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Legionnaires Disease Associated with Potable Water in a Hotel — Ocean City, Maryland, October 2003–February 2004

During October 2003–February 2004, eight cases (seven confirmed cases and one possible) of Legionnaires disease (LD) were identified among guests at a hotel in Ocean City, Maryland. This report summarizes the subsequent investigation conducted by the Worcester County Health Department (WCHD), Maryland Department of Health and Mental Hygiene (DHMH), and CDC, which implicated the potable hot water system of the hotel as the most likely source of infection. The detection of this outbreak underscores the importance of enhanced, state-based surveillance for timely detection of travel-associated LD and implementation of control measures.

On December 1, 2003, a local health department (LHD) notified DHMH of two LD cases in Maryland residents who had stayed at hotel A during the 2–10-day incubation period. The two patients had stays in hotel A of 3 and 4 days; their onsets of illness occurred 8 and 5 days, respectively, after leaving hotel A. Both patients had radiographically confirmed pneumonia and positive *Legionella* urinary antigen tests that were consistent with *L. pneumophila* serogroup 1 (Lp1) infection. The two patients had stayed at hotel A within 1 day of each other and were linked epidemiologically through travel information collected by LHDs in Maryland by using the DHMH report form for LD. This form collects information regarding location, accommodations, and dates of travel for the 10 days preceding illness. Review of LD case report forms revealed six additional LD patients with reported travel to Ocean City during the preceding year; however, none had stayed at hotel A.

After environmental inspections and water sampling of hotel A by WCHD, multiple samples from multiple sites in the hotel revealed the presence of Lp1. On January 26, 2004, hotel A attempted remediation by superheating water systems, flushing all water taps, and hyperchlorinating the cooling tower. Showers and faucets were reportedly disinfected, and

shower heads and sink aerators were replaced in rooms where patients had stayed.

Case Findings

After the initial cases were identified, enhanced surveillance was conducted, including postings on the CDC (*Epidemic Information Exchange (Epi-X)*) and a rapid review of all DHMH case report forms for LD. In February 2004, two additional LD patients were identified, including one person who had stayed at hotel A after remediation. On the basis of this finding and the potential for ongoing but undetected transmission of *Legionella*, CDC was invited to join the investigation.

To identify additional cases, neighboring jurisdictions, acute care hospital emergency departments, and all LHDs in Maryland were notified. Press releases and hotel A guest notifications were issued by DHMH, WCHD, and hotel A. Reports of persons with illness after a visit to Ocean City were reviewed by WCHD and DHMH to determine whether criteria for the LD case definition were met. A confirmed case of LD was defined as radiographically confirmed pneumonia with laboratory evidence of *Legionella* infection in a resident or visi-

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tor to Ocean City during October 2003–February 2004, whose illness began within 10 days of time spent in Ocean City. Laboratory confirmation included identification of *Legionella* by culture, direct fluorescent antibody testing, urine antigen assay, or an increase in antibody titer indicating recent infection. Possible LD cases were defined similarly but without laboratory confirmation of *Legionella* infection or other infectious etiology.

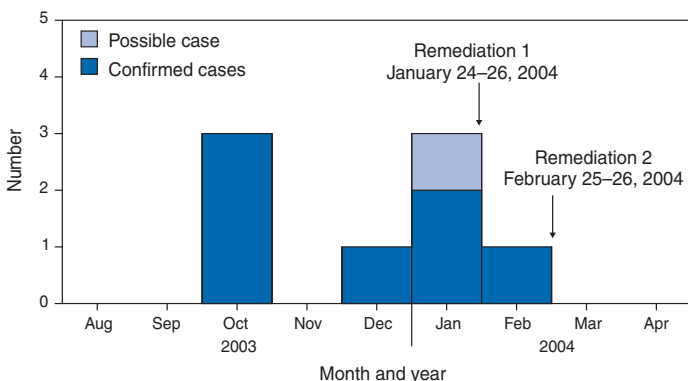
Enhanced surveillance identified approximately 50 ill persons with exposure to hotel A. Further investigation resulted in identification of three additional confirmed cases and one possible case, for overall totals of seven confirmed and one possible case of LD during October 2003–February 2004 (Figure). The median length of stay at hotel A was 3 nights (range: 1–4 nights). Symptom onset occurred a median of 7.5 days (range: 4–9 days) after leaving hotel A. The median age of the eight patients was 63 years (range: 37–70 years), and six (75%) patients were men. Underlying medical conditions associated with increased risk for LD included smoking (five patients), diabetes (four patients), and an immunocompromised condition (one patient). Five cases were confirmed by urine antigen testing and two by serology. Seven patients were hospitalized; none died (Table).

A review of possible exposures at hotel A among the patients with confirmed LD revealed that all had showered or bathed in their respective rooms, and one had used the whirlpool spa. Six patients reported exposure to the swimming pool and whirlpool area. No other common sources of exposure linking all cases were identified.

Environmental Investigation

During December 2003–February 2004, WCHD, DHMH, and CDC conducted three environmental inspections and four rounds of water testing at hotel A. The hotel remained open during the inspections and testing. The rooms in which the seven confirmed patients stayed were located in different areas and on different floors of the hotel. During all rounds of testing, water temperatures in multiple locations were in an ideal range for growth and amplification of *Legionella* (77°F–108°F [25°C–42°C]). Lp1 was recovered from multiple sites in hotel A, including the hot water storage tank; cooling tower; multiple hot water heaters; and showers and faucets in rooms occupied by patients and well guests. All environmental Lp1 isolates were the same monoclonal antibody type 1,2,5,* (testing for type 6 was not conducted). Despite isolation of Lp1 from sites in hotel A, cultured isolates from patients were not available to link with environmental isolates through use of monoclonal antibody testing.

FIGURE. Number* of cases of Legionnaires disease associated with guests at hotel A, by month and year of stay — Ocean City, Maryland, October 2003–February 2004



* N = eight.

TABLE. Number* and percentage of hotel A guests with Legionnaires disease, by selected characteristics — Ocean City, Maryland, October 2003–February 2004

Characteristic	No.	(%)
Age (yrs)		
Range: 37–70	N/A†	
Mean: 60	N/A	
Median: 63	N/A	
Sex		
Male	6	(75)
Female	2	(25)
No. of nights at hotel A		
Range: 1–4	N/A	
Mean: 3	N/A	
Median: 3	N/A	
Testing method for case confirmation		
Urine antigen	5	(71)
Paired serology	2	(29)
Underlying risk factors		
Diabetes mellitus	4	(50)
Immunocompromised	1	(13)
Smoker	5	(63)
Hospitalized	7	(88)
Survived	8	(100)

* N = eight; seven cases were confirmed.

† Not applicable.

After the third and fourth cases of LD were identified, a second superheating remediation was conducted at hotel A in February 2004. In addition, shower necks and faucets in all hotel rooms and condominiums were reportedly disinfected with a bleach solution. The whirlpool spa sand filter was cleaned. In March 2004, given the apparent inadequacy of the initial remediation, the potable water system was hyperchlorinated, and a postremediation plan for water testing for *Legionella* was instituted. Since the hyperchlorination treatment, no further cases of LD associated with hotel A have been identified. During postremediation follow-up testing,

one Lp1 isolate from the cooling tower was identified at a low level, and the cooling tower was hyperchlorinated. DHMH continues to monitor for additional cases associated with hotel A and for all travel-associated LD cases.

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Editorial Note: Hotels have been common locations for LD outbreaks since the disease was first recognized among hotel guests in Philadelphia in 1976 (1,2). In this report, the exposure of patients to the hotel's potable water system, the lack of other epidemiologic links, and the recovery of *Legionellae* from multiple points in the system suggest that the hotel potable water system was the source of the outbreak. Approximately 8 million visitors travel to Ocean City each year; therefore, a link between the first two cases was not immediately evident. Available data were searched to identify additional cases associated with the hotel or travel to Ocean City. Active surveillance activities led to more rapid identification of other cases. The retrospective identification of these cases prompted further investigation and subsequent control and remediation efforts at hotel A.

In 2003, DHMH began conducting enhanced surveillance because of increased reports of LD. All patients reported to DHMH are administered a follow-up questionnaire by local or state health departments. The questionnaire identifies travel that preceded the illness, including location, accommodations, dates, and information about exposures to common sources for infection, such as whirlpool spas and cooling towers.

Surveillance data submitted to CDC indicate that approximately 21% of LD cases each year are travel associated (3). However, several factors hinder identification of travel-associated clusters of the disease. The LD incubation period is long enough for persons to disperse from the point source of infection. In addition, LD can be treated successfully with empiric antibiotics, which obviates the need for confirmatory testing. When diagnostic testing is performed, isolation of the organism is rare, preventing comparison of environmental isolates with clinical isolates.

Improved national surveillance for travel-associated LD might help detect clusters of the disease. Surveillance for LD in the United States consists of two systems, a national, paper-based system and an electronic system reported through the National Electronic Telecommunications System for Surveillance. Only the paper case-report form collects information on location of travel and lodging. Although the paper case-report form is useful for tracking overall trends, a lack of

timeliness and sensitivity, often resulting in an inability to link cases, limits its usefulness in identifying clusters (4).

The European Working Group for Legionella Infections, established in 1986, has developed a successful surveillance system for identifying clusters of travel-associated LD. The European Surveillance Scheme for Travel-Associated Legionnaires Disease, which consists of 36 collaborating countries, compiles case data electronically and cross-checks travel accommodations with other cases to identify clusters. During 2000–2002, a total of 113 travel-associated LD clusters were reported, with the majority linked to hotels. Since introduction of the European group's guidelines in July 2002, all LD clusters are investigated, and remediation and control measures are instituted when necessary (5,6).

The European and DHMH programs demonstrate how timely, sensitive surveillance can identify clusters of travel-associated LD. Prompt recognition and investigation of clusters can implicate a point source for infection and guide remediation and control efforts. Recognizing the benefits of enhanced surveillance, CDC plans to work with state health departments on new strategies to improve surveillance for travel-associated LD at the national, state, and local levels.

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References

1. Benin AL, Benson RF, Arnold KE, et al. An outbreak of travel-associated Legionnaires disease and Pontiac fever: the need for enhanced surveillance of travel-associated LD in the United States. *J Infect Dis* 2002;185:237–43.
2. Fraser DW, Tsai TR, Orenstein W, et al. Legionnaires disease: description of an epidemic of pneumonia. *N Engl J Med* 1977;297:1189–97.
3. Benin AL, Benson RF, Besser RE. Trends in Legionnaires disease, 1990–1998: declining mortality and new patterns of diagnosis. *Clin Infect Dis* 2002;35:1039–46.
4. Fields BS, Benson RF, Besser RE. *Legionella* and Legionnaires disease: 25 years of investigation. *Clin Microbiol Rev* 2002;15:506–26.
5. Joseph CA, European Working Group for Legionella Infections. Legionnaires disease in Europe 2000–2002. *Epidemiol Infect* 2004;132:417–24.
6. European Surveillance Scheme for Travel Associated Legionnaires Disease, European Working Group for Legionella Infections. European guidelines for control and prevention of travel associated Legionnaires disease. London, England: European Surveillance Scheme for Travel Associated Legionnaires Disease, European Working Group for Legionella Infections; 2005. Available at http://www.ewgli.org/pdf_files/guidelinesjanuary2005.pdf.

Fatal Bacterial Infections Associated with Platelet Transfusions — United States, 2004

Each year, approximately 9 million platelet-unit concentrates are transfused in the United States (1); an estimated one in 1,000–3,000 platelet units are contaminated with bacteria, resulting in transfusion-associated sepsis in many recipients (2). To reduce this risk, AABB (formerly the American Association of Blood Banks) adopted a new standard on March 1, 2004, that requires member blood banks and transfusion services to implement measures to detect and limit bacterial contamination in all platelet components (3). This report summarizes two fatal cases of transfusion-associated sepsis in platelet recipients in 2004 and describes results of a 2004 survey of infectious-disease consultants regarding their knowledge of transfusion-associated bacterial infections and the new AABB standard. Health-care providers should be aware of the new standard and the need for bacterial testing of platelets to improve transfusion safety. However, health-care providers also should be able to diagnose transfusion-associated infections, because even when testing complies with the new standard, false negatives can occur and fatal bacterial sepsis can result.

Case Reports

Patient A. In October 2004, a man aged 74 years in Ohio with leukemia received a transfusion consisting of a pool of five platelet unit concentrates. Before transfusion, the pooled platelet unit had been tested for bacterial contamination with a reagent strip test (Multistix[®], Bayer Diagnostics, Tarrytown, New York) to determine the pH level, a means for detecting the presence of bacteria. Because the pH test result was within the accepted range for quality control (i.e., pH > 6.4) of the clinic's blood bank, the pooled unit was approved for transfusion. After transfusion, the patient had hypotension the same day and was admitted to a local hospital. The patient's blood cultures grew *Staphylococcus aureus*, and the patient died 21 days after hospital admission. *S. aureus* also was cultured from the leftover platelet unit bag; isolates from the patient's blood and the platelet bag were indistinguishable by pulsed-field gel electrophoresis (PFGE).

Patient B. In December 2004, a man aged 79 years in Utah received a transfusion of pheresis platelets for thrombocytopenia after coronary artery bypass surgery. Before transfusion, platelets from the unit bag were tested for bacterial contamination with liquid culture media (BacT/Alert[®], BioMerieux Inc., Durham, North Carolina) by using 4 mL in a standard aerobic blood culture bottle and were found to be negative after 5 days' incubation. Approximately 1 hour after

transfusion, the patient had shortness of breath, chills, and a temperature of 102.9°F (39.4°C) and became hypotensive. Subsequently, the patient had multiple thrombotic events and died 27 hours later. *S. lugdunensis* was cultured from the patient's blood and the leftover platelet bag; these isolates were indistinguishable by PFGE.

Survey of Infectious-Disease Consultants

To assess clinician experience with transfusion-associated bacterial infections and knowledge of the new AABB standard, the Infectious Diseases Society of America (ISDA) conducted a survey of infectious-disease consultants in the United States. The survey was distributed via e-mail and fax during July 27–August 24, 2004, to all 870 infectious-disease consultant members of the Emerging Infections Network, a sentinel provider network of ISDA (4).

Completed surveys were received from 399 (46%) of the 870 members. Forty-eight (12%) respondents recalled consulting on 85 reactions to blood transfusions (i.e., of all types) potentially caused by bacterial contamination; 10 reactions were fatal. In 26 (31%) cases, contamination was confirmed by positive cultures of the recipient's blood and transfused unit. The most common pathogens recovered were *Staphylococcus* and *Serratia* spp.

A total of 143 (36%) respondents reported they were aware that bacterial contamination of platelets is one of the most common infectious risks of transfusion therapy. Seventy-eight (20%) indicated they had been familiar with the new AABB standard for bacterial detection in platelets before the survey; 359 (90%) believed health-care providers need to be aware of the standard.

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Editorial Note: Transfusion-associated bacterial sepsis is the second most frequently reported cause of transfusion-related fatalities in the United States, accounting for 46 (17%) of 277 reported transfusion deaths during 1990–1998 (5). Contaminated platelets are estimated to cause life-threatening sepsis in one in 100,000 recipients and immediate fatal outcome in one in 500,000 recipients. These risks are greater than those estimated for transfusion-transmitted viral infections (e.g., hepatitis C virus [HCV] or human immunodeficiency virus

[HIV]) (6). In addition, because bacterial infections attributed to contaminated platelets are underreported, the actual risk to transfusion recipients is likely greater than present estimates (7). Health-care providers should be aware of bacterial contamination as a potential cause of transfusion reaction so they can diagnose illness, treat patients appropriately, and evaluate interventions that might prevent additional transmissions.

Platelets are particularly vulnerable to bacterial growth because they are stored at room temperature for up to 5 days, whereas other blood components are refrigerated or frozen. Gram-positive bacteria (e.g., *Staphylococcus* spp.) found on skin are the most frequent contaminants of platelet units. Although less commonly recognized as contaminants, gram-negative bacteria (e.g., *Serratia*, *Enterobacter*, or *Salmonella* spp.) account for more severe and often fatal infections and are attributed to donor bacteremia or contamination during product processing (6). Bacterial contamination of the blood component often is not considered in the differential diagnosis at the time of transfusion reaction because signs and symptoms (e.g., fever, rigors, or change in blood pressure) are similar to those expected from sepsis from other causes (7).

AABB has suggested several strategies to assist transfusion services and blood banks in reducing transfusion of bacterially contaminated platelet components and complying with the new standard, including testing for contamination and methods for improved skin disinfection. The College of American Pathologists has also added bacterial contamination testing to the transfusion medicine checklist of their Laboratory Accreditation Program (8). The Food and Drug Administration (FDA) has approved three bacterial culture systems for use in quality-control testing to monitor contamination of platelets (BacT/Alert®; Scansystem®, Hemosystem, S.A., Marseille, France; and Pall eBDS, Medsep Corporation, Covina, California). However, despite the new AABB standards, approaches to testing vary and do not always include culture-based methods. The use of pH tests such as the one used on the platelet unit for patient A are also an option under the AABB standard.

Apheresis platelets are derived from single donors; whole-blood-derived platelets are pooled from multiple donors. Most blood-collection centers culture only apheresis platelets and release the unit after culture; most commonly, the unit is held for 12–48 hours of incubation before release. Hospital transfusion services are responsible for bacterial testing of whole-blood-derived platelets. Because pooling is performed immediately before transfusion, culture-based tests are logistically difficult and costly to implement for whole-blood-derived platelets. Some hospitals have implemented non-culture-based methods (e.g., glucose or pH indicators) to test whole-blood-derived platelets, although the sensitivity of these methods

generally is less than culture-based methods and can result in frequent false-negative results (9). However, as the cases described in this report illustrate, false-negative results can result from both culture and nonculture testing methods. In addition, deviation from culture methods that meet manufacturer's recommendations (e.g., decreased blood volume) can result in reduced sensitivity and produce false negatives. For patient B, the volume of the platelet sample was less than the manufacturer's recommended volume for platelet screening.

The survey of infectious-disease consultants provides an indication of the gap in clinician knowledge of transfusion-associated bacterial infections. Only 36% of respondents were aware that bacterial contamination of platelet transfusion is one of the most common infectious risks from transfusion, and only 20% were familiar with the new AABB standard for bacterial testing of platelets.

AABB and other accrediting organizations recommend that health-care facilities implement protocols to help clinicians recognize and manage transfusion reactions, including those potentially caused by bacterial contamination. Post-transfusion notification of appropriate persons (e.g., clinicians caring for the patient) is recommended if cultures identify slow-growing bacteria after product release or transfusion. If bacterial contamination of a component is suspected, the transfusion should be stopped immediately, the unit should be saved for further testing, and blood cultures should be obtained from the recipient. Bacterial isolates from cultures of the recipient and unit should be saved for further investigation.

To improve bacterial testing and reporting, AABB provided additional guidance (10) on standardized definitions for test results, investigation and management of implicated units and associated co-components, and laboratory testing of detected organisms. Guidance relevant for clinicians includes 1) situations in which a positive test result is encountered after transfusion of the unit or a recipient has post-transfusion bacteremia after receiving platelets that tested negative, 2) management of potentially infected donors, and 3) algorithms to be followed when organisms detected in donor testing are of clinical concern or public health importance (e.g., nationally notifiable to state and local health departments).

Despite challenges in implementation since the AABB standard was introduced in 2004, bacterial testing of platelets is important to improving transfusion safety. Detection of contaminated units can protect not only the potential recipient of the platelet unit, but potential recipients of other blood units, by identification and recall of co-components that also might be contaminated. However, regardless of method, bacterial screening is unlikely to detect all pathogens. Health-care providers should be aware of the risk for bacterial contamination of blood products, particularly platelets, and

consider the possibility of bacterial contamination when investigating febrile transfusion reactions. Clinicians should collaborate with hospital transfusion services, blood-collection centers, and public health agencies to manage suspected infections in blood donors and recipients. Transfusion-related fatalities should be reported to FDA, Center for Biologic and Evaluation Research (telephone, 301-827-6220; e-mail, fatalities2@cber.fda.gov).

References

1. Sullivan MT, Wallace EL. Blood collection and transfusion in the United States in 1999. *Transfusion* 2005;45:141–8.
2. Yomtovian R, Lazarus HM, Goodnough LT, et al. A prospective microbiologic surveillance program to detect and prevent the transfusion of bacterially contaminated platelets. *Transfusion* 1993;33:902–9.
3. AABB. Standards for blood banks and transfusion services. Bethesda, MD: AABB; 2004.
4. Executive Committee of the Infectious Diseases Society of America Emerging Infections Network. The emerging infections network: a new venture for the Infectious Diseases Society of America. *Clin Infect Dis* 1997;25:34–6.
5. Center for Biologics Evaluation and Research, Food and Drug Administration. Workshop on bacterial contamination of platelets. Bethesda, MD: Food and Drug Administration, Center for Biologics Evaluation and Research; 1999. Available at <http://www.fda.gov/cber/minutes/workshop-min.htm>.
6. Kuehnert MJ, Roth VR, Haley NR, et al. Transfusion-transmitted bacterial infection in the United States, 1998 through 2000. *Transfusion* 2001;41:1493–9.
7. Zaza S, Tokars JI, Yomtovian R, et al. Bacterial contamination of platelets at a university hospital: increased identification due to intensified surveillance. *Infect Control Hosp Epidemiol* 1994;15:82–7.
8. College of American Pathologists. Transfusion medicine. In: Sarewitz SJ, ed. Laboratory accreditation program inspection checklists. Northfield, IL: College of American Pathologists; 2004. Available at http://www.cap.org/apps/docs/laboratory_accreditation/checklists/checklistftp.html.
9. Burstain JM, Brecher ME, Workman K, et al. Rapid identification of bacterially contaminated platelets using reagent strips: glucose and pH analysis as markers of bacterial metabolism. *Transfusion* 1997;37:255–8.
10. AABB. Guidance on implementation of new bacteria and reduction standard. Bulletin 04-07. Bethesda, MD: AABB; 2004.

Tularemia Transmitted by Insect Bites — Wyoming, 2001–2003

Tularemia is a zoonotic disease caused by *Francisella tularensis*, a fastidious, gram-negative coccobacillus that infects vertebrates, especially rabbits and rodents. In humans, tularemia is classified into six major syndromes: ulceroglandular (the most common form), glandular, typhoidal, oculoglandular, oropharyngeal, and pneumonic. The case-fatality rate among humans can reach 30%–60% in untreated typhoidal cases (1). Although bites from ticks and handling infected animals are considered the most common modes of tularemia transmission in the United States (2–4), the disease also is spread through ingestion of contaminated food or water,

inhalation, and insect bites (1–5). During 2001–2003, Wyoming experienced an increase in reported human cases of tularemia. This report describes the subsequent investigation by the Wyoming Department of Health (WDH), which indicated that 1) insect bites (particularly from deerflies and other horseflies) were the most commonly reported likely mode of transmission, and 2) the increase in cases was geographically and temporally associated with an outbreak of tularemia among rabbits in southwestern Wyoming. To obtain a timely diagnosis and provide information on appropriate preventive measures, health-care providers and public health officials should have knowledge of the local epidemiology of tularemia, particularly regarding modes of transmission and resultant clinical syndromes.

Tularemia is a reportable disease in Wyoming and is designated as a nationally notifiable disease. In this investigation, a case was defined as a confirmed or probable case of tularemia reported to WDH during 1990–2003. A confirmed case was defined as a clinically compatible case with confirmatory laboratory results, which might include either isolation of *F. tularensis* in a clinical specimen or a fourfold or greater change in antibody titer. A probable case was defined as a clinically compatible case with laboratory results indicative of infection, which might include either a single elevated antibody titer or detection of *F. tularensis* in a clinical specimen by immunohistochemistry or immunofluorescence (6). A case of insect-borne tularemia was defined as tularemia that occurred within 14 days of a fly, flea, or other insect bite in a patient with no other known exposures, including tick bites and handling of infected animal tissues. Patient interviews, medical record reviews, or reviews of archived follow-up forms were conducted for each case. In this report, location refers to the geographic location of exposure, except where a definite

exposure location was not reported (four cases); in those instances, location refers to place of residence (Table; Figure 1).

During 2001–2003, a total of 11 cases (six confirmed; five probable) of tularemia were reported in Wyoming, for an average of 3.7 cases per year. In contrast, 10 cases (seven confirmed; three probable) were reported during 1990–2000, for an average of 0.9 cases per year (Figure 2).

Of the 11 cases reported during 2001–2003 (Table), nine (82%) were in male patients. Six (55%) of the tularemia cases were the ulceroglandular type, and all included insect bites as the likely mode of transmission. Two cases (18%) were the typhoidal type, and the remaining three cases were the glandular, oculoglandular, and pneumonic types (9% each). No deaths were reported.

In seven (64%) cases, insect bites (from deerflies or other horseflies in six cases; flies and/or fleas in one case) were determined to be the most likely mode of transmission. Six of these patients had ulceroglandular tularemia; one patient had typhoidal tularemia. Median age of persons for whom insect bites were the likely mode of transmission was 40 years (range: 18 months–68 years). Median age of those with other modes of transmission was 53 years (range: 40–70 years). Likely modes of transmission in the other four cases were infected rabbit exposure (one), infected sheep exposure (one), and unknown (two). In contrast, during 1990–2000, no cases were linked to insect bites. The likely modes of transmission in cases during 1990–2000 were ticks (four), rabbits (three), sheep (one), and unknown (two). Eight (73%) of the 11 cases reported during 2001–2003 were reported from counties in southwestern Wyoming (Sweetwater [five], Lincoln [two], and Uinta [one]); the remaining three (27%) were distributed among counties elsewhere in the state (one case each in Fremont, Park, and Teton counties) (Figure 1). The *F. tularensis*

TABLE. Tularemia cases, by selected characteristics — Wyoming, 2001–2003

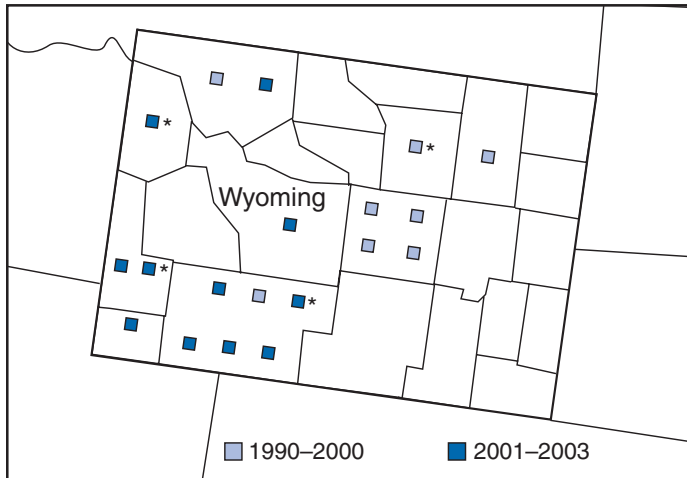
Illness onset date	Age (yrs)	Transmission mode	Type of tularemia	Location (county)	Disease status*	<i>Francisella tularensis</i> type (A or B)
7/2/2001	40	Insect bite (fly)	Ulceroglandular	Sweetwater	Confirmed	A
7/5/2001	23	Insect bite (fly)	Ulceroglandular	Sweetwater	Probable	N/A [†]
7/14/2001	38	Insect bite (fly)	Ulceroglandular	Fremont	Probable	N/A
7/27/2001	49	Insect bite (fly)	Ulceroglandular	Uinta	Confirmed	A
8/10/2001	57	Insect bite (fleas, flies)	Typhoidal	Park	Probable	N/A
9/17/2001	56	Rabbits	Typhoidal	Sweetwater [§]	Confirmed	A
7/10/2002	70	Unknown	Pneumonic	Teton [§]	Confirmed	B
8/2002	68	Insect bite (fly)	Ulceroglandular	Sweetwater	Probable	N/A
8/2002	50	Unknown	Glandular	Lincoln [§]	Probable	N/A
5/10/2003	40	Sheep shearing	Oculoglandular	Lincoln	Confirmed	A
7/24/2003	1.5	Insect bite (fly)	Ulceroglandular	Sweetwater	Confirmed	A

* A confirmed case was defined as a clinically compatible case with confirmatory laboratory results, which might include either isolation of *Francisella tularensis* in a clinical specimen or a fourfold or greater change in antibody titer. A probable case was defined as a clinically compatible case with laboratory results indicative of presumptive infection, which might include either a single elevated antibody titer or detection of *F. tularensis* in a clinical specimen by immunohistochemistry or immunofluorescence (6).

[†] Not applicable.

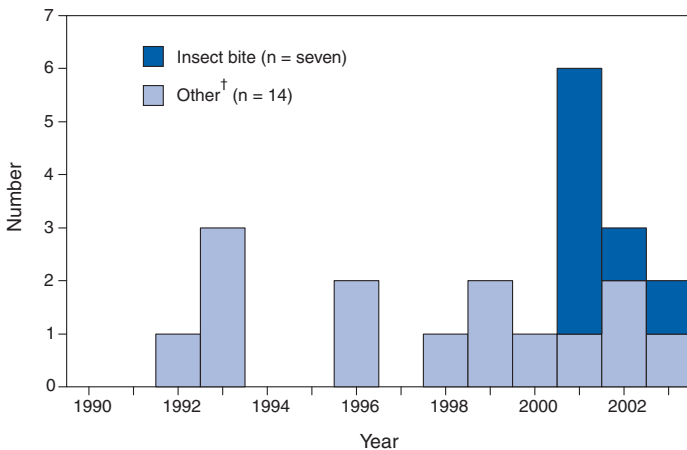
[§] Exact exposure location was not reported; location refers to county of residence.

FIGURE 1. Human cases of tularemia, by county — Wyoming, 1990–2000 and 2001–2003



* Exact exposure location was not reported; location refers to county of residence.

FIGURE 2. Number* of human cases of tularemia, by year and mode of transmission — Wyoming, 1990–2003



* N = 21.

† Includes tick bites (four), exposure to infected rabbits (four) or infected sheep (two), and unknown (four).

isolates from the six confirmed cases that occurred during 2001–2003 were further classified into types A or B. Five of these typed isolates were from cases in the southwestern region of the state, where an epizootic among rabbits was thought to have occurred; all five were classified as type A. One isolate from the northwestern region was classified as type B.

In October 2003, WDH was informed that two ill rabbits from the Seedskaadee National Wildlife Refuge in southwestern Wyoming collected in the summer and early fall of 2003 tested positive for tularemia. Refuge personnel reported an

increase in the number of dead or ill rabbits during the summers of 2002 and 2003.

Reported by: S Seys, MPH, K Musgrave, DVM, Wyoming Dept of Health. J Cassady, PhD, Drew Univ, Madison, New Jersey. J Hunt, Univ of Utah School of Medicine, Salt Lake City, Utah. T Murphy, MD, EIS Officer, CDC.

Editorial Note: The organism that causes tularemia was isolated from humans in 1919 during an investigation of the cause of deerfly fever in Utah. Laboratory studies conducted at the time confirmed that deerflies (*Chrysops discalis*) can transmit the organism among animals. Despite this original association with biting flies, most cases in the United States are attributed to noninsect exposures, especially tick bites and contact with infected animal tissues (2,3). This report illustrates how the epidemiology of tularemia can be region-dependent and change over time. Because proper diagnosis and treatment of tularemia relies on a high index of suspicion and clinical presentation is related to the method of acquisition (e.g., development of ulceroglandular tularemia after an insect bite) (1,2), health-care providers should understand the local epidemiology of tularemia. On the basis of this knowledge, public health officials can recommend locally appropriate prevention and control measures, such as wearing gloves when handling dead animals (particularly rabbits and rodents); cooking game meat thoroughly; avoiding bites of ticks, flies, and mosquitoes by using insect repellent and wearing long clothing; and avoiding drinking untreated water. In addition, a local epizootic of tularemia might correlate with an increase in human cases and should heighten awareness that tularemia might be a possibility in clinically compatible cases.

In this outbreak, insect bites accounted for 64% of recent human cases. These cases were geographically and temporally associated with an epizootic among rabbits in southwestern Wyoming. Subtyping data revealed that all isolates from humans in this area were type A, the subtype most commonly associated with rabbits (7), thereby supporting a likely connection between these events. Deerflies have been implicated in two previous outbreaks of tularemia; in both instances, a concomitant epizootic among rabbits was observed (5). Whereas enzootic cycles of tularemia might not be apparent, epizootics with die-off of animal hosts might correlate with increases of tularemia in humans (5).

The findings in this report are subject to at least two limitations. First, the likely modes of transmission in the recent Wyoming cases were determined from the histories reported by patients and therefore might be limited by recall bias. Second, other unrecognized modes of transmission might have coincided with the exposures that were reported.

As with many other diseases, proper diagnosis and treatment of tularemia relies on a high index of suspicion. Laboratory diagnosis of *F. tularensis* depends on the laboratory being notified that tularemia is a clinical possibility. Identification of the organism is important because it is often resistant to antibiotics commonly used empirically for skin and systemic infections (1,8).

Acknowledgments

This report is based, in part, on contributions by D Damberg, Seedskaadee National Wildlife Refuge, Green River; F Hall, A Heryford, MS, K Roich, Wyoming Dept of Health.

References

1. Chin J, ed. Control of communicable diseases manual. 17th ed. Washington, DC: American Public Health Association; 2000.
2. CDC. Tularemia—United States, 1990–2000. *MMWR* 2002;51:182–4.
3. Evans ME, Gregory DW, Schaffner W, et al. Tularemia: a thirty year experience with 88 cases. *Medicine* 1985;64:251–69.
4. Finley CR, Hamilton BW, Hamilton TR. Tularemia, a review. *Mo Med* 1986;83:741–3.
5. Klock LE, Olsen PF, Fukushima T. Tularemia epidemic associated with the deerfly. *JAMA* 1973;226:149–52.
6. CDC. Case definitions for infectious conditions under public health surveillance. *MMWR* 1997;46(No. RR-10).
7. Acha PN, Szyfres B. Zoonoses and communicable diseases common to man and animals. 3rd ed. Washington, DC: Pan American Health Organization; 2001.
8. Jacobs RE. Tularemia. *Adv Pediatr Infect Dis* 1996;12:55–69.

Hypothermia-Related Deaths — United States, 2003–2004

Hypothermia, a reduction in the body's core temperature to <95.0°F (<35.0°C), is a preventable medical emergency usually caused by prolonged exposure to cold temperatures without adequate protective clothing (1). Warning signs and symptoms of hypothermia include lethargy, weakness and loss of coordination, confusion, uncontrollable shivering, and reduced respiratory or heart rate (2). Common risk factors are advanced age, substance abuse, altered mental status, and increased contact with substances that promote heat loss, such as water (3). This report describes three hypothermia-related deaths that occurred in the United States during 2003–2004, summarizes hypothermia-related mortality during 1979–2002, describes risk factors for and symptoms of hypothermia, and reviews measures to prevent hypothermia-related injury and death. Public health strategies tailored to persons at increased risk for exposure to excessive cold might help reduce hypothermia-related morbidity and mortality.

Case Reports, 2003–2004

Case 1. In December 2003, a man aged 69 years with dementia was reported missing from his residence in Vermont. Despite extensive searches, his body was not found until March 2004 in the backyard of a nearby home. During that period, outdoor temperatures ranged from -14°F to 57°F (-26°C to 14°C). Descriptions and photographs of the scene suggested that the man had tried to cover himself to keep warm. Cause of death was reported as hypothermia, with dementia as a contributing factor.

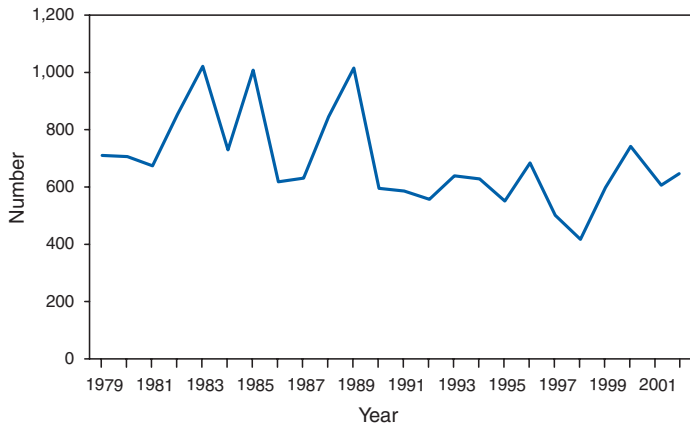
Case 2. In February 2004, a male aged 16 years was found dead 40 yards from a road in a rural park in northwestern New Mexico. He had last been seen alive the previous day when he was dropped off at high school. The boy was found wearing damp, light clothing; his jacket and neck chain were recovered a short distance away. Temperatures in this region ranged from 11°F to 42°F (-12°C to 6°C) on the day he was found. An autopsy identified minor abrasions and contusions on his face and extremities. His blood alcohol concentration (BAC) was 0.15 g/dL, nearly twice the state legal limit of 0.08 g/dL for drivers. Toxicologic analysis of blood and urine also revealed 2 ng/mL of delta-9-tetrahydrocannabinol (THC) and 50 ng/mL of delta-9-carboxy-THC, both active ingredients in marijuana that suggest recent or chronic marijuana use. The cause of death was certified as hypothermia from cold exposure, with alcohol and marijuana intoxication as contributing factors.

Case 3. In February 2004, a man aged 18 years was found dead near a creek in southeastern Alaska. He was dressed lightly for winter conditions. The man had been missing for approximately 1 day, during which temperatures had ranged from 39°F to 45°F (4°C to 7°C). Toxicologic testing revealed a BAC of 0.18 g/dL, twice the state legal limit of 0.08 g/dL for drivers, and a urine ethanol concentration of 0.28 g/dL. The cause of death was listed as combined effects of alcohol intoxication and hypothermia.

Hypothermia-Related Mortality, 1979–2002

During 1979–2002, a total of 16,555 deaths in the United States, an average of 689 per year (range: 417–1,021), were attributed to exposure to excessive natural cold (*International Classification of Diseases, Ninth and Tenth Revision* ICD-9 codes E901.0, E901.8, and E901.9; ICD-10 code X31) (Figure 1) (4). Annual death rates were highest before 1990 (range: 0.3–0.4 per 100,000 population), then decreased to 0.2 beginning in 1991, except for an increase to 0.3 in 2000.

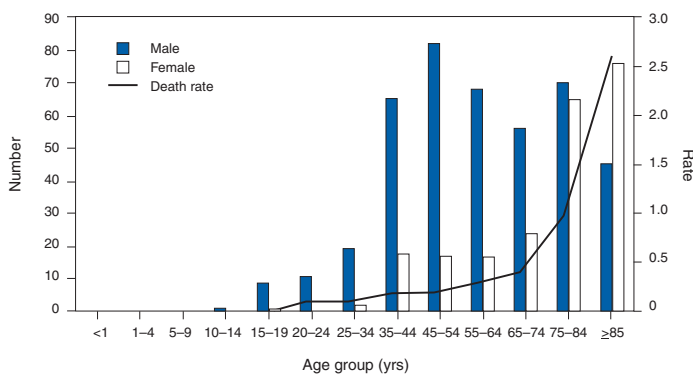
FIGURE 1. Number of hypothermia-related deaths, by year — United States, 1979–2002



In 2002, a total of 646 hypothermia-related deaths were reported, with an annual death rate of 0.2 per 100,000 population. The majority of reported hypothermia-related deaths (66%) occurred in males (Figure 2), but the overall death rate (0.5) was the same for both males and females. Fifty-two percent of all decedents were aged ≥ 65 years, and 50% were male. The death rate for males and females aged ≥ 65 years was 1.2 and 0.8, respectively. Forty-five percent of all reported deaths occurred among white males (death rate: 0.3), and 14% occurred among black males (0.5).

States with the greatest overall death rates for hypothermia in 2002 were Alaska (3.0), New Mexico (0.9), North Dakota (0.9), and Montana (0.8). In addition, hypothermia-related deaths were reported by states with characteristically milder climates that experience rapid temperature changes (e.g., North Carolina [0.4] and South Carolina [0.4]) and by western states

FIGURE 2. Number and rate* of hypothermia-related deaths, by age group and sex — United States, 2002



* Per 100,000 population.

that have high elevations and experience considerable changes in nighttime temperatures (e.g., Arizona [0.3]).

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Editorial Note: All hypothermia-related deaths are preventable. Early recognition of the signs and symptoms of hypothermia and awareness of key risk factors can help minimize morbidity and mortality from exposure to extreme cold.

Hypothermia can be classified as mild (core body temperature: 90.0°F to <95.0°F [32.2°C to <35.0°C]), moderate (82.5°F to <90.0°F [28.0°C to <32.2°C]), or severe (<82.5°F [<28.0°C]) (5). Onset of hypothermia is not always evident, although shivering, numbness, lethargy, poor coordination, and slurred speech are typical early manifestations. Among infants, warning signs also include bright red skin and low energy. When body temperature is <90.0°F [<32.2°C], shivering might not be evident, and the victim might not feel cold. In severe hypothermia, the victim loses consciousness, and a pulse might not be apparent (6).

Understanding the risk factors for hypothermia can help identify populations at risk. This report highlights three risk factors for hypothermia-related deaths: advanced age (≥ 65 years), mental impairment, and substance abuse. Additional contributing factors can include homelessness, dehydration, and serious medical conditions (2). Older persons are at particular risk because their lower metabolic rate might prevent their maintaining normal body temperatures when indoor or outdoor temperatures fall below 64.4°F (18.0°C) (1). Older persons also might not perceive cold as well as younger persons and might be slow to compensate for the cold. Hypothyroidism and diabetes can contribute to hypothermia risk through decreased metabolic rate and hypoglycemia, respectively (3). Substance abuse is another potential contributor to hypothermia; alcohol and drug use (e.g., sedatives or phenothiazines) can suppress vasoconstriction and the shivering response through cutaneous vasodilation, alter decision-making, and decrease awareness of and response to hazardous environmental conditions (3).

Immediate medical attention should be sought for persons who exhibit signs of hypothermia. Wet clothing should be removed and further heat loss prevented by warming the center of the body, using blankets for passive rewarming. Although victims might appear dead, cardiopulmonary resuscitation should be provided during warming until they respond or

until medical aid becomes available (6). Active rewarming, especially among persons with moderate to severe hypothermia, typically involves administration of warmed intravenous fluids or rewarming of the airways.

To prevent hypothermia-related deaths, public health strategies should target persons at greatest risk. During cold periods, relatives, neighbors, and caretakers of persons at high risk for hypothermia, particularly those of advanced age, should check frequently on their condition, familiarize themselves with signs of hypothermia, and take appropriate preventive action. Health departments in states characterized by milder winter climates but rapid temperature changes should identify groups at high risk for hypothermia, ensure that proper resources are available to them to minimize exposure to cold, and maintain communication with them regarding preventive measures.

Educating public safety personnel and hospital staff to better recognize hypothermia victims and to familiarize themselves with initial treatments also can help prevent hypothermia-related morbidity and mortality. Because certain signs of hypothermia, such as confusion and loss of coordination, can resemble alcohol intoxication, hypothermia victims might be sent to detoxification centers before they are sent to hospitals. Workers at detoxification centers should be aware of signs and risk factors for hypothermia and be instructed to take the temperature of potential hypothermia victims at admission (7).

References

1. Kilbourne EM. Illness due to thermal extremes. In: Last JM, Wallace RB, eds. *Public health and preventative medicine*. 13th ed. Norwalk, CT: Appleton and Lange; 1992:63–8.
2. CDC. *Extreme cold: a prevention guide to promote your personal health and safety*. Atlanta, GA: US Department of Health and Human Services, CDC; 2004. Available at <http://www.bt.cdc.gov/disasters/winter/guide.asp>.
3. Weinberg AD. Hypothermia. *Ann Emerg Med* 1993;22:370–7.
4. National Center for Health Statistics. *Compressed mortality file*. Hyattsville, MD: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2004.
5. Lazar HL. The treatment of hypothermia. *N Engl J Med* 1997; 337:1545–7.
6. Abramowicz M. Treatment of hypothermia. *Med Lett Drugs Ther* 1994;36(938):116–7.
7. CDC. Exposure-related hypothermia deaths—District of Columbia, 1972–1982. *MMWR* 1982;31:669–71.

Progress Toward Elimination of Measles and Prevention of Congenital Rubella Infection — European Region, 1990–2004

The European Region (EUR) of the World Health Organization (WHO) comprises 52 member countries*, with an estimated population of 876 million. In 1998, the Regional Committee for EUR resolved to interrupt indigenous measles transmission by 2007 and reduce the incidence of congenital rubella syndrome (CRS) in all countries to <1 per 100,000 live births by 2010 (1). In 2002, progress toward these measles and rubella targets was further encouraged with development of the *Strategic Plan for Measles and Congenital Rubella Infection in the WHO European Region*, which outlines an integrated approach to achieving both disease targets by 2010 by implementing six key strategies† (2). This report presents data on measles, rubella, and CRS control in EUR during 1990–2004 and summarizes progress halfway through the implementation of the strategic plan.

Measles, Rubella, and CRS Surveillance

Countries in EUR submit measles, rubella, and CRS case counts annually to the WHO Regional Office for Europe by using the WHO/UNICEF joint reporting form§. Countries also have been encouraged to report clinically diagnosed measles cases monthly by age group, vaccination status, and laboratory confirmation and to report outbreaks. In EUR, clinically diagnosed rubella is a nationally notifiable disease in all countries except Austria, France, Germany, Monaco,

* Andorra, Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Ukraine, United Kingdom, and Uzbekistan.

† These are 1) achieve and sustain high coverage with 2 doses of measles vaccine through routine vaccination services; 2) provide a second opportunity for measles vaccination through supplementary immunization activities (SIAs) to populations susceptible to measles; 3) use the opportunity provided by measles SIAs to target populations susceptible to rubella with combined measles- and rubella-containing vaccine; 4) ensure protection to women of childbearing age by achieving high coverage with rubella vaccine; 5) strengthen measles, rubella, and CRS surveillance by timely case investigation and laboratory confirmation; and 6) improve the availability of high-quality information for health-care professionals and the public regarding the benefits and risks associated with vaccination.

§ Data from France are routinely obtained from *Bulletin Épidémiologique Hebdomadaire* (available at <http://www.invs.sante.fr/beh>).

and Turkey, which combined account for 25% of the EUR population. In 2003, regional surveillance guidelines for measles and congenital rubella infection were issued (3). At the national level, countries use different methods to collect measles and rubella data, including aggregate (i.e., reporting in broad age groups), case-based (i.e., individual case investigation), and sentinel physician reporting. In 2004, measles and rubella surveillance was based on aggregate monthly reported data on clinically diagnosed measles cases from 44 (85%) countries and case-based data from five (10%) countries; in addition, 51 (98%) countries provided annual case counts. The Computerized Information System for Infectious Diseases (CISID; available at <http://data.euro.who.int/cisid>) processes and presents this information. In 2004, five (10%) countries provided monthly measles surveillance reports on time (i.e., >80% of monthly reports received before the 25th of the following month), and 37 (71%) provided complete monthly surveillance reports (i.e., >80% of monthly reports received) (Table 1).

In 2002, a regional laboratory network was created to provide laboratory support for measles, rubella, and CRS surveillance. Forty-seven (90%) countries are served by a National Measles/Rubella Laboratory, which is linked to one of three WHO European Regional Reference Laboratories appointed in 2003[§] or to the Global Specialized Laboratory (Table 1). Laboratory investigations are enhanced by using standardized diagnostic methods and reagents and by implementing a quality assessment program, including an annual accreditation

review, proficiency testing, and monthly online reporting of laboratory indicators (with completeness of 70% for 2004).

Measles and Rubella Vaccination

Each year, countries provide information on routine coverage with the first dose of measles-containing vaccine (MCV1) among children aged 12–23 months and supplemental immunization activities (SIAs) for measles and rubella. In 2003, of 52 countries in EUR, 27 (52%) reported MCV1 coverage of $\geq 95\%$ (Table 1), and 36 (69%) achieved MCV1 coverage of $\geq 90\%$. In 2004, all 52 countries had a routine 2-dose measles vaccination schedule, compared with 49 (96%) in 2001**. In 2004, a total of 47 (90%) countries used a rubella-containing vaccine; 45 (87%) used combined measles-mumps-rubella vaccine (MMR), one (2%) used measles-rubella vaccine (MR), and one (2%) used a single antigen rubella vaccine. In contrast, in 2001, a total of 39 (76%) countries used a rubella-containing vaccine.

During 1990–2004, nine countries conducted SIAs; five countries used an MR vaccine for SIAs, three simultaneously offered rubella vaccination for women of childbearing age, and one used routine services to reach susceptible cohorts by using MMR (Table 2). Approximately 27.7 million persons were vaccinated during these SIAs.

Measles, Rubella, and CRS Incidence

The incidence of measles in EUR is cyclical, with a peak every 4 years; however, the incidence declined markedly from 36.2 per 100,000 population in 1990 to 3.2 in 2003 (Figure). During 1999–2004, a total of 17 measles outbreaks were reported, including outbreaks with >250 cases in Ireland during 2003–2004, Italy during 2002–2003, Switzerland in 2003,

** In 2001, EUR comprised 51 countries.

[§] The regional reference laboratories are located at the National Public Health Laboratory, Luxembourg; the Robert Koch Institute, Berlin, Germany; and the G.N. Gabrichevsky Institute of Epidemiology and Microbiology, Moscow, Russian Federation. Health Protection Agency in London, U.K., serves as one of two global specialized reference laboratories (the other is at CDC in Atlanta, Georgia).

TABLE 1. Progress toward achieving surveillance and immunization milestones, as outlined in the Strategic Plan for Measles and Congenital Rubella Infection — European Region, World Health Organization, 2004

Milestone	Status in 2004		Target for 2004*
	No. of countries	(%)	
Member countries served by at least one designated measles-rubella laboratory	47	(90)	80%
Timeliness [†] of monthly surveillance reports	5	(10)	70%
Completeness [§] of monthly surveillance reports	37	(71)	70%
Member countries with $\geq 95\%$ coverage with the first dose of measles-containing vaccine among children aged 12–23 months	27	(52) [¶]	80%
Measles incidence < 1 per 1,000,000 population per year**	26	(50)	Not defined

* Strategic milestones defined for 2004 in the Strategic Plan for Measles and Congenital Rubella Infection in the European Region.

[†] Defined as >80% of monthly reports received before the 25th of the following month.

[§] Defined as >80% of monthly reports received.

[¶] Data for 2003.

** An indicator for measles elimination.

TABLE 2. Supplementary measles and rubella vaccination activities for nine countries that conducted such activities, by country — European Region, World Health Organization, 1990–2004

Country	Year	Target group		Vaccine used	% Coverage achieved
		Age group (yrs)	No.		
United Kingdom	1994	5–16	7.1 million	MR*	92.0%
Romania	1998	7–18	2.1 million	M (males aged 7–18 yrs) M (females aged 7–14 yrs) MR (females aged 15–18 yrs)	93.0%
Albania	2000	1–14	867,000	MR	99.0%
	2001	16–35 (females)	460,000	MR	96.5% (through routine services)
Kyrgyzstan	2001	7–25	1.8 million	MR	98.7%
Republic of Moldova	2002	8–19	843,677	MR	99.0%
		20–25 (university students)	78,408	MR	96.0%
		20–29 (females)	223,707	R	90.0%
Kosovo†	2003	1–15	500,000	MR	99.5% (1–5 yrs)
					100.0% (6–15 yrs)
Turkey§	2003	6–15 (school-based)	9.9 million	M	96.8% (6–15 yrs)
	2004–2005	9 mos–5¶	~10.0 million	M	In progress
Tajikistan	2004	1–18	3.0 million	M	97.7%
		19–29 (in specific populations and areas)			
Italy	2004–2005	7–12	1.4 million	MMR**	In progress through routine services

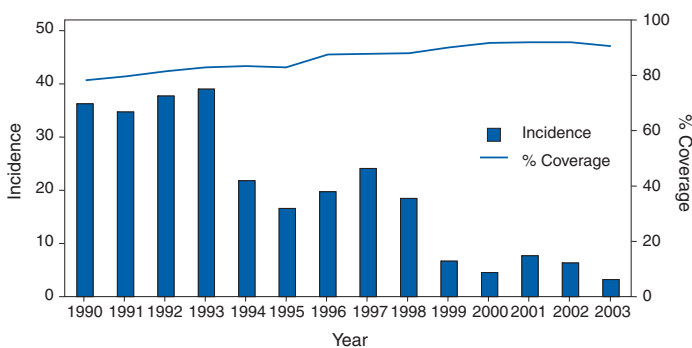
* Measles-rubella vaccine.

† Kosovo is a United Nations–administered autonomous province of Serbia and Montenegro.

§ Turkey will conduct a third phase of the campaign in 2005, targeting the remaining provinces with a cohort of children aged 9 months–5 years.

¶ In addition to children aged 9 months–5 years, the 2004–2005 campaign also targets children aged 6–15 years who do not attend school.

** Measles-mumps-rubella vaccine.

FIGURE. Reported measles incidence* and routine first-dose vaccination coverage for children†, by year — European Region, World Health Organization, 1990–2003

*Per 100,000 population.

† Most countries report first-dose vaccination coverage for children aged 12–23 months, except for Andorra (4 years), Germany (school-age), Switzerland (25–35 months), and Sweden (2 years).

France in 2003, Germany in 2003 (4–8), and in some newly independent states (NIS^{††}). Although measles deaths are underreported, 10 deaths were reported both in 2002 and 2003 and seven in 2004. During 2002–2004, the proportion of persons with reported measles who were hospitalized ranged from 11% to 18%. In 2004, the provisional incidence of measles was 2.9 per 100,000 population, and 26 (50%) countries reported a measles incidence of <1 per 1,000,000 population (Table 1).

The incidence of rubella remains high in EUR with short inter-epidemic periods. In 2003, a total of 304,320 rubella cases were reported; of these, 125,187 (41%) and 120,377 (40%) were reported from the Russian Federation and Romania, respectively. In 2001, 2002, and 2003, a total of 21, 14, and 12 CRS cases, respectively, were reported, totaling 47 cases; 15 (32%) were from the Russian Federation, and 17 (36%) were from Romania (9).

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†† Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

P Strebel, MD, Global Immunization Div, National Immunization Program, CDC.

Editorial Note: Substantial progress has been made in EUR toward better control of measles and rubella, but further efforts are needed to interrupt indigenous measles by 2010 and to reduce CRS incidence in all countries to <1 per 100,000 live births. The decline in reported measles incidence during 1990–2004 has occurred despite enhancements in surveillance and is the result of improvements in routine measles vaccination (e.g., introduction of routine 2-dose schedules throughout the region) and SIAs to reduce susceptibility among older children, adolescents, and young adults.

In EUR, routine vaccination has been an integral part of public health services and a key prevention component of primary health care, but the level of measles and rubella control varies greatly. Finland was the first country to introduce a routine 2-dose MMR childhood vaccination program and eliminate measles, mumps, and rubella by sustaining high coverage since the early 1980s; a similar level of disease control appears to have been achieved in other Scandinavian and some central European countries using the same approach (10). However, certain countries in western Europe still have inadequate measles vaccination coverage to interrupt indigenous transmission; recent measles outbreaks have alerted health authorities to the impact this disease can have on children's health. Countries in central and eastern Europe and in NIS have undergone substantial economic adjustments, which have led to changes in health-care services, including reduced financial support for immunization services, resulting in difficulties in improving disease surveillance, sustaining high vaccination coverage, and introducing additional vaccines, including MMR vaccine. Large rubella outbreaks continue to occur in countries that only recently introduced rubella vaccination (e.g., Russian Federation and Romania). In many countries, CRS surveillance is not fully implemented, resulting in underestimates of CRS disease burden, both at country and regional levels.

High routine 2-dose vaccination coverage ($\geq 95\%$ in each subsequent birth cohort in all districts) with measles-containing vaccine is the key strategy to achieving and sustaining a high population immunity and eventually interrupting indigenous measles transmission in EUR; widespread use of combined vaccines (MR and MMR) throughout the region provides an opportunity to simultaneously achieve rubella elimination and reduce CRS incidence. SIAs have also been used in EUR to rapidly achieve high population immunity to measles and rubella by targeting age groups epidemiologically defined as having large numbers of susceptible persons. Countries in EUR use SIAs as one-time opportunities to strengthen routine vaccination services by

providing staff training and improving program infrastructure and national program management capacity, including cold chain, vaccination delivery, injection safety, waste management, and surveillance.

The further strengthening of disease surveillance will be essential to identifying disease burden and gaps in routine vaccination and to monitoring progress toward elimination targets. Although considerable progress has been made in ensuring access to quality laboratory services throughout EUR, further efforts are needed to improve timeliness and completeness of monthly measles surveillance reports. Regional efforts to improve surveillance have included emphasis on case-based monthly reporting of measles and rubella, enhancement of laboratory capacity, and provision of regular feedback to countries through newsletters, regional or subregional meetings, and CISID, with monthly updated information for the general public. In addition, the Vaccine Safety Net promotes access to websites with information about immunization at http://www.euro.who.int/vaccine/related/20040826_1.

Acknowledgments

This report is based, in part, on contributions by immunization program staff in all EUR member countries.

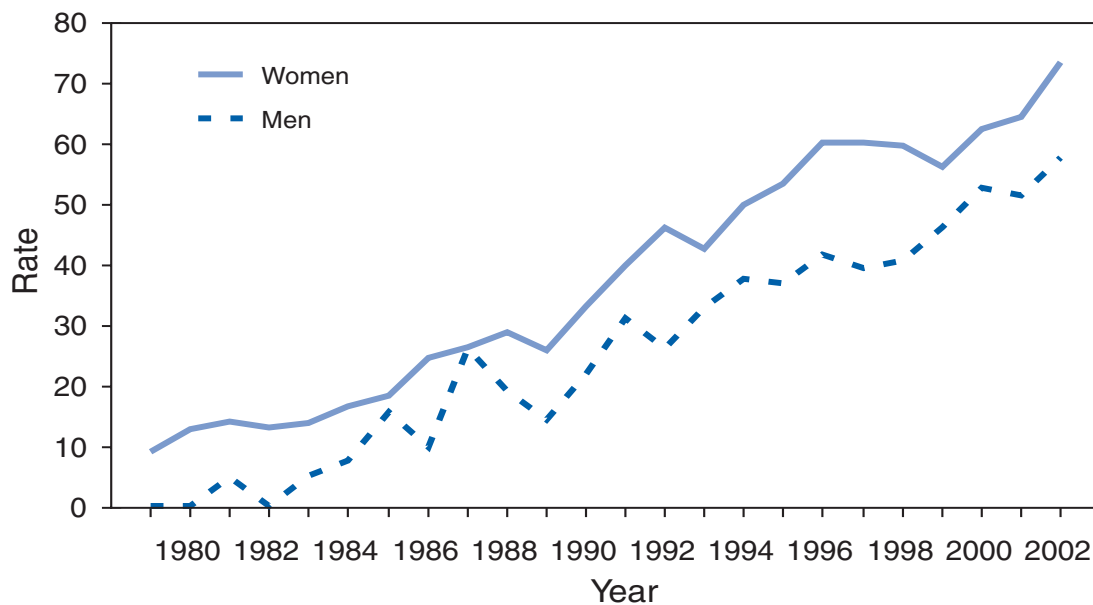
References

1. World Health Organization. Health21: the health for all policy for the WHO European Region. Copenhagen, Denmark: WHO Regional Office for Europe; 1999. (European Health for All Series, No.6).
2. World Health Organization. Strategic plan for measles and congenital rubella infection in the WHO European Region. Copenhagen, Denmark: WHO Regional Office for Europe; 2003. Available at <http://www.euro.who.int/document/e81567.pdf>.
3. World Health Organization. Surveillance guidelines for measles and congenital rubella infection in the WHO European Region. Copenhagen, Denmark: WHO Regional Office for Europe; 2003. Available at <http://www.euro.who.int/document/e82183.pdf>.
4. Gee S, Carton M, Cotter S. Measles increase in Ireland, 2004. *Eurosurveillance Weekly* 2004;8. Available at <http://www.eurosurveillance.org/ew/2004/040923.asp>.
5. Ciofi degli Atti M, Salmaso S. New measles epidemic in southern Italy: 1,217 cases reported to sentinel surveillance, January–May 2003. *Eurosurveillance Weekly* 2003;7. Available at <http://www.eurosurveillance.org/ew/2003/030703.asp>.
6. Richard JL, Zimmermann H. Recent increase in measles in children and teenagers in Switzerland. *Eurosurveillance Weekly* 2003;7. Available at <http://www.eurosurveillance.org/ew/2003/030605.asp>.
7. Bonmarin I, Levy-Bruhl D. Measles in France: the epidemiological impact of suboptimal immunization coverage. *Eurosurveillance Monthly* 2002;7:55–60. Available at <http://www.eurosurveillance.org/em/v07n04/0704-221.asp>.
8. Hellenbrand W, Siedler A, Tischer A, et al. Progress toward measles elimination in Germany. *J Infect Dis* 2003;187(Suppl):S208–16.
9. Rafila A, Marin M, Pistol A, et al. A large rubella outbreak—Romania, 2003. *Eurosurveillance Monthly* 2004;9:7–8. Available at <http://www.eurosurveillance.org/em/v09n04/0904-224.asp>.
10. Spika JS, Wassilak S, Pebody R, et al. Measles and rubella in the World Health Organization European Region: diversity creates challenges. *J Infect Dis* 2003;187(Suppl):S191–7.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Rate* of Total Knee Replacement for Persons Aged ≥ 65 Years, by Sex — United States, 1979–2002



*Per 10,000 population.

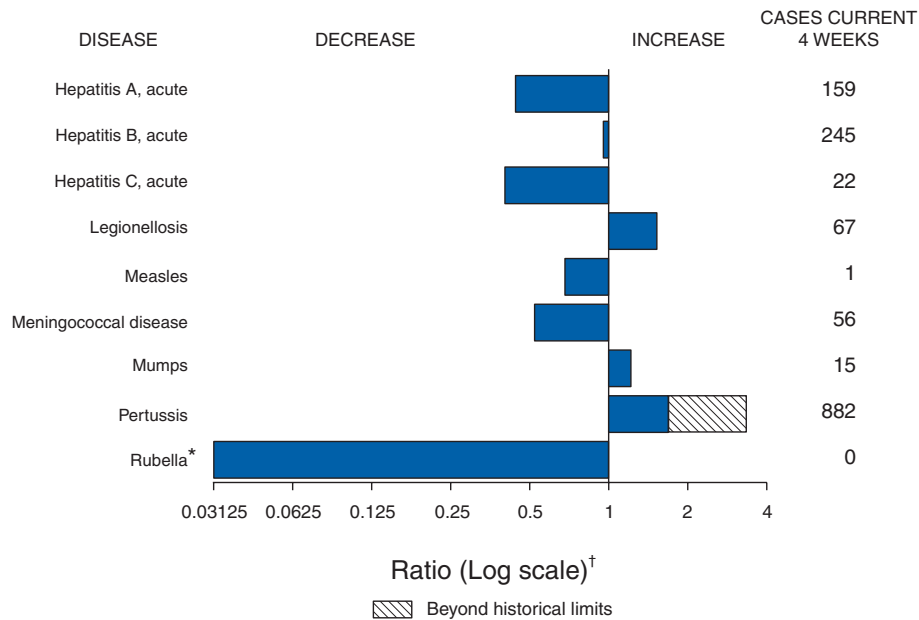
Total knee replacement has become one of the most common orthopedic procedures performed on older persons. During 1979–2002, the rate of knee replacement procedures among those aged ≥ 65 years increased approximately eightfold. These procedures are performed more frequently for women than men.

Source: National Center for Health Statistics, Data Warehouse on Trends in Health and Aging. National Hospital Discharge Survey. Additional information is available at <http://www.cdc.gov/nchs/agingact.htm>.

*Notice to Readers***Satellite Broadcast: Partner Counseling and Referral Services for HIV Prevention**

CDC and the Public Health Training Network will present a satellite broadcast and webcast, "Partner Counseling and Referral Services for HIV Prevention," on Thursday, April 21, 2005, beginning at 1 p.m. EDT. The 2-hour forum will cover the goals of HIV Partner Counseling and Referral Services (PCRS) and the process, techniques, and skills for delivering PCRS. A panel of experts will answer viewers' questions, which can be sent via fax during the broadcast or by e-mail after the broadcast.

Additional information is available at <http://www.cdcnpin-broadcast.org> and through the CDC Fax Information System, telephone 888-232-3299, by entering document number 130039 and a return fax number. Organizations are responsible for setting up their own viewing sites and are encouraged to register their sites as soon as possible so that persons who wish to view the broadcast can access information online. Directions for establishing and registering a viewing site are available on the broadcast website. The broadcast also can be viewed live or later on computers with Internet and Real Player capability at <http://www.cdcnpin-broadcast.org>. Videotapes and CD-ROMs of the broadcast can be ordered by telephone, 866-366-7502.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals February 19, 2005, with historical data

* No rubella cases were reported for the current 4-week period yielding a ratio for week 7 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 February 19, 2005 (7th Week)*

Disease	Cum. 2005	Cum. 2004	Disease	Cum. 2005	Cum. 2004
Anthrax	—	—	Hemolytic uremic syndrome, postdiarrheal [†]	8	6
Botulism:			HIV infection, pediatric ^{¶¶}	31	22
foodborne	3	1	Influenza-associated pediatric mortality ^{†**}	9	—
infant	4	10	Measles	2 ^{††}	1 ^{§§}
other (wound & unspecified)	3	—	Mumps	33	26
Brucellosis	10	9	Plague	—	—
Chancroid	5	4	Poliomyelitis, paralytic	—	—
Cholera	—	2	Psittacosis [†]	—	2
Cyclosporiasis [†]	1	11	Q fever [†]	4	7
Diphtheria	—	—	Rabies, human	—	—
Domestic arboviral diseases			Rubella	1	5
(neuroinvasive & non-neuroinvasive):			Rubella, congenital syndrome	—	—
California serogroup ^{†§}	—	—	SARS ^{†**}	—	—
eastern equine ^{†§}	—	—	Smallpox [†]	—	—
Powassan ^{†§}	—	—	<i>Staphylococcus aureus</i> :		
St. Louis ^{†§}	—	—	Vancomycin-intermediate (VISA) [†]	—	—
western equine ^{†§}	—	—	Vancomycin-resistant (VRSA) [†]	—	—
Ehrlichiosis:			Streptococcal toxic-shock syndrome [†]	7	27
human granulocytic (HGE) [†]	7	7	Tetanus	2	1
human monocytic (HME) [†]	6	9	Toxic-shock syndrome	13	22
human, other and unspecified [†]	4	1	Trichinellosis ^{¶¶¶}	3	—
Hansen disease [†]	5	9	Tularemia [†]	1	4
Hantavirus pulmonary syndrome [†]	—	2	Yellow fever	—	—

—: No reported cases.

* Incidence data for reporting years 2004 and 2005 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, National Center for HIV, STD, and TB Prevention. Last update January 30, 2005.

^{**} Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases.

^{††} Of two cases reported, two were indigenous and none were imported from another country.

^{§§} Of one case reported, none were indigenous and one was imported from another country.

^{¶¶¶} Formerly Trichinosis.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	AIDS		Chlamydia†		Coccidioidomycosis		Cryptosporidiosis	
	Cum. 2005§	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	2,989	2,511	96,377	114,635	549	375	189	363
NEW ENGLAND	133	50	3,594	4,012	—	—	10	22
Maine	3	1	308	252	N	N	—	4
N.H.	2	4	223	236	—	—	3	5
Vt.¶	—	7	147	151	—	—	2	2
Mass.	47	1	1,957	1,804	—	—	2	9
R.I.	14	16	449	574	—	—	—	—
Conn.	67	21	510	995	N	N	3	2
MID. ATLANTIC	447	459	11,901	13,423	—	—	34	59
Upstate N.Y.	39	24	1,985	2,077	N	N	9	8
N.Y. City	221	281	3,634	4,552	—	—	8	21
N.J.	87	98	1,440	2,282	N	N	1	4
Pa.	100	56	4,842	4,512	N	N	16	26
E.N. CENTRAL	275	307	11,609	21,906	—	—	28	87
Ohio	59	96	1,655	5,906	N	N	15	23
Ind.	37	53	2,333	2,469	N	N	2	6
Ill.	147	125	4,212	5,988	—	—	—	18
Mich.	26	15	1,710	5,217	—	—	2	17
Wis.	6	18	1,699	2,326	N	N	9	23
W.N. CENTRAL	85	60	4,913	7,510	—	1	28	28
Minn.	35	12	832	1,570	N	N	6	7
Iowa	16	5	—	937	N	N	5	2
Mo.	17	12	2,339	2,810	—	—	12	10
N. Dak.	—	5	105	195	N	N	—	—
S. Dak.	3	—	385	280	—	—	2	4
Nebr.¶	—	5	404	688	—	1	—	—
Kans.	14	21	848	1,030	N	N	3	5
S. ATLANTIC	1,108	715	21,205	20,051	—	—	45	66
Del.	—	12	427	383	N	N	—	—
Md.	82	10	2,124	2,398	—	—	5	5
D.C.	28	21	430	447	—	—	—	1
Va.	58	3	3,252	2,838	—	—	3	2
W. Va.	12	8	296	373	N	N	4	—
N.C.	127	1	4,660	1,953	N	N	7	14
S.C.¶	42	27	2,944	2,119	—	—	—	2
Ga.	231	192	1,604	4,651	—	—	10	26
Fla.	528	441	5,468	4,889	N	N	16	16
E.S. CENTRAL	141	98	7,147	7,060	—	1	6	23
Ky.	25	20	1,777	805	N	N	1	5
Tenn.¶	59	33	2,434	2,939	N	N	1	10
Ala.¶	54	26	288	1,819	—	—	3	6
Miss.	3	19	2,648	1,497	—	1	1	2
W.S. CENTRAL	331	383	13,738	14,898	—	—	5	19
Ark.	35	15	1,119	990	—	—	—	7
La.	39	28	1,034	3,799	—	—	—	—
Okla.	43	5	1,324	1,199	N	N	3	5
Tex.¶	214	335	10,261	8,910	N	N	2	7
MOUNTAIN	112	70	6,305	6,906	379	166	11	17
Mont.	—	—	251	27	N	N	—	—
Idaho¶	1	1	224	477	N	N	—	—
Wyo.	—	—	161	132	—	—	—	2
Colo.	12	1	1,320	1,531	N	N	3	10
N. Mex.	17	—	422	972	—	5	1	1
Ariz.	57	64	2,997	2,609	369	145	3	3
Utah	8	3	346	399	1	4	1	—
Nev.¶	17	1	584	759	9	12	3	1
PACIFIC	357	369	15,965	18,869	170	207	22	42
Wash.	28	22	2,511	2,225	N	N	—	—
Oreg.¶	32	16	1,142	1,001	—	—	1	4
Calif.	291	318	11,452	14,431	170	207	21	37
Alaska	5	—	410	400	—	—	—	—
Hawaii	1	13	450	812	—	—	—	1
Guam	1	—	—	146	—	—	—	—
P.R.	1	47	350	241	N	N	N	N
V.I.	3	—	—	67	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	2	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 2004 and 2005 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, National Center for HIV, STD, and TB Prevention. Last update January 30, 2005.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	<i>Escherichia coli</i> , Enterohemorrhagic (EHEC)						Giardiasis		Gonorrhea	
	O157:H7		Shiga toxin positive, serogroup non-O157		Shiga toxin positive, not serogrouped		Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004				
UNITED STATES	111	114	14	19	22	14	1,494	1,947	33,543	43,194
NEW ENGLAND	9	6	1	3	4	1	91	135	671	934
Maine	—	—	—	—	—	—	11	15	17	44
N.H.	—	1	—	—	—	—	4	3	18	16
Vt.	—	—	—	—	—	—	8	9	3	7
Mass.	3	1	—	2	4	1	67	88	387	386
R.I.	—	—	—	—	—	—	—	3	62	140
Conn.	6	4	1	1	—	—	1	17	184	341
MID. ATLANTIC	14	13	—	—	1	3	307	413	3,576	4,681
Upstate N.Y.	7	2	—	—	—	1	93	90	705	794
N.Y. City	1	5	—	—	—	—	79	152	980	1,542
N.J.	2	—	—	—	—	1	42	50	488	886
Pa.	4	6	—	—	1	1	93	121	1,403	1,459
E.N. CENTRAL	26	29	2	6	3	1	194	330	4,734	9,500
Ohio	12	11	—	—	2	1	75	110	853	3,267
Ind.	1	5	—	—	—	—	N	N	961	926
Ill.	2	3	1	—	—	—	11	114	1,747	2,640
Mich.	7	6	—	—	1	—	60	66	652	2,074
Wis.	4	4	1	6	—	—	48	40	521	593
W.N. CENTRAL	20	12	3	5	3	6	114	161	1,659	2,520
Minn.	3	6	—	1	—	—	3	45	264	622
Iowa	5	—	—	—	—	—	32	25	—	160
Mo.	8	3	2	4	1	1	40	63	961	1,147
N. Dak.	—	—	—	—	—	3	—	2	5	14
S. Dak.	2	—	—	—	—	—	3	4	43	26
Nebr.	1	1	1	—	1	—	17	10	106	173
Kans.	1	2	—	—	1	2	19	12	280	378
S. ATLANTIC	16	7	2	2	11	3	262	307	9,590	10,225
Del.	—	—	N	N	N	N	—	6	109	132
Md.	4	2	1	—	—	—	21	13	921	1,070
D.C.	—	—	—	—	—	—	4	11	288	297
Va.	—	—	—	1	2	—	58	34	1,241	1,283
W. Va.	—	—	—	—	—	—	3	1	93	108
N.C.	—	—	—	—	7	3	N	N	2,417	2,104
S.C.	—	—	—	—	—	—	5	2	1,306	1,142
Ga.	3	2	—	—	—	—	69	106	772	2,016
Fla.	9	3	1	1	2	—	102	134	2,443	2,073
E.S. CENTRAL	4	4	—	—	—	—	41	31	2,540	3,438
Ky.	—	1	—	—	—	—	N	N	551	372
Tenn.	1	1	—	—	—	—	15	12	934	1,152
Ala.	3	1	—	—	—	—	26	19	210	1,100
Miss.	—	1	—	—	—	—	—	—	845	814
W.S. CENTRAL	2	9	—	—	—	—	27	36	5,540	5,794
Ark.	1	—	—	—	—	—	12	17	584	449
La.	—	—	—	—	—	—	4	7	643	1,846
Okla.	1	3	—	—	—	—	11	12	593	554
Tex.	—	6	—	—	—	—	N	N	3,720	2,945
MOUNTAIN	6	12	6	2	—	—	128	190	1,397	1,687
Mont.	1	1	—	—	—	—	6	5	4	8
Idaho	1	2	4	—	—	—	14	28	12	10
Wyo.	—	—	1	—	—	—	1	1	8	6
Colo.	1	2	1	1	—	—	43	67	359	417
N. Mex.	—	1	—	—	—	—	5	7	64	127
Ariz.	2	2	N	N	N	N	36	34	632	748
Utah	1	2	—	—	—	—	19	32	56	43
Nev.	—	2	—	1	—	—	4	16	262	328
PACIFIC	14	22	—	1	—	—	330	344	3,836	4,415
Wash.	5	4	—	—	—	—	14	25	453	382
Oreg.	—	2	—	1	—	—	37	62	195	126
Calif.	6	13	—	—	—	—	260	245	3,044	3,645
Alaska	1	—	—	—	—	—	5	6	60	70
Hawaii	2	3	—	—	—	—	14	6	84	192
Guam	N	N	—	—	—	—	—	—	—	30
P.R.	—	—	—	—	—	—	—	2	37	17
V.I.	—	—	—	—	—	—	—	—	—	21
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. C.N.M.I.: Commonwealth of Northern Mariana Islands.

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	<i>Haemophilus influenzae</i> , invasive							
	All ages		Age <5 years					
	All serotypes		Serotype b		Non-serotype b		Unknown serotype	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	267	322	—	4	11	17	20	34
NEW ENGLAND	14	34	—	—	1	3	2	—
Maine	1	2	—	—	—	—	—	—
N.H.	—	7	—	—	—	1	—	—
Vt.	4	3	—	—	—	—	2	—
Mass.	5	15	—	—	—	1	—	—
R.I.	—	1	—	—	—	—	—	—
Conn.	4	6	—	—	1	1	—	—
MID. ATLANTIC	58	64	—	—	—	—	6	8
Upstate N.Y.	15	20	—	—	—	—	1	1
N.Y. City	12	13	—	—	—	—	1	3
N.J.	10	12	—	—	—	—	1	2
Pa.	21	19	—	—	—	—	3	2
E.N. CENTRAL	34	68	—	—	—	6	2	13
Ohio	23	22	—	—	—	2	2	3
Ind.	5	8	—	—	—	3	—	1
Ill.	2	18	—	—	—	—	—	5
Mich.	4	7	—	—	—	1	—	3
Wis.	—	13	—	—	—	—	—	1
W.N. CENTRAL	18	11	—	1	—	1	3	1
Minn.	5	3	—	—	—	1	1	—
Iowa	—	1	—	1	—	—	—	—
Mo.	11	3	—	—	—	—	2	1
N. Dak.	—	—	—	—	—	—	—	—
S. Dak.	—	—	—	—	—	—	—	—
Nebr.	1	4	—	—	—	—	—	—
Kans.	1	—	—	—	—	—	—	—
S. ATLANTIC	85	64	—	—	3	1	4	4
Del.	—	—	—	—	—	—	—	—
Md.	14	19	—	—	1	1	1	—
D.C.	—	—	—	—	—	—	—	—
Va.	2	6	—	—	—	—	—	—
W. Va.	—	4	—	—	—	—	—	2
N.C.	18	5	—	—	2	—	—	—
S.C.	1	—	—	—	—	—	—	—
Ga.	32	16	—	—	—	—	3	2
Fla.	18	14	—	—	—	—	—	—
E.S. CENTRAL	9	12	—	—	—	—	—	1
Ky.	—	—	—	—	—	—	—	—
Tenn.	8	5	—	—	—	—	—	—
Ala.	1	7	—	—	—	—	—	1
Miss.	—	—	—	—	—	—	—	—
W.S. CENTRAL	7	11	—	—	—	2	1	—
Ark.	—	—	—	—	—	—	—	—
La.	2	4	—	—	—	—	1	—
Okla.	5	7	—	—	—	2	—	—
Tex.	—	—	—	—	—	—	—	—
MOUNTAIN	32	45	—	1	7	4	1	5
Mont.	—	—	—	—	—	—	—	—
Idaho	1	1	—	—	—	—	—	—
Wyo.	1	—	—	—	—	—	—	—
Colo.	5	11	—	—	—	—	—	1
N. Mex.	4	12	—	—	2	1	—	3
Ariz.	17	17	—	—	3	2	1	1
Utah	1	1	—	1	—	—	—	—
Nev.	3	3	—	—	2	1	—	—
PACIFIC	10	13	—	2	—	—	1	2
Wash.	—	3	—	2	—	—	—	1
Oreg.	6	6	—	—	—	—	1	—
Calif.	2	3	—	—	—	—	—	1
Alaska	1	—	—	—	—	—	—	—
Hawaii	1	1	—	—	—	—	—	—
Guam	—	—	—	—	—	—	—	—
P.R.	—	—	—	—	—	—	—	—
V.I.	—	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	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 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	Hepatitis (viral, acute), by type					
	A		B		C	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	395	844	581	711	59	121
NEW ENGLAND	67	123	34	54	—	2
Maine	—	4	—	—	—	—
N.H.	3	2	2	6	—	—
Vt.	—	3	—	1	—	1
Mass.	55	103	28	26	—	1
R.I.	—	—	—	—	—	—
Conn.	9	11	4	21	—	—
MID. ATLANTIC	56	117	116	122	8	18
Upstate N.Y.	8	8	10	4	1	—
N.Y. City	25	45	4	21	—	—
N.J.	6	26	75	54	—	—
Pa.	17	38	27	43	7	18
E.N. CENTRAL	33	82	40	52	14	9
Ohio	13	9	22	20	—	1
Ind.	5	9	1	1	—	—
Ill.	4	34	—	—	—	1
Mich.	9	24	17	22	14	7
Wis.	2	6	—	9	—	—
W.N. CENTRAL	14	16	25	41	5	12
Minn.	—	—	—	3	—	—
Iowa	3	4	1	1	—	—
Mo.	7	3	13	31	5	12
N. Dak.	—	—	—	—	—	—
S. Dak.	—	1	—	—	—	—
Nebr.	2	5	7	4	—	—
Kans.	2	3	4	2	—	—
S. ATLANTIC	60	158	199	210	14	24
Del.	—	1	—	1	—	—
Md.	5	30	19	18	5	2
D.C.	—	1	—	2	—	—
Va.	4	7	22	7	—	1
W. Va.	—	1	2	—	—	1
N.C.	3	8	26	23	1	1
S.C.	—	2	2	3	—	—
Ga.	18	70	53	81	—	5
Fla.	30	38	75	75	8	14
E.S. CENTRAL	14	21	23	49	7	9
Ky.	1	—	3	4	—	2
Tenn.	8	13	7	15	4	4
Ala.	2	2	12	11	2	—
Miss.	3	6	1	19	1	3
W.S. CENTRAL	7	130	13	31	—	33
Ark.	—	15	1	13	—	—
La.	4	4	2	15	—	22
Okla.	1	6	—	2	—	—
Tex.	2	105	10	1	—	11
MOUNTAIN	57	54	70	43	5	5
Mont.	4	—	—	—	—	—
Idaho	4	2	3	1	—	—
Wyo.	—	—	—	1	—	—
Colo.	7	3	5	7	—	—
N. Mex.	3	3	—	2	—	1
Ariz.	36	37	53	19	—	1
Utah	2	7	7	5	4	—
Nev.	1	2	2	8	1	3
PACIFIC	87	143	61	109	6	9
Wash.	9	5	1	7	—	1
Oreg.	7	14	12	23	2	2
Calif.	69	120	47	76	4	4
Alaska	—	1	—	2	—	—
Hawaii	2	3	1	1	—	2
Guam	—	—	—	—	—	—
P.R.	—	3	1	1	—	—
V.I.	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U
C.N.M.I.	—	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 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	Legionellosis		Listeriosis		Lyme disease		Malaria	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	140	179	49	57	481	994	121	162
NEW ENGLAND	3	3	1	1	12	64	2	11
Maine	—	—	—	—	—	—	—	—
N.H.	—	—	1	—	7	—	—	—
Vt.	—	—	—	—	—	1	—	—
Mass.	3	2	—	—	5	56	2	9
R.I.	—	—	—	—	—	—	—	—
Conn.	—	1	—	1	—	7	—	2
MID. ATLANTIC	45	38	7	16	363	787	28	35
Upstate N.Y.	12	4	—	2	33	170	4	3
N.Y. City	—	—	1	2	—	—	11	17
N.J.	7	16	3	7	163	218	10	8
Pa.	26	18	3	5	167	399	3	7
E.N. CENTRAL	26	54	9	7	22	25	9	14
Ohio	17	27	4	3	20	5	2	3
Ind.	5	6	—	1	1	—	—	1
Ill.	—	10	—	—	—	—	1	2
Mich.	3	9	1	2	1	—	5	4
Wis.	1	2	4	1	U	20	1	4
W.N. CENTRAL	5	4	6	—	1	10	7	10
Minn.	—	—	1	—	—	3	1	4
Iowa	—	—	2	—	1	2	2	1
Mo.	5	3	2	—	—	5	3	3
N. Dak.	—	—	1	—	—	—	—	—
S. Dak.	—	1	—	—	—	—	—	—
Nebr.	—	—	—	—	—	—	—	—
Kans.	—	—	—	—	—	—	1	2
S. ATLANTIC	36	35	14	11	72	86	29	47
Del.	—	1	N	N	—	7	—	—
Md.	10	5	3	2	50	59	8	14
D.C.	—	2	—	—	1	—	—	1
Va.	2	3	—	—	1	—	2	3
W. Va.	1	—	—	1	—	—	1	—
N.C.	5	6	4	4	7	12	2	1
S.C.	—	1	—	—	1	1	—	2
Ga.	5	2	1	1	—	2	11	8
Fla.	13	15	6	3	12	5	5	18
E.S. CENTRAL	—	7	2	2	3	—	5	6
Ky.	—	1	—	1	—	—	1	1
Tenn.	—	3	—	1	3	—	3	—
Ala.	—	3	2	—	—	—	1	4
Miss.	—	—	—	—	—	—	—	1
W.S. CENTRAL	—	15	1	4	—	8	6	16
Ark.	—	—	—	—	—	—	—	1
La.	—	1	1	—	—	—	—	2
Okla.	—	1	—	—	—	—	—	1
Tex.	—	13	—	4	—	8	6	12
MOUNTAIN	9	9	—	4	—	2	10	4
Mont.	—	—	—	—	—	—	—	—
Idaho	—	1	—	—	—	—	—	—
Wyo.	2	2	—	—	—	1	1	—
Colo.	—	1	—	1	—	—	5	1
N. Mex.	1	—	—	—	—	—	—	1
Ariz.	3	2	—	—	—	—	2	—
Utah	1	2	—	—	—	1	2	1
Nev.	2	1	—	3	—	—	—	1
PACIFIC	16	14	9	12	8	12	25	19
Wash.	1	3	2	2	—	1	—	2
Oreg.	N	N	—	4	—	5	1	1
Calif.	15	11	7	6	7	6	23	16
Alaska	—	—	—	—	1	—	1	—
Hawaii	—	—	—	—	N	N	—	—
Guam	—	—	—	—	—	—	—	—
P.R.	—	—	—	—	N	N	—	—
V.I.	U	—	—	—	—	—	—	—
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	—	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 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	Meningococcal disease									
	All serogroups		Serogroup A, C, Y, and W-135		Serogroup B		Other serogroup		Serogroup unknown	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	136	262	11	20	9	8	—	—	116	234
NEW ENGLAND	14	8	—	—	—	—	—	—	14	8
Maine	1	2	—	—	—	—	—	—	1	2
N.H.	1	—	—	—	—	—	—	—	1	—
Vt.	3	1	—	—	—	—	—	—	3	1
Mass.	8	5	—	—	—	—	—	—	8	5
R.I.	—	—	—	—	—	—	—	—	—	—
Conn.	1	—	—	—	—	—	—	—	1	—
MID. ATLANTIC	24	41	7	13	2	3	—	—	15	25
Upstate N.Y.	6	11	1	3	1	1	—	—	4	7
N.Y. City	2	9	—	—	—	—	—	—	2	9
N.J.	7	5	—	—	—	—	—	—	7	5
Pa.	9	16	6	10	1	2	—	—	2	4
E.N. CENTRAL	10	30	2	5	2	2	—	—	6	23
Ohio	4	17	—	3	2	2	—	—	2	12
Ind.	2	5	—	—	—	—	—	—	2	5
Ill.	—	1	—	—	—	—	—	—	—	1
Mich.	2	2	2	2	—	—	—	—	—	—
Wis.	2	5	—	—	—	—	—	—	2	5
W.N. CENTRAL	10	9	—	—	—	1	—	—	10	8
Minn.	2	1	—	—	—	—	—	—	2	1
Iowa	2	1	—	—	—	1	—	—	2	—
Mo.	5	4	—	—	—	—	—	—	5	4
N. Dak.	—	—	—	—	—	—	—	—	—	—
S. Dak.	—	1	—	—	—	—	—	—	—	1
Nebr.	—	1	—	—	—	—	—	—	—	1
Kans.	1	1	—	—	—	—	—	—	1	1
S. ATLANTIC	23	47	1	—	2	1	—	—	20	46
Del.	—	—	—	—	—	—	—	—	—	—
Md.	2	4	—	—	1	—	—	—	1	4
D.C.	—	1	—	—	—	—	—	—	—	1
Va.	—	2	—	—	—	—	—	—	—	2
W. Va.	—	3	—	—	—	—	—	—	—	3
N.C.	4	5	1	—	1	1	—	—	2	4
S.C.	2	4	—	—	—	—	—	—	2	4
Ga.	6	5	—	—	—	—	—	—	6	5
Fla.	9	23	—	—	—	—	—	—	9	23
E.S. CENTRAL	4	12	—	—	—	—	—	—	4	12
Ky.	1	2	—	—	—	—	—	—	1	2
Tenn.	2	4	—	—	—	—	—	—	2	4
Ala.	—	2	—	—	—	—	—	—	—	2
Miss.	1	4	—	—	—	—	—	—	1	4
W.S. CENTRAL	13	29	1	1	1	—	—	—	11	28
Ark.	3	3	—	—	—	—	—	—	3	3
La.	6	9	—	1	1	—	—	—	5	8
Okla.	3	1	1	—	—	—	—	—	2	1
Tex.	1	16	—	—	—	—	—	—	1	16
MOUNTAIN	10	14	—	—	1	1	—	—	9	13
Mont.	—	1	—	—	—	—	—	—	—	1
Idaho	—	1	—	—	—	—	—	—	—	1
Wyo.	—	1	—	—	—	—	—	—	—	1
Colo.	5	3	—	—	—	—	—	—	5	3
N. Mex.	—	1	—	—	—	—	—	—	—	1
Ariz.	5	4	—	—	1	—	—	—	4	4
Utah	—	1	—	—	—	—	—	—	—	1
Nev.	—	2	—	—	—	1	—	—	—	1
PACIFIC	28	72	—	1	1	—	—	—	27	71
Wash.	7	3	—	1	1	—	—	—	6	2
Oreg.	8	16	—	—	—	—	—	—	8	16
Calif.	13	50	—	—	—	—	—	—	13	50
Alaska	—	1	—	—	—	—	—	—	—	1
Hawaii	—	2	—	—	—	—	—	—	—	2
Guam	—	—	—	—	—	—	—	—	—	—
P.R.	—	—	—	—	—	—	—	—	—	—
V.I.	—	—	—	—	—	—	—	—	—	—
Amer. Samoa	—	—	—	—	—	—	—	—	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—

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

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	Pertussis		Rabies, animal		Rocky Mountain spotted fever		Salmonellosis		Shigellosis	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	1,957	1,103	352	729	67	67	2,565	3,310	915	1,484
NEW ENGLAND	98	273	72	30	—	5	117	140	20	33
Maine	4	—	5	1	N	N	4	6	—	—
N.H.	—	4	2	1	—	—	8	5	1	2
Vt.	29	12	—	4	—	—	11	4	1	—
Mass.	65	248	54	14	—	5	68	96	16	24
R.I.	—	—	—	—	—	—	—	4	—	—
Conn.	—	9	11	10	—	—	26	25	2	7
MID. ATLANTIC	244	302	29	68	—	5	256	442	92	154
Upstate N.Y.	69	171	25	30	—	—	57	62	16	46
N.Y. City	—	17	4	1	—	2	73	153	47	47
N.J.	18	48	N	N	—	—	37	105	24	38
Pa.	157	66	—	37	—	3	89	122	5	23
E.N. CENTRAL	530	178	4	1	2	—	238	531	56	148
Ohio	362	71	2	1	2	—	94	127	10	32
Ind.	9	1	1	—	—	—	15	27	2	6
Ill.	2	2	1	—	—	—	15	193	4	73
Mich.	26	15	—	—	—	—	50	83	31	18
Wis.	131	89	—	—	—	—	64	101	9	19
W.N. CENTRAL	280	62	28	47	2	1	202	173	92	47
Minn.	92	3	11	7	—	—	42	41	3	11
Iowa	4	17	8	8	—	—	45	29	11	3
Mo.	79	35	4	2	2	1	64	51	53	13
N. Dak.	9	1	—	7	—	—	2	4	1	1
S. Dak.	1	—	1	10	—	—	11	9	6	1
Nebr.	41	—	—	—	—	—	17	13	14	2
Kans.	54	6	4	13	—	—	21	26	4	16
S. ATLANTIC	100	62	115	412	49	47	853	748	168	381
Del.	—	—	—	1	—	—	—	4	—	1
Md.	25	23	17	34	1	1	68	51	13	17
D.C.	—	4	—	—	—	—	—	2	—	7
Va.	14	10	36	43	—	—	62	73	8	11
W. Va.	1	—	2	9	—	—	5	1	—	—
N.C.	14	11	56	68	35	43	187	112	6	47
S.C.	28	2	1	7	2	2	29	44	—	25
Ga.	3	1	—	43	9	1	163	120	64	95
Fla.	15	11	3	207	2	—	339	341	77	178
E.S. CENTRAL	37	19	8	47	2	8	123	179	63	76
Ky.	6	2	—	2	—	—	21	16	5	5
Tenn.	12	11	—	36	2	2	43	49	32	33
Ala.	15	2	8	5	—	1	52	73	22	24
Miss.	4	4	—	4	—	5	7	41	4	14
W.S. CENTRAL	11	6	67	105	—	—	181	310	167	328
Ark.	1	3	6	4	—	—	34	23	10	7
La.	1	2	—	—	—	—	39	38	7	31
Okla.	—	1	9	7	—	—	30	30	58	45
Tex.	9	—	52	94	—	—	78	219	92	245
MOUNTAIN	494	97	25	12	10	—	185	255	71	125
Mont.	152	4	—	—	—	—	7	9	—	2
Idaho	24	13	—	—	—	—	10	28	—	—
Wyo.	5	2	1	—	—	—	6	2	—	1
Colo.	230	55	—	—	—	—	49	62	10	27
N. Mex.	10	11	—	—	—	—	11	23	7	24
Ariz.	43	4	24	12	8	—	77	96	39	51
Utah	27	7	—	—	2	—	9	20	4	8
Nev.	3	1	—	—	—	—	16	15	11	12
PACIFIC	163	104	4	7	2	1	410	532	186	192
Wash.	35	30	—	—	—	—	32	31	7	7
Oreg.	101	25	—	—	—	—	16	45	9	10
Calif.	18	47	4	7	2	1	320	402	165	165
Alaska	1	1	—	—	—	—	9	16	1	1
Hawaii	8	1	—	—	—	—	33	38	4	9
Guam	—	—	—	—	—	—	—	4	—	7
P.R.	—	—	11	10	N	N	4	22	—	1
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. C.N.M.I.: Commonwealth of Northern Mariana Islands.
 * Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	Streptococcal disease, invasive, group A		<i>Streptococcus pneumoniae</i> , invasive disease				Syphilis			
			Drug resistant, all ages		Age <5 years		Primary & secondary		Congenital	
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004
UNITED STATES	546	721	284	406	78	102	707	937	18	68
NEW ENGLAND	17	41	—	1	8	10	28	14	—	—
Maine	1	1	N	N	—	—	—	—	—	—
N.H.	1	5	—	—	—	N	2	1	—	—
Vt.	2	—	—	—	—	—	—	—	—	—
Mass.	13	33	—	—	8	10	26	5	—	—
R.I.	—	2	—	1	—	—	—	1	—	—
Conn.	—	—	—	—	U	U	—	7	—	—
MID. ATLANTIC	104	123	31	26	17	8	81	125	3	13
Upstate N.Y.	42	35	8	9	8	3	6	3	2	1
N.Y. City	8	29	U	U	U	U	56	79	—	3
N.J.	16	27	N	N	2	—	13	23	—	8
Pa.	38	32	23	17	7	5	6	20	1	1
E.N. CENTRAL	77	176	55	108	22	29	61	96	1	14
Ohio	22	46	44	86	15	16	32	26	—	—
Ind.	14	8	11	22	3	4	5	8	—	2
Ill.	2	52	—	—	1	—	16	45	—	2
Mich.	35	54	—	N	—	N	5	14	—	10
Wis.	4	16	N	N	3	9	3	3	1	—
W.N. CENTRAL	23	35	9	1	8	9	21	26	—	—
Minn.	—	—	—	—	4	3	1	5	—	—
Iowa	N	N	N	N	—	N	—	1	—	—
Mo.	11	11	8	1	—	3	17	16	—	—
N. Dak.	1	3	—	—	1	—	—	—	—	—
S. Dak.	4	4	1	—	—	—	—	—	—	—
Nebr.	5	3	—	—	1	2	1	4	—	—
Kans.	2	14	N	N	2	1	2	—	—	—
S. ATLANTIC	132	124	136	195	8	9	210	231	3	11
Del.	—	—	—	1	—	N	2	1	—	—
Md.	38	29	—	—	8	6	48	37	—	3
D.C.	1	—	—	3	—	3	12	7	—	—
Va.	3	8	N	N	—	N	11	3	2	1
W. Va.	—	6	—	9	—	—	—	2	—	—
N.C.	15	17	N	N	U	U	37	20	—	—
S.C.	—	1	—	14	—	N	9	20	—	2
Ga.	31	32	52	68	—	N	—	31	—	1
Fla.	44	31	84	100	—	N	91	110	1	4
E.S. CENTRAL	12	39	19	25	—	—	42	55	2	2
Ky.	2	17	5	6	N	N	2	10	—	—
Tenn.	10	22	14	19	—	N	17	27	1	1
Ala.	—	—	—	—	—	N	20	13	1	1
Miss.	—	—	—	—	—	—	3	5	—	—
W.S. CENTRAL	22	61	15	14	7	25	131	137	7	17
Ark.	6	2	3	1	—	—	4	9	—	—
La.	3	1	12	13	2	6	12	23	—	—
Okla.	13	8	N	N	5	6	8	4	1	2
Tex.	—	50	N	N	—	13	107	101	6	15
MOUNTAIN	120	39	9	9	8	12	37	47	2	1
Mont.	—	—	—	—	—	—	—	—	—	—
Idaho	—	1	N	N	—	N	6	4	—	—
Wyo.	1	3	2	3	—	—	—	1	—	—
Colo.	49	14	N	N	7	12	—	9	—	—
N. Mex.	11	16	—	4	—	—	6	14	—	1
Ariz.	55	3	N	N	—	N	20	15	2	—
Utah	4	2	6	1	1	—	—	2	—	—
Nev.	—	—	1	1	—	—	5	2	—	—
PACIFIC	39	83	10	27	—	—	96	206	—	10
Wash.	N	N	N	N	N	N	14	12	—	—
Oreg.	N	N	N	N	—	N	—	9	—	—
Calif.	22	61	N	N	—	N	81	183	—	10
Alaska	—	—	—	—	—	N	—	—	—	—
Hawaii	17	22	10	27	—	—	1	2	—	—
Guam	—	—	—	—	—	—	—	—	—	—
P.R.	N	N	N	N	—	N	10	13	—	—
V.I.	—	—	—	—	—	—	—	2	—	—
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. C.N.M.I.: Commonwealth of Northern Mariana Islands.

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending February 19, 2005, and February 21, 2004 (7th Week)*

Reporting area	Tuberculosis		Typhoid fever		Varicella (chickenpox)		West Nile virus disease†		
	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Cum. 2005	Cum. 2004	Neuroinvasive		Non-neuroinvasive‡
							Cum. 2005	Cum. 2004	Cum. 2005
UNITED STATES	607	1,263	18	37	2,386	2,277	—	—	—
NEW ENGLAND	27	31	—	3	47	137	—	—	—
Maine	—	—	—	—	44	6	—	—	—
N.H.	1	—	—	—	—	—	—	—	—
Vt.	—	—	—	—	2	131	—	—	—
Mass.	21	15	—	3	1	—	—	—	—
R.I.	—	5	—	—	—	—	—	—	—
Conn.	5	11	—	—	—	—	—	—	—
MID. ATLANTIC	214	193	5	10	331	8	—	—	—
Upstate N.Y.	12	14	—	—	—	—	—	—	—
N.Y. City	137	128	—	5	—	—	—	—	—
N.J.	39	29	2	3	—	—	—	—	—
Pa.	26	22	3	2	331	8	—	—	—
E.N. CENTRAL	125	96	1	2	1,169	1,011	—	—	—
Ohio	19	18	—	1	187	259	—	—	—
Ind.	15	24	1	—	N	N	—	—	—
Ill.	73	36	—	—	—	—	—	—	—
Mich.	8	10	—	1	898	644	—	—	—
Wis.	10	8	—	—	84	108	—	—	—
W.N. CENTRAL	35	29	—	—	10	26	—	—	—
Minn.	12	10	—	—	—	—	—	—	—
Iowa	5	1	—	—	N	N	—	—	—
Mo.	12	11	—	—	1	—	—	—	—
N. Dak.	—	—	—	—	—	13	—	—	—
S. Dak.	—	—	—	—	9	13	—	—	—
Nebr.	1	2	—	—	—	—	—	—	—
Kans.	5	5	—	—	—	—	—	—	N
S. ATLANTIC	57	263	3	5	188	205	—	—	—
Del.	—	3	—	—	—	—	—	—	—
Md.	19	11	1	1	—	—	—	—	—
D.C.	—	4	—	—	—	4	—	—	—
Va.	—	7	—	1	10	1	—	—	—
W. Va.	6	2	—	—	173	189	—	—	N
N.C.	15	9	1	2	—	N	—	—	—
S.C.	16	13	—	—	5	11	—	—	—
Ga.	—	88	—	—	—	—	—	—	—
Fla.	1	126	1	1	—	—	—	—	—
E.S. CENTRAL	48	52	1	—	—	—	—	—	—
Ky.	15	5	1	—	N	N	—	—	—
Tenn.	33	20	—	—	—	—	—	—	—
Ala.	—	17	—	—	—	—	—	—	—
Miss.	—	10	—	—	—	—	—	—	—
W.S. CENTRAL	25	248	—	5	167	577	—	—	—
Ark.	11	9	—	—	—	—	—	—	—
La.	—	—	—	—	3	16	—	—	—
Okla.	14	13	—	—	—	—	—	—	—
Tex.	—	226	—	5	164	561	—	—	—
MOUNTAIN	7	32	—	2	474	313	—	—	—
Mont.	—	—	—	—	—	—	—	—	—
Idaho	—	—	—	—	—	—	—	—	—
Wyo.	—	—	—	—	18	11	—	—	—
Colo.	—	9	—	—	335	190	—	—	—
N. Mex.	—	4	—	—	22	13	—	—	—
Ariz.	6	13	—	—	—	—	—	—	—
Utah	1	6	—	1	99	99	—	—	—
Nev.	—	—	—	1	—	—	—	—	—
PACIFIC	69	319	8	10	—	—	—	—	—
Wash.	29	33	—	1	N	N	—	—	—
Oreg.	12	10	1	—	—	—	—	—	—
Calif.	9	257	4	7	—	—	—	—	—
Alaska	2	3	—	—	—	—	—	—	—
Hawaii	17	16	3	2	—	—	—	—	—
Guam	—	11	—	—	—	15	—	—	—
P.R.	—	—	—	—	11	40	—	—	—
V.I.	—	—	—	—	—	—	—	—	—
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. C.N.M.I.: Commonwealth of Northern Mariana Islands.

* Incidence data for reporting years 2004 and 2005 are provisional and cumulative (year-to-date).

† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance).

‡ Not previously notifiable.

TABLE III. Deaths in 122 U.S. cities,* week ending February 19, 2005 (7th Week)

Reporting Area	All causes, by age (years)							P&I [†] Total	Reporting Area	All causes, by age (years)							P&I [†] Total
	All Ages	≥65	45-64	25-44	1-24	<1	All Ages			≥65	45-64	25-44	1-24	<1			
NEW ENGLAND	651	471	115	31	22	12	73	S. ATLANTIC	1,343	861	302	113	32	35	88		
Boston, Mass.	161	112	32	9	5	3	14	Atlanta, Ga.	141	83	26	17	3	12	3		
Bridgeport, Conn.	39	31	5	2	1	—	5	Baltimore, Md.	255	143	67	29	9	7	24		
Cambridge, Mass.	6	6	—	—	—	—	2	Charlotte, N.C.	108	71	23	9	3	2	14		
Fall River, Mass.	27	17	6	2	2	—	1	Jacksonville, Fla.	153	99	33	18	2	1	12		
Hartford, Conn.	83	59	17	3	2	2	17	Miami, Fla.	130	87	25	14	2	2	4		
Lowell, Mass.	24	21	2	1	—	—	3	Norfolk, Va.	65	47	11	5	—	2	4		
Lynn, Mass.	16	11	3	2	—	—	2	Richmond, Va.	71	46	18	3	2	2	4		
New Bedford, Mass.	39	27	10	—	1	1	4	Savannah, Ga.	60	38	18	3	1	—	6		
New Haven, Conn.	38	27	7	2	2	—	7	St. Petersburg, Fla.	63	47	9	5	1	1	5		
Providence, R.I.	67	48	13	—	2	4	6	Tampa, Fla.	186	128	43	7	5	3	7		
Somerville, Mass.	5	3	1	—	1	—	—	Washington, D.C.	97	60	28	2	4	3	4		
Springfield, Mass.	41	25	7	3	5	1	3	Wilmington, Del.	14	12	1	1	—	—	1		
Waterbury, Conn.	33	27	4	2	—	—	1	E.S. CENTRAL	973	653	206	65	22	26	101		
Worcester, Mass.	72	57	8	5	1	1	8	Birmingham, Ala.	234	168	39	11	6	9	30		
MID. ATLANTIC	2,865	2,085	546	156	34	44	190	Chattanooga, Tenn.	84	55	23	4	1	1	11		
Albany, N.Y.	44	36	6	—	—	2	5	Knoxville, Tenn.	102	70	25	5	1	1	8		
Allentown, Pa.	21	19	1	1	—	—	—	Lexington, Ky.	86	56	15	10	3	2	15		
Buffalo, N.Y.	61	49	8	2	—	2	6	Memphis, Tenn.	156	105	31	9	4	7	17		
Camden, N.J.	20	14	4	2	—	—	1	Mobile, Ala.	69	46	16	5	2	—	3		
Elizabeth, N.J.	21	14	4	1	—	2	1	Montgomery, Ala.	62	44	15	2	—	1	4		
Erie, Pa.	42	34	7	—	—	1	2	Nashville, Tenn.	180	109	42	19	5	5	13		
Jersey City, N.J.	47	36	5	6	—	—	—	W.S. CENTRAL	906	593	200	71	22	18	70		
New York City, N.Y.	1,926	1,397	375	112	19	23	113	Austin, Tex.	103	63	30	4	4	2	9		
Newark, N.J.	61	34	14	7	3	3	6	Baton Rouge, La.	11	9	2	—	—	—	—		
Paterson, N.J.	9	5	2	1	—	1	—	Corpus Christi, Tex.	42	31	7	3	1	—	3		
Philadelphia, Pa.	174	103	50	10	7	4	9	Dallas, Tex.	250	153	57	26	10	4	19		
Pittsburgh, Pa. [§]	28	16	7	4	—	1	3	El Paso, Tex.	107	72	19	10	3	3	3		
Reading, Pa.	28	24	3	—	1	—	5	Ft. Worth, Tex.	140	93	32	10	—	5	9		
Rochester, N.Y.	155	122	25	4	2	2	20	Houston, Tex.	U	U	U	U	U	U	U		
Schenectady, N.Y.	19	18	—	1	—	—	1	Little Rock, Ark.	54	34	12	5	—	3	2		
Scranton, Pa.	31	27	3	1	—	—	4	New Orleans, La.	16	14	2	—	—	—	16		
Syracuse, N.Y.	93	71	19	2	1	—	11	San Antonio, Tex.	U	U	U	U	U	U	U		
Trenton, N.J.	34	24	6	1	—	3	1	Shreveport, La.	56	34	14	5	2	1	2		
Utica, N.Y.	20	15	3	1	1	—	—	Tulsa, Okla.	127	90	25	8	2	—	7		
Yonkers, N.Y.	31	27	4	—	—	—	2	MOUNTAIN	993	688	197	63	24	20	87		
E.N. CENTRAL	2,499	1,701	522	165	57	52	236	Albuquerque, N.M.	126	86	23	9	6	1	13		
Akron, Ohio	55	36	14	3	2	—	8	Boise, Idaho	50	36	11	1	2	—	5		
Canton, Ohio	52	31	17	2	2	—	4	Colo. Springs, Colo.	66	48	15	1	1	1	4		
Chicago, Ill.	475	322	93	34	13	11	65	Denver, Colo.	109	63	28	9	5	4	10		
Cincinnati, Ohio	111	73	21	9	6	2	12	Las Vegas, Nev.	298	207	60	23	3	5	27		
Cleveland, Ohio	270	196	49	8	7	10	16	Ogden, Utah	35	29	4	2	—	—	4		
Columbus, Ohio	224	152	49	14	—	9	27	Phoenix, Ariz.	U	U	U	U	U	U	U		
Dayton, Ohio	132	91	32	8	—	1	6	Pueblo, Colo.	31	25	5	1	—	—	2		
Detroit, Mich.	206	102	68	24	5	7	17	Salt Lake City, Utah	113	76	19	8	4	6	13		
Evansville, Ind.	73	53	14	4	2	—	3	Tucson, Ariz.	165	118	32	9	3	3	9		
Fort Wayne, Ind.	69	57	9	2	1	—	6	PACIFIC	1,989	1,470	354	92	37	36	186		
Gary, Ind.	13	6	3	3	1	—	—	Berkeley, Calif.	25	13	5	2	—	5	1		
Grand Rapids, Mich.	58	43	11	2	—	2	6	Fresno, Calif.	197	153	28	8	4	4	16		
Indianapolis, Ind.	217	137	52	18	5	5	14	Glendale, Calif.	25	17	7	—	1	—	4		
Lansing, Mich.	73	45	19	7	1	1	6	Honolulu, Hawaii	79	63	11	4	1	—	6		
Milwaukee, Wis.	120	84	24	10	—	2	13	Long Beach, Calif.	76	60	13	1	—	2	10		
Peoria, Ill.	58	35	12	7	3	1	3	Los Angeles, Calif.	375	261	72	28	5	9	37		
Rockford, Ill.	80	66	13	1	—	—	10	Pasadena, Calif.	11	9	1	1	—	—	—		
South Bend, Ind.	45	39	4	1	1	—	2	Portland, Oreg.	180	133	35	9	2	1	18		
Toledo, Ohio	99	74	11	5	8	1	8	Sacramento, Calif.	197	144	35	9	7	2	21		
Youngstown, Ohio	69	59	7	3	—	—	10	San Diego, Calif.	154	107	35	6	2	4	14		
W.N. CENTRAL	652	414	150	45	15	27	67	San Francisco, Calif.	90	62	21	3	2	2	9		
Des Moines, Iowa	59	41	14	2	—	2	3	San Jose, Calif.	245	188	40	6	9	2	25		
Duluth, Minn.	35	26	8	1	—	—	4	Santa Cruz, Calif.	32	24	8	—	—	—	2		
Kansas City, Kans.	3	—	1	2	—	—	—	Seattle, Wash.	116	85	17	8	3	3	8		
Kansas City, Mo.	96	61	20	10	2	3	14	Spokane, Wash.	48	44	4	—	—	—	9		
Lincoln, Nebr.	42	36	3	1	1	1	3	Tacoma, Wash.	139	107	22	7	1	2	6		
Minneapolis, Minn.	63	37	15	4	1	6	13	TOTAL	12,871 [¶]	8,936	2,592	801	265	270	1,098		
Omaha, Nebr.	101	78	15	4	4	—	11										
St. Louis, Mo.	184	82	63	18	6	14	11										
St. Paul, Minn.	68	53	10	3	1	1	8										
Wichita, Kans.	1	—	1	—	—	—	—										

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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