style="list-style-type: none"> • Mild: nausea, vomiting, and headache • Severe: altered mental status, dyspnea, hypotension, seizures, and metabolic acidosis | <ul style="list-style-type: none"> • Cyanide[†] (e.g., hydrogen cyanide gas or sodium cyanide) <ul style="list-style-type: none"> — bitter almond odor[§] • Sodium monofluoroacetate (SMFA)[†] <ul style="list-style-type: none"> — hypocalcemia or hypokalemia • Carbon monoxide • Hydrogen sulfide • Sodium azide • Methemoglobin-causing agents |
| Peripheral neuropathy and/or neurocognitive effects | <ul style="list-style-type: none"> • Peripheral neuropathy signs and symptoms: muscle weakness and atrophy, "glove and stocking" sensory loss, and depressed or absent deep tendon reflexes • Neurocognitive effects: memory loss, delirium, ataxia, and/or encephalopathy | <ul style="list-style-type: none"> • Mercury (organic)[†] <ul style="list-style-type: none"> — visual disturbances, paresthesias, and/or ataxia • Arsenic (inorganic)[†] <ul style="list-style-type: none"> — delirium and/or peripheral neuropathy • Thallium <ul style="list-style-type: none"> — delirium and/or peripheral neuropathy • Lead <ul style="list-style-type: none"> — encephalopathy • Acrylamide <ul style="list-style-type: none"> — encephalopathy and/or peripheral neuropathy |
| Severe gastrointestinal illness, dehydration | <ul style="list-style-type: none"> • Abdominal pain, vomiting, profuse diarrhea (possibly bloody), and hypotension, possibly followed by multisystem organ failure | <ul style="list-style-type: none"> • Arsenic[†] • Ricin[†] <ul style="list-style-type: none"> — inhalation an additional route of exposure; severe respiratory illness possible • Colchicine • Barium <ul style="list-style-type: none"> — hypokalemia common |

* Not intended as a complete differential diagnosis for each syndrome or a list of all chemicals that might be used in a covert chemical release.

[†] Potential agents for a covert chemical release based on historic use (i.e., intentional or inadvertent use), high toxicity, and/or ease of availability.

[§] Unreliable sign.

neurocognitive impairment from dimethyl mercury, teratogenicity from isotretinoin, or cancer from aflatoxin). Third, exposure to contaminated food, water, or consumer products might result in reports of illness to health-care providers over a long period and in various locations. Fourth, persons exposed to two or more agents might have symptoms not suggestive of any one chemical agent (i.e., a mixed clinical presentation). Finally, health-care providers might be less familiar with clinical presentations suggesting exposure to chemical agents than they are with illnesses that are treated frequently.

Epidemiologic Clues Suggesting a Covert Chemical Release

Epidemiologic clues that might suggest the covert release of a chemical agent include 1) an unusual increase in the number of patients seeking care for potential chemical-release-related illness; 2) unexplained deaths among young or healthy persons; 3) emission of unexplained odors by patients; 4) clusters of illness in persons who have common characteristics, such as drinking water from the same source; 5) rapid onset of symptoms after an exposure to a potentially contaminated medium (e.g., paresthesias and vomiting within minutes of

eating a meal); 6) unexplained death of plants, fish, or animals (domestic or wild); and 7) a syndrome (i.e., a constellation of clinical signs and symptoms in patients) suggesting a disease associated commonly with a known chemical exposure (e.g., neurologic signs or pinpoint pupils in eyes of patients with a gastroenteritis-like syndrome or acidosis in patients with altered mental status).

Various chemical agents could be used as covert weapons, and the actual clinical syndrome will vary depending on the type of agent, the amount and concentration of the chemical, and the route of the exposure. However, certain clinical presentations might be more common with a covert chemical release. Certain syndromes are associated with groups of chemical agents with similar toxic properties that have been used previously, have high toxicity, or are easily available (Table) (4–10).

Reported by: M Patel, MD, J Schier, MD, M Belson, MD, C Rubin, DVM, P Garbe, DVM, Div of Environmental Hazards and Health Effects; J Osterloh, MD, Div of Laboratory Sciences, National Center for Environmental Health, CDC.

Editorial Note: Health-care providers, public health agencies, and poison control centers might be the first to recognize illness, treat patients, and implement the appropriate emergency response to a chemical release. Familiarity with general characteristics of a covert chemical release and recognition of epidemiologic clues and syndromic presentations of chemical agent exposures could improve recognition of these releases and might reduce further morbidity and mortality.

Public health agencies and health-care providers might render the most appropriate, timely, and clinically relevant treatment possible by using treatment modalities based on syndromic categories (e.g., burns, respiratory depression, neurologic damage, and shock). Treating exposed persons by clinical syndrome rather than by specific agent probably is the most pragmatic approach to the treatment of illness caused by chemical exposures.

State and local health departments should educate health-care providers to recognize unusual illnesses that might indicate release of a chemical agent. Strategies for responding to intentional chemical releases include 1) providing information or reminders to health-care providers and clinical laboratories; 2) encouraging reporting of acute poisonings to local poison control centers, which can guide patient management and facilitate notification of the proper health agencies, and to the local or state health department; 3) initiating surveillance for incidents that potentially involve the covert release of a chemical agent; 4) implementing the capacity to receive and investigate any report of such an event; 5) implementing appropriate protocols, including potentially accessing the Laboratory Response Network for Bioterrorism, to collect and

transport specimens and to store them appropriately before laboratory analysis; 6) reporting immediately to CDC and local law enforcement if the results of an investigation suggest the intentional release of a chemical agent; and 7) requesting CDC assistance when necessary.

To begin developing national surveillance capabilities for detecting chemical-release-related illnesses, CDC is collaborating with the American Association of Poison Control Centers to use its Toxic Exposure Surveillance System to identify index cases, evolving patterns, or emerging clusters of hazardous exposures. Identification of early markers for chemical releases (e.g., characteristic symptom complexes, temporal and regional increases in hospitalizations, or sudden increases in case frequency or severity) will enable public health authorities to respond quickly and appropriately to an intentional chemical release.

CDC materials for emergency and health-care personnel, including a list of chemical agents and biologic toxins and their expected clinical syndromes, are available at <http://www.bt.cdc.gov/agent/agentlistchem.asp>. Additional information about responding to chemical attacks is available from the U.S. Army Medical Research and Materiel Command at <http://www.biomedtraining.org/progmat.htm>, the U.S. Army Medical Research Institute of Chemical Defense at <http://ccc.apgea.army.mil>, and CDC and the Agency for Toxic Substances and Disease Registry at <http://www.atsdr.cdc.gov/mhmi.html>.

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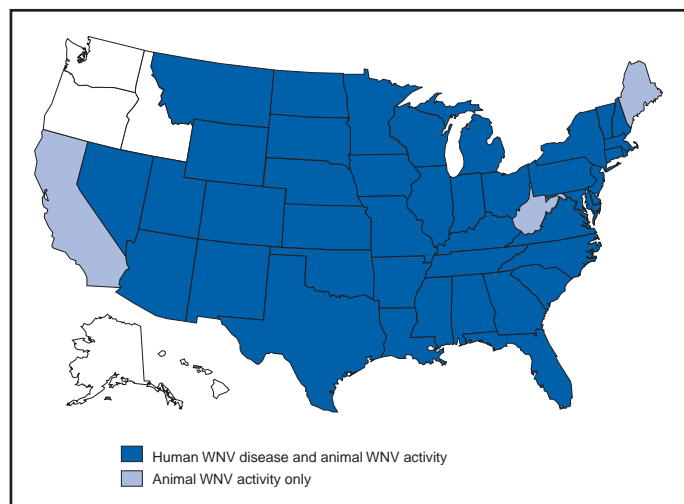
West Nile Virus Activity — United States, September 25– October 1, 2003

This report summarizes West Nile virus (WNV) surveillance data reported to CDC through ArboNET as of 3 a.m., Mountain Daylight Time, October 1, 2003.

During the reporting week of September 25–October 1, a total of 1,034 human cases of WNV infection were reported from 27 states (Colorado, Connecticut, Georgia, Illinois, Iowa, Kansas, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, and Wyoming), including 22 fatal cases from 10 states (Colorado, Georgia, Maryland, Michigan, Montana, Nebraska, New York, Pennsylvania, Texas, and Wyoming). During the same period, WNV infections were reported in 692 mosquito pools, 549 dead birds, 306 horses, four squirrels, two unidentified animal species, and one dog.

During 2003, a total of 5,861 human cases of WNV infection have been reported from Colorado (n = 1,991), Nebraska (n = 999), South Dakota (n = 840), Texas (n = 335), Wyoming (n = 313), Montana (n = 207), New Mexico (n = 174), North Dakota (n = 148), Iowa (n = 98), Minnesota (n = 96), Pennsylvania (n = 91), Louisiana (n = 67), Ohio (n = 57), Mississippi (n = 51), New York (n = 45), Oklahoma (n = 40), Kansas (n = 40), Missouri (n = 38), Florida (n = 32), Alabama (n = 26), Illinois (n = 22), Maryland (n = 20), North Carolina (n = 19), New Jersey (n = 17), Georgia (n = 13), Arkansas (n = 11), Massachusetts (n = 10), Wisconsin (n = 10), Connecticut (n = nine), Tennessee (n = eight), Virginia (n = seven), Indiana (n = six), Kentucky (n = six), Delaware (n = four), Rhode Island (n = three), New Hampshire (n = two), Arizona (n = one), Michigan (n = one), Nevada (n = one), South Carolina (n = one), Utah (n = one), and Vermont (n = one) (Figure). Of 5,787 (99%) cases for which demographic data were available, 3,028 (52%) occurred among males; the median age was 47 years (range: 1 month–99 years), and the dates of illness onset ranged from March 28 to September 26. Of the 5,787 cases, 115 fatal cases were reported from Colorado (n = 36), Nebraska (n = 15), Texas (n = 11), South Dakota (n = eight), Wyoming (n = eight), New York (n = six), New Mexico (n = four), Alabama (n = three), Iowa (n = three), Minnesota (n = three), Ohio (n = three), Georgia (n = two), Maryland (n = two), Missouri (n = two), Montana (n = two), Kansas (n = one), Louisiana (n = one), Michigan (n = one), Mississippi (n = one), New Jersey (n = one), North Dakota (n = one), and Pennsylvania (n = one). A total of 617 presumptive West Nile viremic blood donors have been

FIGURE. Areas reporting West Nile virus (WNV) activity — United States, 2003*



* As of 3 a.m., Mountain Daylight Time, October 1, 2003.

reported to ArboNET. Of these, 558 (90%) were reported from the following nine western and midwestern states: Colorado, Kansas, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wyoming. Of the 489 donors for whom data was completely reported, four subsequently had meningoencephalitis, and 66 subsequently had West Nile fever. In addition, 8,955 dead birds with WNV infection were reported from 42 states, the District of Columbia, and New York City; 2,449 WNV infections in horses have been reported from 36 states, 19 infections in unidentified animal species, 13 infections in dogs, and nine infections in squirrels. During 2003, WNV seroconversions have been reported in 612 sentinel chicken flocks from 13 states. Of the eight seropositive sentinel horses reported, Minnesota reported four; South Dakota, three; and West Virginia, one. A total of 5,633 WNV-positive mosquito pools have been reported from 39 states and New York City.

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

Notice to Readers

SARS, Influenza, and Use of Influenza Vaccine

CDC supports and emphasizes the use of influenza vaccination for reducing influenza infections and their associated complications. CDC does not recommend influenza vaccination for the primary purpose of reducing the number of persons who might be evaluated for severe acute respiratory syndrome (SARS).

Influenza vaccine is effective only against influenza virus infection and is the best option for preventing influenza and its complications. These complications occur most often in children aged <24 months, persons aged ≥ 65 years, and those of any age who have certain medical conditions placing them at high-risk for having complications from influenza infection.* Annual vaccination is recommended for persons at high risk aged ≥ 6 months and for persons in other target groups, including family members and other close contacts of high-risk persons, those aged 50–64 years, and health-care workers. Vaccination is encouraged, when feasible, for children aged 6–23 months and for their household contacts and out-of-home caregivers. Influenza vaccination of health-care workers is especially important for reducing transmission of influenza viruses to patients with high-risk conditions in hospital and other health-care settings and for protecting the health-care workforce during the influenza season. Additional information about prevention and control of influenza is available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5208a1.htm>.

On a population level, widespread use of the influenza vaccine will reduce the number of influenza cases and might decrease the number of persons with a febrile respiratory illness who are evaluated for SARS. However, such secondary benefits cannot be reliably anticipated. For example, the overall decrease in febrile respiratory illnesses would be minimal if circulating levels of influenza viruses are low or if other respiratory pathogens are actively circulating in a community.

Persons vaccinated against influenza can still have a febrile respiratory illness because influenza vaccine will not prevent infection by noninfluenza agents and the effectiveness of influenza vaccine is <100%. Therefore, receipt of influenza vaccination in a person who subsequently experiences a febrile respiratory illness does not eliminate influenza as a possible cause nor necessarily increase the likelihood that the illness is SARS.

*Persons at high risk include residents of chronic care facilities, persons with chronic pulmonary or cardiovascular disorders (e.g., asthma, chronic metabolic diseases, renal dysfunction, hemoglobinopathies, or immunosuppression), children receiving long-term aspirin therapy, and women who will be in the second or third trimester of pregnancy during the influenza season.

Notice to Readers

Domestic Violence Awareness Month, October 2003

October is Domestic Violence Awareness Month (DVAM). Approximately 1.5 million U.S. women and 835,000 U.S. men are raped or physically assaulted by a current or former

spouse, cohabitating partner, or date each year (1). The annual health-related costs of intimate partner violence in the United States is approximately \$5.8 billion (2). During October, state and territorial domestic violence coalitions, corporations, health-care providers, faith-based groups, and CDC will highlight activities that increase awareness about intimate partner violence.

A packet of materials designed to help plan events, initiate outreach in communities, and generate public awareness about domestic violence during October and throughout the year is available from the National Resource Center on Domestic Violence, Domestic Violence Awareness Month Project, 6400 Flank Drive, Suite 1300, Harrisburg, PA 17112-2778, telephone 800-537-2238, and at <http://dvam.vawnet.org>. Additional information about DVAM is available from CDC at <http://www.cdc.gov/injury>.

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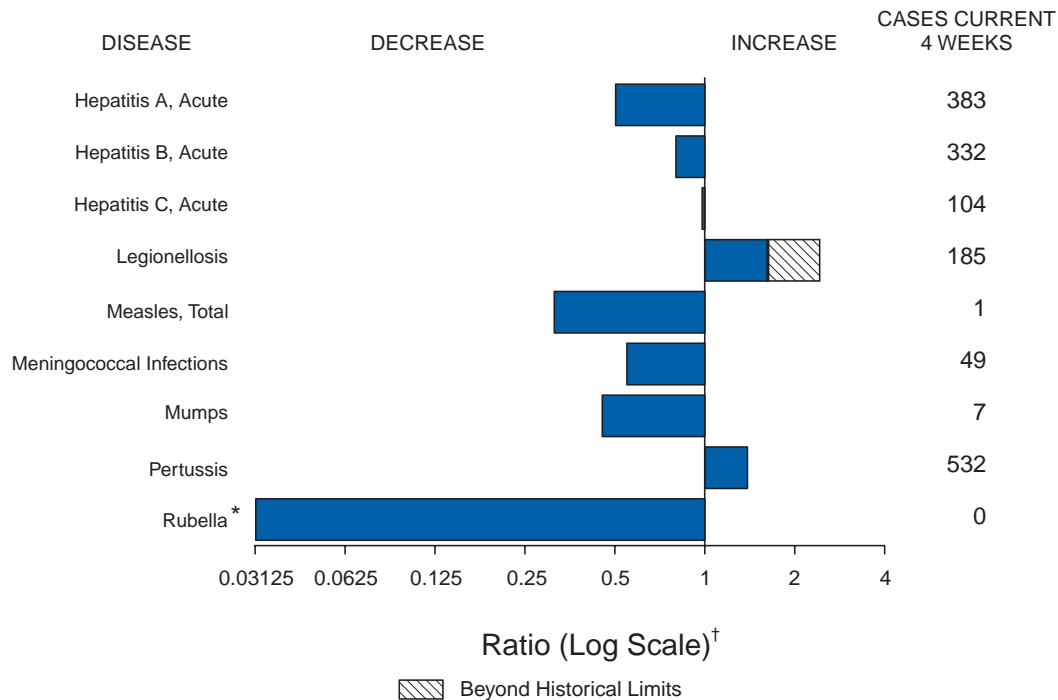
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Erratum: Vol. 52, No. SS-9

In the Surveillance Summary, "Assisted Reproductive Technology Surveillance—United States, 2000," dated August 29, 2003, an error occurred on page 6, in the third paragraph of the Discussion section. The text should read, "This divergence is not surprising because Massachusetts had a statewide mandate for insurance coverage for ART procedures in 2000." Although a similar mandate was introduced in New Jersey in early 2000, it was not approved until August 2001 and did not take effect until January 1, 2002.

Erratum: Vol. 52, No. 38

In the article, "Update: Detection of West Nile Virus in Blood Donations United States, 2003," an error occurred on page 918 in the second sentence of the third full paragraph discussing Case 2. The sentence should read, "These 20 samples were tested by NAT at three different laboratories; one sample tested equivocal at one laboratory (Lab A), reactive in a second, and nonreactive in a third." This sample subsequently tested positive for West Nile virus RNA at a fourth laboratory and was reactive when retested at Lab A by using a larger extraction volume (estimated virus titer: 0.1 plaque-forming units/mL).

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals September 27, 2003, with historical data

* No rubella cases were reported for the current 4-week period yielding a ratio for week 39 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 27, 2003 (39th Week)*

| | Cum. 2003 | Cum. 2002 | | Cum. 2003 | Cum. 2002 |
|-----------------------------|-----------|-----------|---|-----------|-----------|
| Anthrax | - | 2 | Hansen disease (leprosy)† | 43 | 67 |
| Botulism: | - | - | Hantavirus pulmonary syndrome† | 15 | 15 |
| foodborne | 9 | 23 | Hemolytic uremic syndrome, postdiarrheal† | 103 | 158 |
| infant | 40 | 51 | HIV infection, pediatric§ | 151 | 120 |
| other (wound & unspecified) | 22 | 12 | Measles, total | 37† | 26** |
| Brucellosis† | 53 | 89 | Mumps | 142 | 208 |
| Chancroid | 33 | 54 | Plague | 1 | - |
| Cholera | 1 | 1 | Poliomyelitis, paralytic | - | - |
| Cyclosporiasis† | 54 | 146 | Psittacosis† | 12 | 13 |
| Diphtheria | - | 1 | Q fever† | 52 | 43 |
| Ehrlichiosis: | - | - | Rabies, human | - | 2 |
| human granulocytic (HGE)† | 236 | 220 | Rubella | 7 | 11 |
| human monocytic (HME)† | 118 | 148 | Rubella, congenital | - | 1 |
| other and unspecified | 20 | 16 | Streptococcal toxic-shock syndrome† | 121 | 90 |
| Encephalitis/Meningitis: | - | - | Tetanus | 11 | 17 |
| California serogroup viral† | 49 | 96 | Toxic-shock syndrome | 99 | 82 |
| eastern equine† | 7 | 2 | Trichinosis | 2 | 13 |
| Powassan† | - | 1 | Tularemia† | 58 | 60 |
| St. Louis† | 8 | 16 | Yellow fever | - | - |
| western equine† | - | - | | | |

-: No reported cases.

* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

† Not notifiable in all states.

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update August 24, 2003.

¶ Of 37 cases reported, 29 were indigenous, and eight were imported from another country.

** Of 26 cases reported, 13 were indigenous, and 13 were imported from another country.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending September 27, 2003, and September 28, 2002 (39th Week)*

| Reporting area | AIDS | | Chlamydia† | | Coccidiomycosis | | Cryptosporidiosis | | Encephalitis/Meningitis West Nile | |
|----------------|---------------|--------------|--------------|--------------|-----------------|--------------|-------------------|--------------|--------------------------------------|--------------|
| | Cum. 2003§ | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 |
| UNITED STATES | 30,269 | 29,547 | 606,232 | 615,449 | 2,820 | 3,369 | 2,104 | 2,232 | 812 | 1,877 |
| NEW ENGLAND | 989 | 1,225 | 20,219 | 20,367 | - | - | 125 | 152 | - | 23 |
| Maine | 49 | 27 | 1,439 | 1,227 | N | N | 16 | 9 | - | - |
| N.H. | 24 | 25 | 1,023 | 1,169 | - | - | 11 | 25 | - | - |
| Vt. | 13 | 12 | 752 | 672 | - | - | 26 | 26 | - | - |
| Mass. | 408 | 629 | 8,285 | 8,156 | - | - | 48 | 63 | - | 16 |
| R.I. | 79 | 74 | 2,183 | 2,043 | - | - | 12 | 16 | - | - |
| Conn. | 416 | 458 | 6,537 | 7,100 | N | N | 12 | 13 | - | 7 |
| MID. ATLANTIC | 6,726 | 6,786 | 81,771 | 68,999 | - | - | 265 | 286 | 52 | 72 |
| Upstate N.Y. | 693 | 522 | 14,548 | 12,396 | N | N | 88 | 84 | - | 21 |
| N.Y. City | 3,390 | 3,943 | 23,888 | 22,807 | - | - | 62 | 113 | - | 26 |
| N.J. | 1,159 | 1,075 | 9,670 | 10,513 | - | - | 4 | 15 | 2 | 21 |
| Pa. | 1,484 | 1,246 | 33,665 | 23,283 | N | N | 111 | 74 | 50 | 4 |
| E.N. CENTRAL | 2,925 | 2,916 | 99,963 | 112,994 | 7 | 20 | 536 | 767 | 52 | 1,077 |
| Ohio | 555 | 513 | 24,261 | 28,335 | - | - | 97 | 98 | 52 | 137 |
| Ind. | 378 | 397 | 12,362 | 12,713 | N | N | 69 | 33 | - | 17 |
| Ill. | 1,348 | 1,359 | 29,711 | 35,986 | - | 2 | 56 | 101 | - | 547 |
| Mich. | 506 | 502 | 22,468 | 23,249 | 7 | 18 | 99 | 91 | - | 335 |
| Wis. | 138 | 145 | 11,161 | 12,711 | - | - | 215 | 444 | - | 41 |
| W.N. CENTRAL | 563 | 487 | 34,269 | 34,872 | 1 | 1 | 408 | 305 | 208 | 53 |
| Minn. | 110 | 106 | 7,479 | 7,803 | N | N | 114 | 154 | 27 | - |
| Iowa | 63 | 58 | 2,676 | 4,073 | N | N | 76 | 37 | 33 | - |
| Mo. | 266 | 224 | 13,033 | 11,767 | - | - | 31 | 29 | 20 | 24 |
| N. Dak. | 2 | 1 | 700 | 910 | N | N | 12 | 10 | 5 | - |
| S. Dak. | 9 | 3 | 1,956 | 1,606 | - | - | 31 | 18 | 38 | 14 |
| Nebr.† | 39 | 44 | 3,269 | 3,570 | 1 | 1 | 15 | 43 | 32 | 11 |
| Kans. | 74 | 51 | 5,156 | 5,143 | N | N | 129 | 14 | 53 | 4 |
| S. ATLANTIC | 8,582 | 8,879 | 116,625 | 115,897 | 3 | 3 | 258 | 226 | 65 | 44 |
| Del. | 176 | 155 | 2,239 | 1,966 | N | N | 3 | 2 | 2 | - |
| Md. | 994 | 1,399 | 12,201 | 11,971 | 3 | 3 | 17 | 16 | 13 | 17 |
| D.C. | 765 | 399 | 2,101 | 2,423 | - | - | 12 | 4 | - | - |
| Va. | 655 | 607 | 12,536 | 13,056 | - | - | 35 | 12 | 6 | - |
| W. Va. | 61 | 67 | 1,916 | 1,836 | N | N | 4 | 2 | - | - |
| N.C. | 869 | 760 | 19,337 | 18,486 | N | N | 34 | 28 | - | - |
| S.C.† | 551 | 608 | 11,795 | 10,848 | - | - | 3 | 6 | 1 | 1 |
| Ga. | 1,369 | 1,236 | 24,292 | 23,747 | - | - | 79 | 90 | 15 | 19 |
| Fla. | 3,142 | 3,648 | 30,208 | 31,564 | N | N | 71 | 66 | 28 | 7 |
| E.S. CENTRAL | 1,306 | 1,384 | 39,076 | 39,667 | N | N | 97 | 104 | 20 | 237 |
| Ky. | 111 | 222 | 5,934 | 6,582 | N | N | 21 | 4 | 4 | 30 |
| Tenn. | 575 | 566 | 15,051 | 12,106 | N | N | 32 | 50 | 6 | 1 |
| Ala. | 308 | 298 | 9,097 | 12,228 | - | - | 35 | 43 | 10 | 23 |
| Miss. | 312 | 298 | 8,994 | 8,751 | N | N | 9 | 7 | - | 183 |
| W.S. CENTRAL | 3,128 | 3,308 | 74,155 | 81,671 | - | 10 | 46 | 51 | 166 | 370 |
| Ark. | 127 | 190 | 5,754 | 5,699 | - | - | 13 | 7 | 11 | 8 |
| La. | 414 | 808 | 12,610 | 14,584 | N | N | 2 | 9 | 2 | 191 |
| Okla. | 154 | 155 | 6,828 | 8,520 | N | N | 10 | 11 | 13 | - |
| Tex. | 2,433 | 2,155 | 48,963 | 52,868 | - | 10 | 21 | 24 | 140 | 171 |
| MOUNTAIN | 1,152 | 1,025 | 34,244 | 38,090 | 1,957 | 2,142 | 104 | 125 | 245 | 1 |
| Mont. | 11 | 9 | 1,325 | 1,614 | N | N | 17 | 4 | 200 | - |
| Idaho | 17 | 24 | 1,860 | 1,832 | N | N | 20 | 23 | - | 1 |
| Wyo. | 6 | 8 | 739 | 692 | 1 | - | 4 | 9 | 41 | - |
| Colo. | 296 | 211 | 8,147 | 10,519 | N | N | 27 | 45 | - | - |
| N. Mex. | 92 | 65 | 5,052 | 5,620 | 5 | 7 | 8 | 18 | 2 | - |
| Ariz. | 490 | 432 | 9,880 | 11,147 | 1,914 | 2,093 | 5 | 11 | - | - |
| Utah | 47 | 49 | 3,114 | 2,182 | 9 | 11 | 16 | 11 | 1 | - |
| Nev. | 193 | 227 | 4,127 | 4,484 | 28 | 31 | 7 | 4 | 1 | - |
| PACIFIC | 4,898 | 3,537 | 105,910 | 102,892 | 851 | 1,192 | 265 | 216 | 4 | - |
| Wash. | 311 | 336 | 12,264 | 10,875 | N | N | 25 | 22 | - | - |
| Oreg. | 184 | 234 | 4,709 | 5,033 | - | - | 33 | 33 | 4 | - |
| Calif. | 4,319 | 2,858 | 83,679 | 80,929 | 851 | 1,192 | 206 | 159 | - | - |
| Alaska | 13 | 22 | 2,693 | 2,727 | - | - | 1 | - | - | - |
| Hawaii | 71 | 87 | 2,565 | 3,328 | - | - | - | 2 | - | - |
| Guam | 6 | 1 | - | 481 | - | - | - | - | - | - |
| P.R. | 787 | 798 | 1,391 | 1,917 | N | N | N | N | - | - |
| V.I. | 25 | 63 | 142 | 125 | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | 2 | U | - | U | - | U | - | U | - | U |

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

* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

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

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update August 31, 2003.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 27, 2003, and September 28, 2002 (39th Week)*

| Reporting area | <i>Haemophilus influenzae</i> , invasive† | | | | | | | | Hepatitis (viral, acute), by type | |
|----------------|---|-----------|--------------|-----------|----------------|-----------|------------------|-----------|-----------------------------------|-----------|
| | All ages | | Age <5 years | | | | | | A | |
| | All serotypes | | Serotype b | | Non-serotype b | | Unknown serotype | | Cum. 2003 | Cum. 2002 |
| | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | | |
| UNITED STATES | 1,292 | 1,266 | 15 | 25 | 72 | 102 | 135 | 116 | 4,444 | 6,894 |
| NEW ENGLAND | 103 | 85 | 1 | - | 6 | 8 | 5 | 2 | 232 | 243 |
| Maine | 4 | 1 | - | - | - | - | 1 | - | 9 | 8 |
| N.H. | 11 | 7 | 1 | - | - | - | - | - | 11 | 11 |
| Vt. | 7 | 6 | - | - | - | - | - | - | 6 | 1 |
| Mass. | 47 | 40 | - | - | 6 | 4 | 3 | 2 | 133 | 110 |
| R.I. | 6 | 10 | - | - | - | - | 1 | - | 12 | 30 |
| Conn. | 28 | 21 | - | - | - | 4 | - | - | 61 | 83 |
| MID. ATLANTIC | 296 | 234 | - | 2 | 1 | 14 | 38 | 20 | 892 | 882 |
| Upstate N.Y. | 110 | 91 | - | 2 | 1 | 4 | 11 | 6 | 94 | 141 |
| N.Y. City | 47 | 55 | - | - | - | - | 10 | 9 | 324 | 340 |
| N.J. | 52 | 46 | - | - | - | - | 6 | 5 | 103 | 149 |
| Pa. | 87 | 42 | - | - | - | 10 | 11 | - | 371 | 252 |
| E.N. CENTRAL | 183 | 248 | 4 | 3 | 7 | 9 | 28 | 32 | 476 | 861 |
| Ohio | 58 | 63 | - | - | - | 1 | 10 | 7 | 84 | 241 |
| Ind. | 37 | 35 | 1 | 1 | 4 | 7 | - | - | 58 | 38 |
| Ill. | 58 | 97 | - | - | - | - | 14 | 17 | 146 | 233 |
| Mich. | 19 | 11 | 3 | 2 | 3 | 1 | 1 | - | 150 | 179 |
| Wis. | 11 | 42 | - | - | - | - | 3 | 8 | 38 | 170 |
| W.N. CENTRAL | 92 | 56 | 1 | 1 | 7 | 2 | 12 | 4 | 145 | 243 |
| Minn. | 36 | 36 | 1 | 1 | 7 | 2 | 2 | 2 | 37 | 36 |
| Iowa | - | 1 | - | - | - | - | - | - | 25 | 54 |
| Mo. | 36 | 11 | - | - | - | - | 10 | 2 | 51 | 73 |
| N. Dak. | 1 | 4 | - | - | - | - | - | - | - | 1 |
| S. Dak. | 1 | 1 | - | - | - | - | - | - | - | 3 |
| Nebr. | 2 | - | - | - | - | - | - | - | 8 | 16 |
| Kans. | 16 | 3 | - | - | - | - | - | - | 24 | 60 |
| S. ATLANTIC | 302 | 288 | 1 | 5 | 12 | 15 | 14 | 22 | 1,067 | 1,900 |
| Del. | - | - | - | - | - | - | - | - | 4 | 11 |
| Md. | 67 | 72 | - | 2 | 5 | 3 | - | 1 | 110 | 243 |
| D.C. | - | - | - | - | - | - | - | - | 30 | 65 |
| Va. | 41 | 25 | - | - | - | - | 5 | 4 | 69 | 97 |
| W. Va. | 14 | 16 | - | - | - | 1 | - | 1 | 14 | 15 |
| N.C. | 35 | 30 | - | - | 3 | 3 | 1 | - | 72 | 182 |
| S.C. | 3 | 11 | - | - | - | - | - | 2 | 26 | 54 |
| Ga. | 54 | 61 | - | - | - | - | 5 | 10 | 408 | 367 |
| Fla. | 88 | 73 | 1 | 3 | 4 | 8 | 3 | 4 | 334 | 866 |
| E.S. CENTRAL | 59 | 54 | 1 | 1 | - | 4 | 8 | 10 | 158 | 206 |
| Ky. | 4 | 4 | - | - | - | 1 | - | - | 25 | 41 |
| Tenn. | 33 | 27 | - | - | - | - | 4 | 7 | 105 | 83 |
| Ala. | 20 | 14 | 1 | 1 | - | 3 | 3 | 1 | 14 | 32 |
| Miss. | 2 | 9 | - | - | - | - | 1 | 2 | 14 | 50 |
| W.S. CENTRAL | 52 | 46 | 1 | 2 | 7 | 8 | 3 | 2 | 201 | 809 |
| Ark. | 7 | 1 | - | - | 1 | - | - | - | 17 | 45 |
| La. | 7 | 6 | - | - | - | - | 2 | 2 | 38 | 64 |
| Okla. | 35 | 37 | - | - | 6 | 8 | 1 | - | 10 | 39 |
| Tex. | 3 | 2 | 1 | 2 | - | - | - | - | 136 | 661 |
| MOUNTAIN | 128 | 139 | 4 | 4 | 18 | 25 | 17 | 13 | 364 | 439 |
| Mont. | - | - | - | - | - | - | - | - | 7 | 12 |
| Idaho | 4 | 2 | - | - | - | - | 1 | 1 | - | 24 |
| Wyo. | 1 | 2 | - | - | - | - | - | - | 1 | 2 |
| Colo. | 26 | 26 | - | - | - | - | 5 | 2 | 56 | 67 |
| N. Mex. | 14 | 22 | - | - | 4 | 6 | 1 | 1 | 15 | 20 |
| Ariz. | 64 | 62 | 4 | 2 | 6 | 14 | 8 | 6 | 209 | 237 |
| Utah | 11 | 14 | - | 1 | 5 | 3 | 2 | - | 34 | 39 |
| Nev. | 8 | 11 | - | 1 | 3 | 2 | - | 3 | 42 | 38 |
| PACIFIC | 77 | 116 | 2 | 7 | 14 | 17 | 10 | 11 | 909 | 1,311 |
| Wash. | 9 | 2 | - | 1 | 6 | 1 | 2 | - | 42 | 134 |
| Oreg. | 37 | 44 | - | - | - | - | 3 | 3 | 46 | 50 |
| Calif. | 17 | 39 | 2 | 6 | 8 | 16 | 4 | 4 | 806 | 1,096 |
| Alaska | - | 1 | - | - | - | - | - | 1 | 8 | 8 |
| Hawaii | 14 | 30 | - | - | - | - | 1 | 3 | 7 | 23 |
| Guam | - | - | - | - | - | - | - | - | - | - |
| P.R. | - | 1 | - | - | - | - | - | - | 26 | 177 |
| 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 2002 and 2003 are provisional and cumulative (year-to-date).

† Non-serotype b: nontypeable and type other than b; Unknown serotype: type unknown or not reported. Previously, cases reported without type information were counted as non-serotype b.

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 27, 2003, and September 28, 2002 (39th Week)*

| Reporting area | Salmonellosis | | Shigellosis | | Streptococcal disease, invasive, group A | | <i>Streptococcus pneumoniae</i> , invasive | | | |
|----------------|---------------|--------------|--------------|--------------|---|--------------|--|--------------|--------------|--------------|
| | | | | | | | Drug resistant, all ages | | Age <5 years | |
| | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 |
| UNITED STATES | 28,208 | 31,144 | 15,835 | 14,264 | 4,201 | 3,656 | 1,620 | 1,859 | 327 | 248 |
| NEW ENGLAND | 1,598 | 1,667 | 236 | 255 | 333 | 274 | 40 | 89 | 6 | 2 |
| Maine | 99 | 108 | 6 | 4 | 22 | 20 | - | - | - | - |
| N.H. | 94 | 106 | 5 | 9 | 21 | 31 | - | - | N | N |
| Vt. | 52 | 66 | 6 | 1 | 18 | 9 | 6 | 4 | 3 | 1 |
| Mass. | 944 | 941 | 157 | 163 | 159 | 94 | N | N | N | N |
| R.I. | 107 | 122 | 14 | 12 | 11 | 14 | 10 | 12 | 3 | 1 |
| Conn. | 302 | 324 | 48 | 66 | 102 | 106 | 24 | 73 | U | U |
| MID. ATLANTIC | 3,270 | 4,202 | 1,690 | 1,288 | 765 | 583 | 100 | 88 | 75 | 60 |
| Upstate N.Y. | 856 | 1,131 | 325 | 208 | 305 | 235 | 55 | 75 | 58 | 49 |
| N.Y. City | 876 | 1,065 | 287 | 360 | 101 | 133 | U | U | U | U |
| N.J. | 358 | 816 | 206 | 476 | 130 | 124 | N | N | N | N |
| Pa. | 1,180 | 1,190 | 872 | 244 | 229 | 91 | 45 | 13 | 17 | 11 |
| E.N. CENTRAL | 4,080 | 4,322 | 1,319 | 1,609 | 900 | 783 | 337 | 166 | 134 | 97 |
| Ohio | 1,091 | 1,021 | 254 | 480 | 255 | 174 | 219 | 33 | 77 | 5 |
| Ind. | 461 | 408 | 125 | 79 | 94 | 41 | 118 | 131 | 35 | 46 |
| Ill. | 1,289 | 1,458 | 642 | 773 | 181 | 227 | - | 2 | - | - |
| Mich. | 612 | 699 | 198 | 136 | 308 | 246 | N | N | N | N |
| Wis. | 627 | 736 | 100 | 141 | 62 | 95 | N | N | 22 | 46 |
| W.N. CENTRAL | 1,880 | 1,902 | 613 | 800 | 269 | 202 | 131 | 333 | 45 | 41 |
| Minn. | 403 | 432 | 78 | 165 | 135 | 100 | - | 220 | 39 | 37 |
| Iowa | 276 | 325 | 54 | 99 | N | N | N | N | N | N |
| Mo. | 752 | 641 | 302 | 126 | 57 | 41 | 9 | 5 | 2 | 1 |
| N. Dak. | 28 | 24 | 3 | 16 | 11 | - | 3 | 1 | 4 | 3 |
| S. Dak. | 90 | 83 | 13 | 151 | 19 | 12 | 1 | 1 | - | - |
| Nebr. | 113 | 135 | 95 | 173 | 21 | 18 | - | 25 | N | N |
| Kans. | 218 | 262 | 68 | 70 | 26 | 31 | 118 | 81 | N | N |
| S. ATLANTIC | 7,571 | 7,794 | 5,699 | 4,507 | 743 | 603 | 847 | 865 | 16 | 25 |
| Del. | 61 | 71 | 148 | 139 | 6 | 2 | 1 | 3 | N | N |
| Md. | 641 | 727 | 502 | 863 | 220 | 93 | - | - | - | 19 |
| D.C. | 35 | 57 | 60 | 48 | 12 | 6 | 2 | - | 6 | 3 |
| Va. | 809 | 846 | 322 | 721 | 90 | 66 | N | N | N | N |
| W. Va. | 107 | 98 | - | 9 | 31 | 16 | 57 | 36 | 10 | 3 |
| N.C. | 959 | 1,042 | 815 | 278 | 92 | 107 | N | N | U | U |
| S.C. | 472 | 552 | 305 | 91 | 32 | 32 | 117 | 150 | N | N |
| Ga. | 1,431 | 1,443 | 1,359 | 1,030 | 93 | 115 | 197 | 219 | N | N |
| Fla. | 3,056 | 2,958 | 2,188 | 1,328 | 167 | 166 | 473 | 457 | N | N |
| E.S. CENTRAL | 1,864 | 2,318 | 669 | 1,028 | 165 | 90 | 109 | 115 | - | - |
| Ky. | 316 | 265 | 91 | 113 | 37 | 18 | 15 | 13 | N | N |
| Tenn. | 557 | 592 | 245 | 77 | 128 | 72 | 94 | 102 | N | N |
| Ala. | 406 | 598 | 198 | 538 | - | - | - | - | N | N |
| Miss. | 585 | 863 | 135 | 300 | - | - | - | - | - | - |
| W.S. CENTRAL | 2,588 | 3,352 | 2,897 | 2,198 | 189 | 244 | 33 | 161 | 47 | 19 |
| Ark. | 568 | 727 | 79 | 152 | 5 | 6 | 8 | 6 | - | - |
| La. | 258 | 585 | 144 | 352 | 1 | 1 | 25 | 152 | 10 | 6 |
| Okla. | 350 | 379 | 633 | 402 | 69 | 37 | N | N | 27 | 2 |
| Tex. | 1,412 | 1,661 | 2,041 | 1,292 | 114 | 200 | N | N | 10 | 11 |
| MOUNTAIN | 1,646 | 1,664 | 877 | 609 | 369 | 432 | 20 | 42 | 4 | 4 |
| Mont. | 78 | 75 | 2 | 3 | 2 | - | - | - | - | - |
| Idaho | 135 | 105 | 24 | 7 | 18 | 9 | N | N | N | N |
| Wyo. | 69 | 58 | 6 | 7 | 2 | 7 | 4 | 11 | - | - |
| Colo. | 379 | 469 | 209 | 134 | 111 | 90 | - | - | - | - |
| N. Mex. | 174 | 229 | 154 | 120 | 90 | 85 | 16 | 31 | - | - |
| Ariz. | 514 | 433 | 390 | 272 | 135 | 213 | - | - | N | N |
| Utah | 170 | 130 | 39 | 22 | 9 | 28 | - | - | 4 | 4 |
| Nev. | 127 | 165 | 53 | 44 | 2 | - | - | - | - | - |
| PACIFIC | 3,711 | 3,923 | 1,835 | 1,970 | 468 | 445 | 3 | - | - | - |
| Wash. | 392 | 382 | 119 | 117 | 38 | 46 | - | - | N | N |
| Oreg. | 309 | 273 | 184 | 76 | N | N | N | N | N | N |
| Calif. | 2,801 | 3,015 | 1,489 | 1,726 | 344 | 343 | N | N | N | N |
| Alaska | 55 | 46 | 7 | 4 | - | - | - | - | N | N |
| Hawaii | 154 | 207 | 36 | 47 | 86 | 56 | 3 | - | - | - |
| Guam | - | 37 | - | 27 | - | - | - | 4 | - | - |
| P.R. | 177 | 385 | 3 | 28 | N | N | N | N | N | N |
| V.I. | - | - | - | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - | U |

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

* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 27, 2003, and September 28, 2002 (39th Week)*

| Reporting area | Syphilis | | | | Tuberculosis | | Typhoid fever | | Varicella (Chickenpox) |
|----------------|---------------------|-----------|------------|-----------|--------------|-----------|---------------|-----------|------------------------|
| | Primary & secondary | | Congenital | | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | Cum. 2003 |
| | Cum. 2003 | Cum. 2002 | Cum. 2003 | Cum. 2002 | | | | | |
| UNITED STATES | 4,976 | 4,968 | 268 | 307 | 7,972 | 9,462 | 217 | 236 | 9,238 |
| NEW ENGLAND | 150 | 108 | 1 | - | 221 | 296 | 21 | 11 | 1,297 |
| Maine | 6 | 2 | 1 | - | 5 | 10 | - | - | 640 |
| N.H. | 13 | 2 | - | - | 7 | 10 | 2 | - | - |
| Vt. | - | 1 | - | - | 3 | 4 | - | - | 518 |
| Mass. | 101 | 75 | - | - | 146 | 156 | 11 | 7 | 136 |
| R.I. | 15 | 6 | - | - | 27 | 41 | 2 | - | 3 |
| Conn. | 15 | 22 | - | - | 33 | 75 | 6 | 4 | - |
| MID. ATLANTIC | 610 | 529 | 50 | 49 | 1,562 | 1,633 | 33 | 62 | 26 |
| Upstate N.Y. | 32 | 23 | 17 | 1 | 210 | 235 | 8 | 7 | N |
| N.Y. City | 340 | 313 | 25 | 21 | 847 | 783 | 13 | 31 | - |
| N.J. | 115 | 111 | 8 | 26 | 294 | 373 | 9 | 16 | - |
| Pa. | 123 | 82 | - | 1 | 211 | 242 | 3 | 8 | 26 |
| E.N. CENTRAL | 661 | 924 | 50 | 44 | 824 | 949 | 16 | 25 | 3,950 |
| Ohio | 164 | 117 | 3 | 2 | 152 | 152 | 2 | 6 | 947 |
| Ind. | 34 | 48 | 7 | 2 | 94 | 83 | 3 | 2 | - |
| Ill. | 254 | 355 | 15 | 33 | 391 | 457 | 1 | 10 | - |
| Mich. | 198 | 385 | 25 | 7 | 151 | 203 | 10 | 3 | 2,408 |
| Wis. | 11 | 19 | - | - | 36 | 54 | - | 4 | 595 |
| W.N. CENTRAL | 100 | 93 | 4 | 1 | 344 | 408 | 4 | 9 | 39 |
| Minn. | 34 | 43 | - | 1 | 138 | 172 | - | 3 | N |
| Iowa | 4 | 2 | - | - | 17 | 24 | 2 | - | N |
| Mo. | 36 | 26 | 4 | - | 91 | 110 | 1 | 2 | - |
| N. Dak. | - | - | - | - | - | 4 | - | - | 39 |
| S. Dak. | 1 | - | - | - | 16 | 10 | - | - | - |
| Nebr. | 4 | 5 | - | - | 10 | 20 | 1 | 4 | - |
| Kans. | 21 | 17 | - | - | 72 | 68 | - | - | - |
| S. ATLANTIC | 1,326 | 1,245 | 48 | 69 | 1,584 | 1,948 | 40 | 30 | 1,655 |
| Del. | 4 | 10 | - | - | - | 13 | - | - | 21 |
| Md. | 220 | 149 | 8 | 13 | 172 | 217 | 8 | 7 | - |
| D.C. | 38 | 41 | - | 1 | - | - | - | - | 22 |
| Va. | 63 | 53 | 1 | 1 | 186 | 204 | 11 | 3 | 466 |
| W. Va. | 2 | 2 | - | - | 12 | 26 | - | - | 967 |
| N.C. | 122 | 219 | 16 | 17 | 231 | 242 | 7 | 1 | N |
| S.C. | 81 | 94 | 4 | 9 | 120 | 135 | - | - | 179 |
| Ga. | 321 | 272 | 5 | 13 | 250 | 393 | 7 | 5 | - |
| Fla. | 475 | 405 | 14 | 15 | 613 | 718 | 7 | 14 | N |
| E. S. CENTRAL | 233 | 372 | 12 | 21 | 472 | 571 | 4 | 4 | - |
| Ky. | 29 | 73 | 1 | 3 | 89 | 99 | - | 4 | N |
| Tenn. | 96 | 135 | 5 | 7 | 157 | 223 | 2 | - | N |
| Ala. | 90 | 130 | 4 | 7 | 159 | 157 | 2 | - | - |
| Miss. | 18 | 34 | 2 | 4 | 67 | 92 | - | - | - |
| W. S. CENTRAL | 677 | 642 | 49 | 68 | 1,077 | 1,434 | 15 | 24 | 1,839 |
| Ark. | 41 | 27 | - | 7 | 69 | 98 | - | - | - |
| La. | 103 | 117 | - | - | - | - | - | - | 4 |
| Okla. | 34 | 51 | 1 | 2 | 90 | 123 | - | - | N |
| Tex. | 499 | 447 | 48 | 59 | 918 | 1,213 | 15 | 24 | 1,835 |
| MOUNTAIN | 218 | 239 | 21 | 13 | 291 | 303 | 5 | 9 | 432 |
| Mont. | - | - | - | - | 5 | 6 | - | - | N |
| Idaho | 5 | 1 | - | - | 5 | 11 | - | - | N |
| Wyo. | - | - | - | - | 3 | 2 | - | - | 44 |
| Colo. | 19 | 50 | 3 | 2 | 62 | 64 | 3 | 4 | - |
| N. Mex. | 38 | 26 | - | - | 6 | 29 | - | 1 | - |
| Ariz. | 143 | 148 | 18 | 11 | 159 | 156 | 2 | - | 4 |
| Utah | 4 | 5 | - | - | 29 | 21 | - | 2 | 384 |
| Nev. | 9 | 9 | - | - | 22 | 14 | - | 2 | - |
| PACIFIC | 1,001 | 816 | 33 | 42 | 1,597 | 1,920 | 79 | 62 | - |
| Wash. | 58 | 44 | - | 1 | 187 | 182 | 3 | 4 | - |
| Oreg. | 32 | 12 | - | - | 83 | 88 | 4 | 2 | - |
| Calif. | 909 | 753 | 33 | 40 | 1,238 | 1,497 | 71 | 53 | - |
| Alaska | - | - | - | - | 43 | 39 | - | - | - |
| Hawaii | 2 | 7 | - | 1 | 46 | 114 | 1 | 3 | - |
| Guam | - | 6 | - | - | - | 55 | - | - | - |
| P.R. | 152 | 193 | 1 | 21 | 75 | 86 | - | - | 288 |
| V.I. | 1 | 1 | - | - | - | - | - | - | - |
| Amer. Samoa | U | U | U | U | U | U | U | U | U |
| C.N.M.I. | - | U | - | U | - | U | - | U | - |

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

* Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

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