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Progress Toward Poliomyelitis Eradication — West and Central Africa, 1999–2000

In 1988, the World Health Assembly of the World Health Organization (WHO) resolved to eradicate poliomyelitis by 2000 (*1*). Reported polio cases have decreased on all continents. In 2000, poliovirus was isolated from 24 countries, 13 in the African Region of WHO (AFR). This report summarizes the routine polio vaccination coverage, surveillance for acute flaccid paralysis (AFP*) during 1999 and 2000, and the synchronization of national immunization days (NIDs†) against polio during 2000 and early 2001 in 16 countries in west and central Africa§.

Routine Vaccination

During 1999, routine vaccination coverage with three doses of oral poliovirus vaccine (OPV3) among infants aged 1 year was approximately 48% in the 16 countries (range: 12%–90%) (Table 1). In comparison, reported OPV3 coverage in AFR was approximately 55% in 1999 and has remained relatively stable since 1990 (*2*).

AFP Surveillance

During 2000, AFP surveillance improved in all countries except Chad and Côte d'Ivoire (Table 1). The number of confirmed polio cases in the West Africa Region, Cameroon, and Chad decreased from 1309 in 1999 to 879 in 2000. The number of polio cases confirmed by wild virus isolation decreased from 186 in 1999 to 41 in 2000 (Table 1). With the exception of Ghana, Côte d'Ivoire, and Niger, the proportion of AFP cases with adequate specimens substantially increased in all countries from 26%–74% in 1999 to 37%–84% in 2000.

*AFP surveillance is a monitor of the sensitivity of detection and accuracy of reporting suspected cases (target: an annual rate of >1 nonpolio AFP cases per 100,000 children aged <15 years).

† Nationwide mass campaigns over a short period (days to weeks), in which two doses of oral poliovirus vaccine are administered to all children in the target group (usually aged <5 years), regardless of vaccination history, with an interval of 4–6 weeks between doses.

§ Benin, Burkina Faso, Cameroon, Chad, Gambia, Ghana, Guinea, Guinea-Bissau, Côte d'Ivoire, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Initially, Mauritania also was included; however, logistic problems prohibited Mauritania from participating in the synchronized NIDs.

Poliomyelitis Eradication — Continued

TABLE 1. Percentage of children receiving routine vaccination coverage with three doses of oral poliovirus vaccine (OPV3), confirmed poliomyelitis cases*, acute flaccid paralysis (AFP) rate†, and percentage of AFP cases with adequate specimens§, by country — West Africa Region, Cameroon, and Chad, 1999–2000

	1999				2000		
Country	Routine vaccination coverage with OPV3	Confirmed polio (wild virus)	AFP rate	% AFP cases with adequate specimens	Confirmed polio (wild virus)	AFP rate	% AFP cases with adequate specimens
Benin	90%	37 (8)	1.4	42%	1 (1)	2.5	48%
Burkina Faso	34%	5 (0)	0.9	26%	0 (0)	1.7	64%
Cameroon	48%	1 (1)	1.5	74%	0 (0)	2.5	84%
Chad	34%	110 (35)	1.7	36%	60 (4)	1.2	60%
Côte d'Ivoire	60%	9 (9)	1.8	60%	1 (1)	1.8	58%
Gambia	90%	0 (0)	0.0	NA	6 (0)	1.4	38%
Ghana	72%	3 (3)	1.4	50%	107 (5)	1.9	47%
Guinea	57%	22 (4)	0.9	43%	0 (0)	3.1	83%
Guinea-Bissau	12%	0 (0)	0.0	NA	0 (0)	2.2	55%
Liberia	25%	42 (11)	2.4	36%	0 (0)	2.5	68%
Mali	52%	22 (4)	0.4	51%	0 (0)	3.3	58%
Niger	21%	56 (10)	1.1	44%	33 (2)	1.2	37%
Nigeria	22%¶	981 (98)	0.5	26%	637 (28)	0.7	37%
Senegal	49%	0 (0)	1.5	58%	0 (0)	3.6	73%
Sierra Leone	56%¶	14 (2)	0.5	33%	34 (0)	1.4	41%
Togo	48%	1 (1)	1.5	58%	0 (0)	3.8	68%
Total		**1309 (186)**			**879 (41)**		

* Clinical diagnosis and wild virus isolation.
† Per 100,000 children aged <15 years.
§ Two stool specimens collected at an interval of at least 24 hours apart, within 14 days of onset of paralysis, and received in satisfactory condition at the laboratory.
¶ Data for 1998.

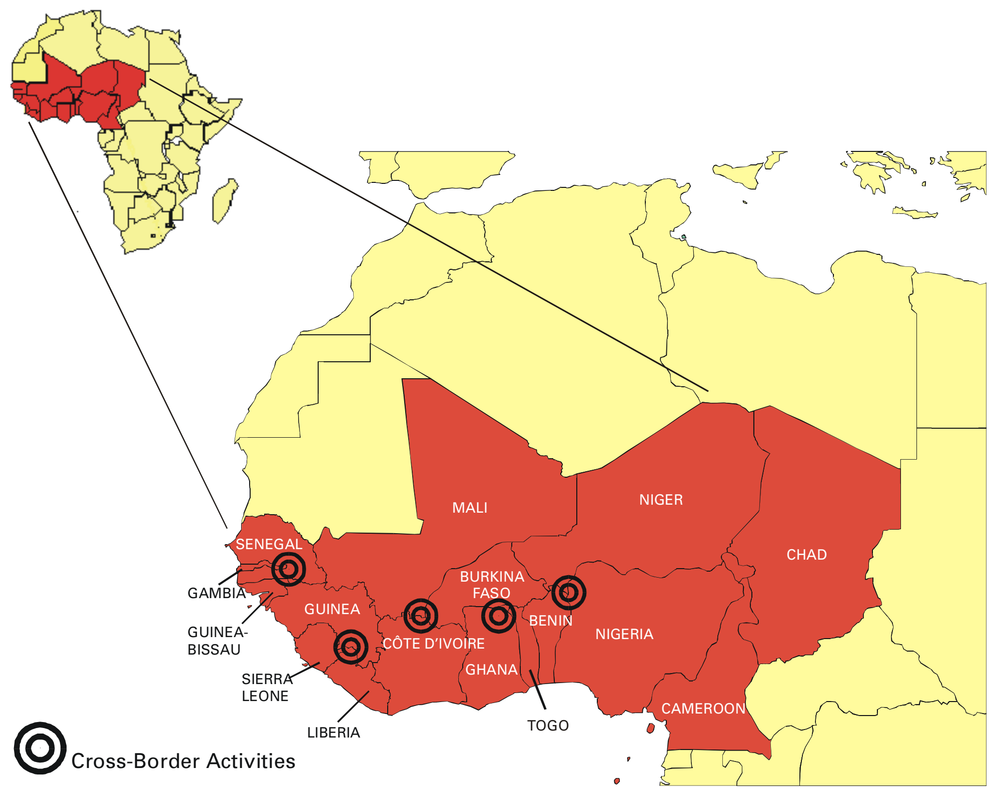
Synchronization of NIDs

Most of the countries in west and central Africa have conducted annual NIDs since 1996. Despite the progress achieved by these countries, wild poliovirus was still circulating during 2000. To maximize the number of susceptible children reached during NIDs, 14 contiguous countries in the West Africa Region and Cameroon and Chad conducted synchronized NIDs against polio during October and November 2000 and January 2001. The WHO intercountry program (ICP) office in Abidjan, Côte d'Ivoire, coordinated this effort¶. Coordinated cross-border activities were implemented by 14 of the 16 countries. Planning meetings for these activities were conducted in four border towns corresponding to the following country cross-border activities: 1) Senegal-Gambia-Guinea–Bissau; 2) Côte d'Ivoire-Mali-Burkina Faso; 3) Burkina Faso-Ghana-Togo; and 4) Benin-Niger-Nigeria (Figure 1). Inclusion of high-risk and special populations living in border areas were considered, and special resources were allocated to the border districts for the implementation of this activity. Approximately 300,000 health personnel were trained and mobilized for implementation of the synchronized NIDs, and approximately 180 million doses of OPV were distributed to participating countries.

¶ The polio eradication initiative in AFR is supported by member countries. External funding is provided by Rotary International; United Nations Children's Fund; the governments of Canada, United States, United Kingdom, Norway, and Belgium; the United Nations Foundation; the Gates Foundation; the De Beers Corporation; WHO; and CDC.

Poliomyelitis Eradication — Continued

FIGURE 1. Location of cross-border activities during National Immunization Days — West Africa Region, Cameroon, and Chad, 2000–2001



The estimated number of children vaccinated increased from 65 million in 1999 to 77 million in November 2000 (Table 2). In all countries except Senegal, the proportion of children vaccinated in 2000 was greater than that during the 1999 NIDs. In addition, the number of children aged <5 years vaccinated for the first time decreased from 1,326,476 in October 2000 to 1,161,283 in November 2000.

Reported by: World Health Organization Inter-Country Program Office, Abidjan, Côte d'Ivoire. Expanded Program on Immunization, World Health Organization, Regional Office for Africa, Harare, Zimbabwe. Vaccines and Biologicals Dept, World Health Organization, Geneva, Switzerland. Respiratory and Enteric Viruses Br, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Vaccine Preventable Disease Eradication Div, National Immunization Program, CDC.

Editorial Note: Substantial progress in polio eradication occurred during 1999–2000 in west and central Africa. Poliovirus transmission can be interrupted in the remaining countries where polio is endemic if vaccination activities are of high quality and NIDs continue to be synchronized within major epidemiologic blocs. The synchronization of NIDs in west and central Africa during 2000 and early 2001 is expected to reduce and eventually eliminate wild poliovirus transmission.

Poliomyelitis Eradication — Continued

TABLE 2. Number of children vaccinated with oral poliovirus vaccine during National Immunization Days (NIDs)* and percentage difference during 1999–2000, by country — West Africa, Cameroon, and Chad

Country	No. children vaccinated during 1999 NIDs	2000 NIDs target population†	No. children vaccinated during 2000 NIDs§ Round 1	Round 2	% difference in children vaccinated 1999–2000
Benin	1,423,181	1,196,905	1,540,719	1,618,799	11%
Burkina Faso	2,314,255	2,286,884	2,546,153	2,640,535	12%
Cameroon	2,923,836	2,585,161	2,918,992¶	3,205,745¶	5%
Chad	1,531,567	1,501,516	1,701,266¶	1,648,687¶	9%
Côte d'Ivoire	2,708,131	3,413,595	3,664,883¶	3,640,204¶	35%
Gambia	219,873	289,066	246,258	270,269	17%
Ghana	3,540,194	3,682,449	4,321,153	4,571,981	26%
Guinea	1,696,360	1,603,043	1,725,194	1,829,617	5%
Guinea-Bissau	158,908	222,897	227,594	213,266	39%
Liberia	776,597	911,423	798,848	832,477	5%
Mali	2,628,434	2,810,043	2,810,270	2,918,154	9%
Niger	2,782,469	2,888,026	2,982,781	3,005,602	8%
Nigeria	38,593,306	39,272,016	40,372,548	46,865,258	13%
Senegal	1,919,491	1,871,649	1,919,763	1,888,921	0
Sierra Leone	701,744	1,079,089	861,273	842,817	21%
Togo	1,043,183	994,261	1,119,981	1,156,091	9%
Total	**64,961,529**	**66,608,023**	**69,757,676**	**77,148,423**	**13%**

* Nationwide mass campaigns over a short period (days to weeks), in which two doses of oral poliovirus vaccine are adminstered to all children in the target group (usually aged <5 years), regardless of vaccination history, with an interval of 4–6 weeks between doses.
† Children aged 0–59 months.
§ First round conducted during October 2000 and the second round during November 2000.
¶ First round conducted during November 2000 and the second during January 2001.

NIDs have resulted in millions of children being vaccinated against polio who otherwise would not have been reached. The strategies used during NIDs have included fixed-posts**, house-to-house††, and a combination of the two approaches. High-quality house-to-house vaccination campaigns are essential for reaching susceptible children in high-risk areas, including border areas with large population movements.

Coordinated multicountry vaccination campaigns have been conducted previously. Since 1995, synchronized mass campaigns conducted by 18 countries from the Middle East, Central Asia, and the Caucasus regions (MECACAR) achieved high vaccination coverage. Approximately 62 million children, 95% of children aged <5 years, were vaccinated every year during 1995–1997 (*3,4*). A high level of political support in the 16 countries enabled implementation of NIDs. Heads of state and other prominent political leaders were involved in all stages of the activity.

Three of the participating countries experienced civil unrest or war at the time of the NIDs. However, all three implemented NIDs and conducted cross-border activities, demonstrating that polio eradication activities can be implemented in countries in conflict and can promote peace building. Rival factions agreed to respect cease-fires so that children could be vaccinated. Additional potential peace-building efforts were demonstrated by the interaction between the ministries of health, external affairs, and other bodies of the

** Parents bring their children to a specific health post for vaccination on a predetermined date(s).
†† Health-care workers vaccinate children by going from one house to the next on a predetermined date(s).

Poliomyelitis Eradication — Continued

government with their counterparts from neighboring countries fostered by the cross-border activities. The advantages of such collaborations are that other public health programs could benefit from the networks developed for the synchronized NIDs.

The synchronized polio campaign in Africa resulted in improvements in the infrastructure of national vaccination programs through strengthening of the Expanded Program on Immunization in specific areas, such as cold chain and vaccine distribution systems, and through additional training of health professionals. Experiences during this campaign will be useful in planning and implementing synchronized NIDs in central Africa, which are scheduled for later this year.

The lack of experience implementing the house-to-house strategy and poor microplanning in some countries were limitations in implementing synchronized NIDs in west and central Africa. Additional efforts will be required to coordinate efficiently the flow of information and data management at the ICP office in Abidjan. These problems may be addressed by 1) earlier planning of NIDs; 2) centralizing the information at the ICP coordinating office; 3) improving mapping and microplanning at the smallest administrative unit; 4) maintaining more efficient field supervision of vaccination teams; and 5) allocating sufficient staff to identify more quickly and correct problems. A decrease in the number of polio cases this year will be the best indicator of the quality of the synchronized campaign in west and central Africa. The success in the implementation of synchronized NIDs should encourage other epidemiologic blocs to use the same strategy. Certification of global polio eradication by 2005 will require continued synchronized mass vaccination campaigns and high-quality AFP surveillance.

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Exposure to Patients With Meningococcal Disease on Aircrafts — United States, 1999–2001

Neisseria meningitidis is a leading cause of bacterial meningitis and sepsis in children and young adults in the United States and is spread through direct contact with respiratory secretions (*1*). Persons in close contact with patients who have meningococcal disease are at increased risk for contracting the disease (*1*). Commercial aircraft are suitable environments for the spread of airborne pathogens, including *N. meningitidis* (*2*). A case of air-travel–associated meningococcal disease is defined as a patient who meets the case definition of meningococcal disease (*3*) within 14 days of travel on a flight of at least 8 hours duration. Because of concerns about disease transmission aboard aircraft, CDC has developed recommendations to ensure a standard approach to management of airline contacts. This report presents a case of air-travel–associated meningococcal disease and presents guidelines for the management of persons potentially exposed to meningococcus during air travel.

Meningococcal Disease on Aircrafts — Continued

Case Report

On May 24, 2001, the New York Department of Health (NYDH) reported a 62-year-old man with meningococcal meningitis to the CDC quarantine station at John F. Kennedy (JFK) International Airport. On May 20, the passenger arrived from Sydney, Australia, after changing planes at Los Angeles International Airport. He began to feel ill during his flight and was assisted from the plane in a wheelchair. No public health officer at JFK airport was contacted to report an ill passenger on board the aircraft.

On May 23, the man was hospitalized, and microscopic examination of cerebrospinal fluid (CSF) showed gram-negative diplococci. On May 25, the patient's CSF grew *N. meningitidis*, serogroup B, and he was diagnosed with meningococcal meningitis.

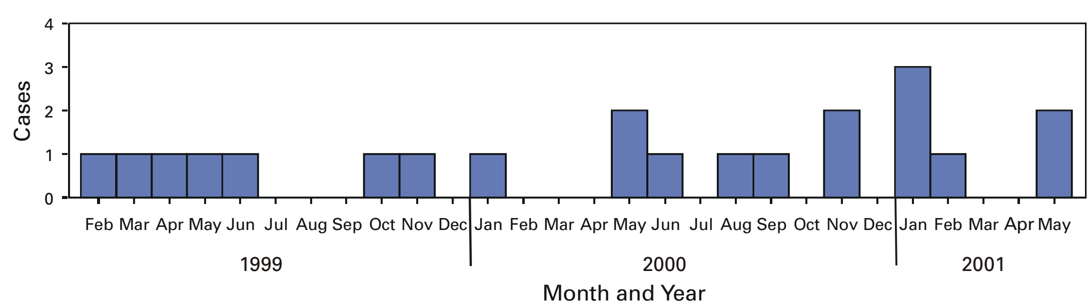
NYDH requested assistance in identifying any airline passengers who required chemoprophylaxis. A New York quarantine inspector contacted the airline station manager to request the flight manifest and passenger contact information. The manifest was not available locally and could be obtained only from the airline's corporate headquarters in Australia. Because contact information from the airline was not complete, quarantine inspectors in New York and Los Angeles manually extracted passenger names and addresses from the customs declaration forms that each international traveler completes on entry to the United States. Within 2 days, they were able to identify the two passengers sitting on either side of the patient. This information was relayed to the two passengers' respective state health departments. One exposed contact could not be located at the address provided on the customs form. The other contact was asymptomatic and the state health department recommended that he take appropriate chemoprophylaxis.

Surveillance Measures

CDC employs a passive surveillance system by which local health departments report suspected cases of air-travel–associated meningococcal disease. From February 1999 through May 2001, CDC received 21 reports, an average of one report every 6 weeks (Figure 1). Approximately half of these cases were reported to a CDC airport quarantine station, and the rest were reported to CDC headquarters. The mean time between the completion of the flight and the onset of illness was 1.9 days (range: 0–10 days). Five case-patients had onset of illness before arrival.

Reported by: M Layton, MD, New York City Dept of Health. M Cartter, MD, Connecticut State Dept of Public Health. E Bresnitz, MD, State Epidemiologist, New Jersey Dept of Health and Senior Svcs. S Wiersma, MD, Florida Dept of Health. L Mascola, MD, Los Angeles County Dept of Health Svcs. Meningitis and Special Pathogens Br, Div of Bacterial and Mycotic Diseases; Surveillance and Epidemiology Br, Div of Global Migration and Quarantine, National Center for Infectious Diseases; and an EIS Officer, CDC.

FIGURE 1. Reported incidents of air-travel–associated meningococcal disease, by date of air travel — United States, February 1999–May 2001



Meningococcal Disease on Aircrafts — Continued

Editorial Note: Chemoprophylaxis of persons in close contact with an index case-patient is the primary means for prevention of secondary cases of meningococcal disease. Close contacts at high risk for secondary disease include household members, day care center contacts, and anyone directly exposed to a patient's oral secretions (e.g., through kissing and endotracheal tube management) (*1*). The attack rate among household contacts of patients with meningococcal disease is an estimated 500–800 times greater than the general population (*4*).

Because the risk for illness is highest during the first few days after infection, chemoprophylaxis should be administered as soon as possible (ideally within 24 hours) after contact with an index case-patient. Chemoprophylaxis administered >14 days is probably of limited or no value. Systemic antibiotics that effectively eliminate nasopharyngeal carriage of *N. meningitidis* include rifampin, ciprofloxacin, and ceftriaxone (Table 1) (*1*).

No cases of secondary disease among air travel contacts of persons with meningococcal disease have been reported; however, passengers who are seated next to a person with meningococcal disease for a prolonged flight may be at higher risk for developing meningococcal disease. Seven investigations of *Mycobacterium tuberculosis* transmission on airplanes suggest that in-flight transmission of bacterial respiratory pathogens do occur (*5*). One of these investigations documented transmission of *M. tuberculosis* from a symptomatic index case-patient to six passengers with no other risk factors who were sitting in the same section of a commercial aircraft during a long flight (>8 hours) (*6*).

CDC, in collaboration with the Council of State and Territorial Epidemiologists, has developed procedures for the management of air-travel–associated exposure to meningococcus (*7,8*). These recommendations are intended to provide uniformity to the procedures followed by the various federal, state, and local health agencies involved in contact investigation and management for meningococcal cases occurring in airline passengers.

TABLE 1. Schedule for administering chemoprophylaxis against meningococcal disease

Drug	Age group	Dosage	Duration and route of administration*
Rifampin†	Children <1 mo	5 mg/kg every 12 hrs	2 days
	Children ≥1 mo	10 mg/kg every 12 hrs	2 days
	Adults	600 mg every 12 hrs	2 days
Ciprofloxacin§	Adults	500 mg	Single dose
Ceftriaxone	Children <15 yrs	125 mg	Single intramuscular dose
Ceftriaxone	Adults	250 mg	Single intramuscular dose

*Oral administration unless indicated otherwise.

† Rifampin is not recommended for pregnant women because the drug is teratogenic in laboratory animals. Because the reliability of oral contraceptives may be affected by rifampin therapy, consideration should be given to using alternative contraceptive measures while rifampin is being administered.

§ Ciprofloxacin generally is not recommended for persons aged <18 years or for pregnant and lactating women because the drug causes cartilage damage in immature laboratory animals. However, ciprofloxacin can be used for chemoprophylaxis of children when no acceptable alternative is available.

Health departments from the jurisdiction where the patient resides and where the patient has been visiting should be contacted promptly to facilitate antimicrobial chemoprophylaxis of household members, day care center contacts, and other possible close contacts. Household members traveling with an index case-patient, persons traveling with an index case-patient who have had prolonged close contact (e.g., roommates), and anyone having direct contact with a patient's oral secretions should be identified and the need for antimicrobial chemoprophylaxis evaluated. The assessment of risk to passengers and flight crew members should be based on the flight duration and seating proximity to the index case-patient. For flights of >8 hours, including ground time, passengers who are seated immediately next to an index case-patient are more likely to be exposed directly to the patient's oral secretions and are probably at higher risk than those seated farther from the index case-patient. In the absence of data about increased risk to other passengers, antimicrobial chemoprophylaxis should be considered for those passengers seated in either seat next to an index case-patient.

Because passengers disperse over a wide area after arrival, federal health authorities should work with the travel industry to identify passengers requiring chemoprophylaxis. On notification of an air passenger with potential meningococcal disease, the CDC quarantine station with jurisdiction over the port of entry will contact the airline to obtain a passenger manifest, which includes the name and seat assignment for all passengers on the flight. Once quarantine inspectors identify potentially exposed travelers, their names are cross-referenced with the airline's passenger history record that includes a telephone number and frequently an address for the patient. State or local health departments in the patient's area of residence should be responsible for contacting each exposed traveler. If the exposed passenger is a foreign national temporarily visiting the United States, the CDC quarantine station can assist in locating and contacting the person. In addition, the quarantine station will notify the national health authority of the passenger's home country.

Most cases of meningococcal disease among air passengers are not detected until after the flight has landed and the passengers have dispersed. CDC and state health departments should enhance surveillance for secondary cases associated with air travel. To facilitate this process, state and local health departments and private physicians should ask all persons with meningococcal disease about recent travel, including flight information.

Occasionally, a passenger's illness becomes evident during a flight. During the previous 2 years, five passengers with symptomatic meningococcal disease have flown on international flights to the United States. The airline crew reported only one of these cases before arrival, a critically ill passenger who later died. Federal law requires that an ill passenger on an international conveyance must be reported to the Public Health Service before arrival in the United States*. The pilot should contact the closest of eight CDC quarantine stations that are located at international airports to report an ill passenger. Quarantine station staff will assist the airline in management of the ill passenger and notification of fellow passengers and crew members. Many pilots are not familiar with the requirement to report arriving ill passengers aboard flights. Commercial pilot in-flight manuals should be updated to include procedures for managing an ill passenger and detailed information on how to contact the closest CDC quarantine station.

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* 42 CFR 71.21(b).

Meningococcal Disease on Aircrafts — Continued

Notification of meningococcal exposures on an aircraft is frequently hindered by difficulty in obtaining passenger contact information. Airlines typically maintain the passenger manifest and history records for 2–7 days, after which they are either archived or destroyed. Some airborne pathogens other than meningococcus have longer incubation periods, including tuberculosis and many bioterrorism agents. As a result, it may be necessary to contact passengers several weeks after a flight has disembarked. To facilitate timely identification and public health notification and management of at-risk passengers, commercial airlines should ensure that electronic passenger manifests and contact information are preserved and readily available for a period of at least 1 month following disembarkation.

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University Outbreak of Calicivirus Infection Mistakenly Attributed to Shiga Toxin-Producing *Escherichia coli* O157:H7 — Virginia, 2000

On February 21–22, 2000, the Virginia Department of Health (VDH) was notified by a university student health center of two suspected cases of *Escherichia coli* O157:H7. At a local hospital laboratory, stool specimens from the two ill students tested positive for Shiga toxin-producing *E. coli* (STEC) using a commercially available enzyme immunoassay (EIA) kit. Further investigation revealed that the outbreak of gastrointestinal illness was caused by a Norwalk-like virus (NLV), a member of the calicivirus family. This report summarizes the outbreak investigation and laboratory findings used to identify the causative agent, and highlights the need for follow-up cultures on all specimens testing positive for STEC by EIA and for submission of isolates to state laboratories so that public health agencies can respond appropriately in identifying common source outbreaks.

Three staff members from Virginia's epidemiology office were sent to assist the local health department with the epidemiologic and environmental investigations. VDH staff interviewed 12 students who had sought care for gastrointestinal symptoms at the student health center during the previous week. Most students reported illnesses that

Calicivirus Infection — Continued

appeared more likely to be caused by a virus than by STEC (i.e., vomiting and/or diarrhea lasting 1–2 days that occurred approximately 24–48 hours after eating at an area restaurant [restaurant A]). Other restaurant patrons were located by questioning ill students about persons they knew or recognized at restaurant A on February 18. A case of illness was defined as vomiting or diarrhea occurring within 72 hours of eating at restaurant A. A survey was conducted of 36 ill and 32 well restaurant A patrons. The median incubation period was 31.3 hours (range: 2.5–49.0 hours). Symptoms included nausea (97%), vomiting (97%), abdominal cramps (86%), chills (78%), muscle aches (67%), fever (64%), headache (61%), and diarrhea (58%). The median illness duration was 26.5 hours (range: 6–120 hours). One ill person was hospitalized and 10 others sought medical care. Eating a sandwich or "sub" (76%) was associated highly with illness (relative risk=14.5; 95% confidence interval=2.1–98.1). No other food item was associated with illness.

The two stool specimens that had tested positive for Shiga toxin at the local hospital laboratory did not yield *E. coli* O157:H7 or other STEC when tested on February 29 at the Virginia Division of Consolidated Laboratory Services (DCLS) using standard biochemical and EIA analysis. Additional stool specimens obtained from ill persons and submitted to DCLS also did not yield Shiga toxin-producing organisms. On subsequent testing by reverse transcriptase-polymerase chain reaction, four of eight specimens were positive for NLV. These results were consistent with the patients' clinical presentation.

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Editorial Note: In 1995, rapid assays for Shiga toxin first became commercially available. These nonculture assays can detect *E. coli* O157:H7 and other Shiga toxin-producing strains in stool specimens and culture broth (*1*). However, as the findings in this report illustrate, these nonculture rapid assays are subject to false positives, which can result in unnecessary public concern and expenditure of public health resources. Follow-up cultures are needed to confirm the presence of STEC and to obtain isolates for subtyping by pulsed-field gel electrophoresis at state public health laboratories.

Although subtyping is of limited value to the individual patient, it is a useful tool for identifying and responding to common source outbreaks caused by *E. coli* O157:H7 (*2*). Several states require clinical laboratories to submit *E. coli* O157:H7 isolates for this purpose. Routine submission of all STEC to state public health laboratories also allows enhanced surveillance for illness caused by non-O157 STEC. In 2000, the Council of State and Territorial Epidemiologists adopted a position supporting culture confirmation of positive results from rapid assay tests for pathogens of public health importance (*3*).

Because the clinical signs and symptoms of NLV infection are nonspecific and overlap with other causes of foodborne disease, criteria were developed to aid health-care providers in identifying NLV-associated infection (*4,5*). These criteria include 1) an illness of 12–60 hours duration, 2) an incubation period of 12–36 hours, and 3) an illness characterized by acute onset of nausea, vomiting, diarrhea, abdominal cramping, and, in some cases, fever and malaise (*4,6*). Diarrhea is usually more common among adults and vomiting is usually more common among children (*4*). Additional information on NLV is

Calicivirus Infection — Continued

available from CDC's National Center for Infectious Diseases, Division of Viral and Rickettsial Diseases, Respiratory and Enteric Viruses Branch, Viral Gastroenteritis Section at http://www.cdc.gov/od/oc/media/fact/norwalkv.htm.

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Kernicterus in Full-Term Infants — United States, 1994–1998

Kernicterus is a preventable life-long neurologic syndrome caused by severe and untreated hyperbilirubinemia during the neonatal period. High levels of bilirubin are toxic to the developing newborn. In full-term infants, hyperbilirubinemia symptoms include severe jaundice, lethargy, and poor feeding. Features of kernicterus may include choreoathetoid cerebral palsy, mental retardation, sensorineural hearing loss, and gaze paresis. Kernicterus is not a reportable condition in the United States, and its prevalence is unknown; however, a pilot registry at a Pennsylvania hospital documented 90 cases in 21 states from 1984 to June 2001 (L. Johnson, Pennsylvania Hospital, Philadelphia, personal communication, 2001). This report summarizes case histories of four full-term, healthy infants who developed kernicterus and underscores that to prevent kernicterus, newborns must be screened and promptly treated for hyperbilirubinemia (*1*).

In early 2001, a national support group for parents of children with kernicterus conducted a survey on kernicterus. A convenience sample of 15 families was identified by word-of-mouth or through the Internet, and a self-administered questionnaire was mailed. For this report, a case was defined as a child in whom kernicterus (*International Classification of Diseases, Ninth Revision,* Clinical Modification, codes 773.4, 774.6, and 774.7) was diagnosed since 1994, who was >37 weeks' gestational age, and who weighed at birth >5 lbs, 5 oz (>2500 g). Among the sample families, seven did not complete the questionnaire, four had children who did not meet the case definition, and the remaining four had children who did meet the case definition.

Case Reports

Case 1. In 1994, an apparently healthy white boy was born at 37 weeks' gestation weighing 6 lbs, 13 oz (3090 g). Delivery was uncomplicated. His 1 minute and 5 minute Apgar scores were eight and nine, respectively (normal range: seven–10). His mother's blood type was O+, and the newborn was A+, Coombs negative. On discharge at 20 hours, he was alert and nursing well; a 2-week follow-up appointment was scheduled at a pediatric clinic. On day 9, the infant was taken to a pediatric clinic with jaundice. The

Kernicterus in Full-Term Infants — Continued

condition was thought to be the result of breastfeeding. That evening, he exhibited lethargy, was not nursing, and had "pumpkin orange" skin coloration. On day 10, the parents notified their physician about the infant's lethargy and poor eating and were given an appointment for the following morning. During a pediatric appointment on day 11, the infant weighed 5 lbs, 10 oz (2552 g), was dehydrated, and jaundiced. A tested serum sample revealed an elevated bilirubin of 41.5 mg/dL (normal range at age >72 hours: <17 mg/dL). Despite treatment with phototherapy and two double-volume exchange transfusions, on day 11, he developed athetosis, oral-motor dysfunction requiring a gastrostomy tube, and dental dysplasia. Kernicterus was diagnosed at age 6 months.

Case 2. In 1995, an apparently healthy white boy was born at 37 weeks' gestation weighing 6 lbs, 5 oz (2863 g). Apgar scores were eight and nine at 1 and 5 minutes, respectively. At 17, 23, and 33 hours, jaundice was noted. No serum bilirubin level or ABO or Rh status was disclosed. Examination revealed normal neurologic and physical findings, and he was discharged after 36 hours; a follow-up appointment at a pediatric clinic was scheduled at 1 week. On day 4, the patient exhibited lethargy and poor breastfeeding. On day 5, he was admitted to a hospital. Laboratory findings included a bilirubin level of 34.6 mg/dL, and phototherapy was started. Later that day, the patient developed opisthotonus, a high-pitched cry, and poor suckling and later developed athetoid cerebral palsy, hearing loss, and gaze paresis. Kernicterus was diagnosed at age 18 months.

Case 3. In 1997, an apparently healthy white boy was born at 37 weeks' gestation weighing 8 lbs, 2 oz (3686 g). His Apgar scores were nine at 1 and 5 minutes. On discharge at 22 hours, a cephalohematoma and heart murmur were noted. The following day, the infant was taken to a pediatric clinic where examination found jaundice but no heart murmur. Fifteen minutes of sunlight per day was recommended as treatment. During the next 4 days, the infant developed lethargy and poor breastfeeding. On day 6, he was taken to a pediatric clinic where a serum sample was drawn and tested. Results included a bilirubin level of 27 mg/dL; phototherapy was started. By 11 p.m., the patient's bilirubin peaked at 33.4 mg/dL, and he received an exchange transfusion. During the next 4 months, he developed athetoid cerebral palsy, oral-motor dysfunction requiring a gastrostomy tube, and gaze paresis. Kernicterus was diagnosed at age 4 months.

Case 4. In 1998, an apparently healthy white boy was born at 39 weeks' gestation weighing 9 lbs, 8 oz (4313 g). Pregnancy was unremarkable but delivery required vacuum extraction. His Apgar scores were eight and nine at 1 and 5 minutes, respectively. AO blood incompatibility was noted and Rh status was unknown. At 22 hours, he appeared jaundiced; at 52 hours, he was discharged with the treatment recommendation that he receive sunlight. The infant was alert and nursed well during the next 11 days. However, at his follow-up examination on day 12, he appeared jaundiced. The initial serum bilirubin level was 23.6 mg/dL, which peaked at 29.4 mg/dL. The same day, the infant was admitted to a hospital for phototherapy. During the next 4 months, he developed athetoid cerebral palsy, hearing loss, and enamel hypoplasia, and kernicterus was diagnosed at age 4 months.

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Editorial Note: These cases illustrate that hyperbilirubinemia in full-term, otherwise healthy infants can lead to kernicterus. Each of these white male infants was nursing normally when discharged but shortly after developed feeding problems. A historic cohort study suggests boys are more susceptible than girls to adverse outcomes from

Kernicterus in Full-Term Infants — Continued

hyperbilirubinemia (*2*). At follow-up, initial serum bilirubin levels in all the infants exceeded maximum levels (mean: 34.7 mg/dL) specified for treatment by the American Academy of Pediatrics practice guideline, which currently is under revision (*3*).

Treating hyperbilirubinemia with phototherapy and exchange transfusions prevents kernicterus if treatment is initiated promptly and is continued until bilirubin levels normalize. By the 1970s, such therapy was implemented effectively, and kernicterus virtually disappeared in full-term infants until the early 1990s (*4*), when physicians began to debate the need to identify and treat hyperbilirubinemia in healthy, full-term infants without risk factors for hemolysis (*5–7*).

Increases in breastfeeding and early hospital discharge after delivery coincided with this debate (*8,9*). Although mild jaundice occasionally is associated with breastfeeding, it provides optimum nutrition. In the full-term newborn, serum bilirubin levels peak at 48–72 hours. Healthy, full-term infants often are discharged from hospitals before this peak. Some health-care providers rely on visual assessment to detect pathology; however, this method can be unreliable. Hyperbilirubinemia can be reduced if heath-care providers recognize risk factors and remember the acronym "JAUNDICE" (see box). Another useful tool is the May 2, 2001, Sentinel Event Alert issued by the Joint Commission on Accreditation of Healthcare Organizations.

The findings in this report are subject to at least two limitations. First, a small number of case reports has inherent limitations that include lack of representativeness. No inference can be made about risks for disease or trends. Second, these cases reflect self-reported data and are subject to potential reporting bias.

Early hyperbilirubinemia detection is critical to the prevention of the irreversible effects of kernicterus. Health-care providers, parents, and other caretakers should be aware of risk factors for hyperbilirubinemia, and treatment should begin immediately after hyperbilirubinemia is diagnosed. Verbal and written information received before the infant is discharged may be useful in gaining an understanding of risk factors for and signs and treatment of jaundice and hyperbilirubinemia. Bilirubin levels before discharge may provide quantitative measurement that could aid management (*5,10*). Infants discharged <48 hours after birth should be examined by a health-care provider within 2 to 3 days to receive routine follow-up visits and a jaundice assessment. In addition, CDC, along with other agencies, researchers, and partners, plans to initiate surveillance and the systematic evaluation of trends and prevalence rate that will provide the data necessary to target prevention activities.

Major Risk Factors for Hyperbilirubinemia in Full-Term Newborns

- **J**aundice within first 24 hours after birth.
- **A** sibling who was jaundiced as a neonate.
- **U**nrecognized hemolysis such as ABO blood type incompatibility or Rh incompatibility.
- **N**onoptimal sucking/nursing.
- **D**eficiency in glucose-6-phosphate dehydrogenase, a genetic disorder.
- **I**nfection.
- **C**ephalohematomas/bruising.
- **E**ast Asian or Mediterranean descent.

Kernicterus in Full-Term Infants — Continued

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Notice to Readers

Availability of Case Definition for Acute Idiopathic Pulmonary Hemorrhage in Infants

In response to CDC recommendations published in March 2000 (*1*), CDC has established procedures for the surveillance of acute idiopathic pulmonary hemorrhage in infants (AIPHI) and for conducting investigations and special studies. As part of these activities, CDC convened three meetings to 1) establish a case definition and classification scheme for public health surveillance of AIPHI, 2) recommend a standard home environment investigation protocol, and 3) outline a plan for surveillance and investigation of AIPHI. An AIPHI case definition for public health surveillance would facilitate case finding to document the burden of the condition and studies to identify possible etiologic agents or risk factors. Following are the recommended clinical description and case definition.

Proposed Clinical Description of AIPHI

Cases of AIPHI are characterized by the sudden onset of pulmonary hemorrhage in a previously healthy infant. Evidence of pulmonary hemorrhage includes hemoptysis, and finding blood in the nose or airway with no evidence of upper respiratory or gastrointestinal bleeding. Patients present with acute, severe respiratory distress or failure requiring mechanical ventilation and often demonstrate bilateral infiltrates on chest radiograph.

Notice to Readers — Continued

Proposed Criteria for a Clinically Confirmed Case of AIPHI

A clinically confirmed case is an illness in a previously healthy infant aged <1 year with a gestational age of ≥32 weeks with no history of neonatal medical problems that could cause pulmonary hemorrhage and who meets criteria A, B, and C.

A. Abrupt or sudden onset of overt bleeding or frank evidence of blood in the airway.
B. Severe presentation leading to acute respiratory distress or respiratory failure, resulting in hospitalization in a pediatric intensive care unit with intubation and mechanical ventilation.
C. Diffuse, bilateral pulmonary infiltrates on chest radiograph or computerized tomography of the chest.

Additional information about the report and copies of the case definition are available from CDC's Air Pollution and Respiratory Health Branch, Division of Environmental Hazards and Health Effects, National Center for Environmental Health, Mailstop E-17, 1600 Clifton Rd, N.E., Atlanta, GA 30333; telephone (404) 639-2520. The full proposed case definition and classification scheme "Case Definition for Acute Idiopathic Pulmonary Hemorrhage in Infants" is available at http://www.cdc.gov/nceh/asthma/acute/AIPHIcasedef.htm.

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Notice to Readers

Publication of Report on Tobacco Control Investment by States

CDC recently published *Investment in Tobacco Control: State Highlights, 2001* (*1*). The publication presents information for all 50 states and the District of Columbia on the prevalence of tobacco use, the health impact and costs associated with tobacco use, the amount of funding for tobacco control, and excise taxes on tobacco. States can use the information in the report in developing tobacco control programs.

Investment in Tobacco Control is the third state highlights report released by CDC's Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, and is the first to provide a compilation of states' investments in tobacco control. The report presents an analysis of investments in tobacco control, places these investments in the context of health and economic consequences of tobacco use specific to the state, and compares current investments with the funding ranges recommended in CDC's *Best Practices for Comprehensive Tobacco Control Programs* (*2*).

The report shows that in fiscal year 2001, 45 states are investing $883.2 million in tobacco prevention and control programs, including 36 states investing $654.9 million from state settlements with the tobacco industry; eight states appropriating $218.4 million from tobacco excise tax revenues; and nine states appropriating $9.9 million from their general revenues. Other funding sources include $58.1 million awarded to the states by CDC and $9 million awarded by the American Legacy Foundation.

The report is available at http://www.cdc.gov/tobacco/statehi/pdf_2001/2001statehighlights.pdf, and print copies are available through CDC's Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, Mailstop K-50, 4770 Buford Highway, N.E., Atlanta, GA 30341; telephone (770) 488-5705.

Notice to Readers — Continued

Up-to-date and historic data on the prevalence of tobacco use, tobacco control laws, the health impact and costs associated with tobacco use, and tobacco agriculture and manufacturing are available for all 50 states and the District of Columbia through CDC's State Tobacco Activities Tracking and Evaluation (STATE) System available at http://www2.cdc.gov/nccdphp/osh/state/.

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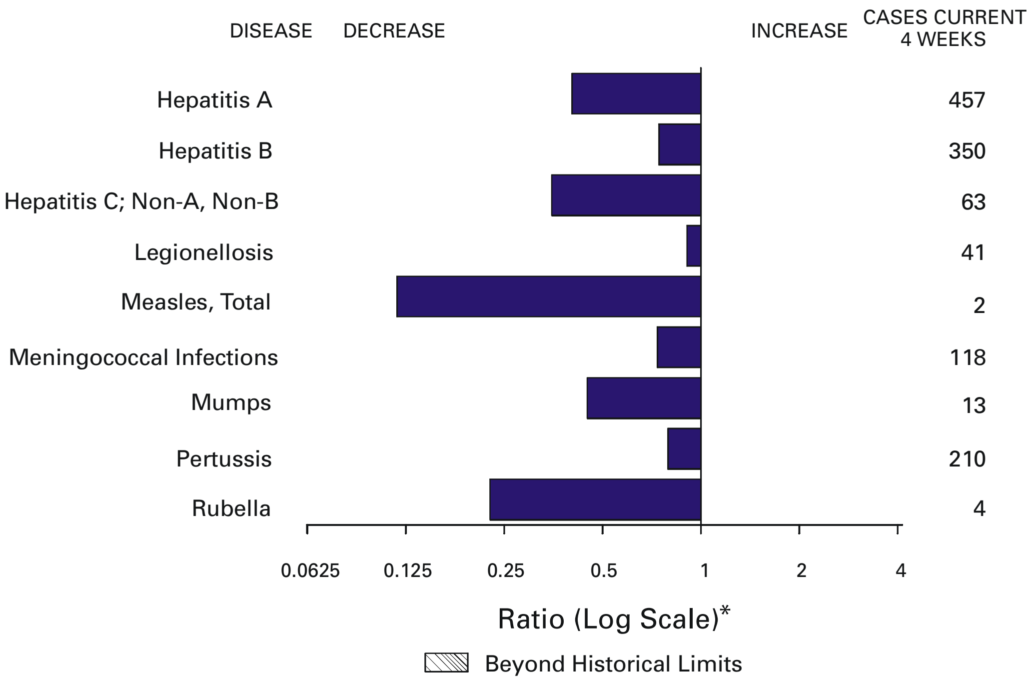
Erratum: Vol. 50, No. RR-9

In the *Recommendations and Reports*, "'Norwalk-Like Viruses:' Public Health Consequences and Outbreak Management," an error occurred in the figure titles on pages 4 and 6. The title for Figure 1 on page 4 should read, "Mode of transmission of 348 outbreaks of gastroenteritis reported to CDC during January 1996–November 2000.*" The title for Figure 2 on page 6 should read, "Settings of 348 outbreaks of gastroenteritis reported to CDC during January 1996–November 2000.*"

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals ending June 9, 2001, with historical data



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

TABLE I. Summary of provisional cases of selected notifiable diseases, United States, cumulative, week ending June 9, 2001 (23rd Week)

	Cum. 2001		Cum. 2001
Anthrax	-	Poliomyelitis, paralytic	-
Brucellosis*	26	Psittacosis*	4
Cholera	3	Q fever*	7
Cyclosporiasis*	69	Rabies, human	-
Diphtheria	1	Rocky Mountain spotted fever (RMSF)	96
Ehrlichiosis: human granulocytic (HGE)*	27	Rubella, congenital syndrome	-
human monocytic (HME)*	13	Streptococcal disease, invasive, group A	1,742
Encephalitis: California serogroup viral*	-	Streptococcal toxic-shock syndrome*	25
eastern equine*	-	Syphilis, congenital¶	66
St. Louis*	-	Tetanus	10
western equine*	-	Toxic-shock syndrome	58
Hansen disease (leprosy)*	28	Trichinosis	5
Hantavirus pulmonary syndrome*†	3	Tularemia*	20
Hemolytic uremic syndrome, postdiarrheal*	30	Typhoid fever	102
HIV infection, pediatric*§	84	Yellow fever	-
Plague	-		

-: No reported cases.
*Not notifiable in all states.
† Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP). Last update May 29, 2001.
§ Updated from reports to the Division of STD Prevention, NCHSTP.

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending June 9, 2001, and June 10, 2000 (23rd Week)

Reporting Area	AIDS		Chlamydia[†]		Cryptosporidiosis		*Escherichia coli* O157:H7* NETSS		*Escherichia coli* O157:H7* PHLIS	
	Cum. 2001[§]	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	15,380	16,292	278,180	298,018	653	662	568	814	424	710
NEW ENGLAND	586	987	9,786	10,123	25	38	60	91	48	95
Maine	18	16	556	593	3	8	8	6	7	6
N.H.	14	13	551	457	-	2	10	5	7	8
Vt.	10	1	250	237	12	11	2	3	1	5
Mass.	332	669	4,484	4,280	5	10	24	44	21	42
R.I.	44	40	1,206	1,149	3	2	4	4	2	5
Conn.	168	248	2,739	3,407	2	5	12	29	10	29
MID. ATLANTIC	3,108	3,928	29,734	28,397	71	130	45	114	36	85
Upstate N.Y.	182	181	5,142	519	34	33	36	82	25	38
N.Y. City	1,587	2,313	12,716	12,000	32	77	2	7	1	4
N.J.	746	832	3,795	5,379	2	5	7	25	10	21
Pa.	593	602	8,081	10,499	3	15	N	N	-	22
E.N. CENTRAL	1,163	1,590	39,066	51,013	213	144	133	150	87	106
Ohio	198	196	4,653	12,976	49	21	38	25	25	22
Ind.	119	146	6,057	5,764	27	10	21	16	10	20
Ill.	558	1,002	11,089	14,828	1	21	27	45	19	32
Mich.	224	184	13,010	10,133	55	22	22	26	18	20
Wis.	64	62	4,257	7,312	81	70	25	38	15	12
W.N. CENTRAL	355	358	14,620	16,855	34	47	74	106	72	118
Minn.	67	78	2,667	3,495	-	11	30	26	36	41
Iowa	40	36	1,490	2,304	18	14	12	17	7	12
Mo.	168	149	5,198	5,644	6	6	11	29	17	28
N. Dak.	1	-	388	396	2	3	1	6	3	6
S. Dak.	9	3	811	764	4	5	6	3	5	8
Nebr.	27	25	1,539	1,587	4	5	6	17	-	18
Kans.	43	67	2,527	2,665	-	3	8	8	4	5
S. ATLANTIC	4,910	4,276	54,911	54,900	133	101	59	64	25	54
Del.	84	77	1,284	1,305	1	3	-	1	-	-
Md.	591	455	5,287	5,675	27	6	3	9	-	1
D.C.	360	315	1,515	1,431	9	2	-	-	U	U
Va.	388	295	7,149	7,065	7	4	14	14	8	15
W. Va.	35	27	1,030	929	-	3	1	3	-	3
N.C.	212	255	7,787	9,144	14	9	24	9	11	9
S.C.	340	293	5,393	3,986	-	-	2	4	2	3
Ga.	579	429	10,779	11,231	46	54	6	8	2	11
Fla.	2,321	2,130	14,687	14,134	29	20	9	16	2	12
E.S. CENTRAL	836	767	20,548	21,657	15	21	24	38	15	28
Ky.	181	98	3,737	3,519	1	1	6	12	5	11
Tenn.	249	314	6,728	6,262	3	4	12	15	9	13
Ala.	182	206	4,890	6,668	5	9	6	3	-	2
Miss.	224	149	5,193	5,208	6	7	-	8	1	2
W.S. CENTRAL	1,617	1,475	43,072	45,445	14	32	30	57	39	84
Ark.	89	92	3,230	2,747	2	1	2	19	-	23
La.	403	265	7,305	8,367	7	8	2	6	14	16
Okla.	90	112	4,589	4,005	3	2	9	7	10	6
Tex.	1,035	1,006	27,948	30,326	2	21	17	25	15	39
MOUNTAIN	636	552	15,135	17,747	48	32	64	70	40	43
Mont.	12	7	957	684	5	4	5	10	-	-
Idaho	14	11	759	784	5	3	8	9	-	4
Wyo.	1	2	354	310	-	4	1	4	1	3
Colo.	126	130	1,284	5,356	15	8	27	26	20	13
N. Mex.	50	58	2,538	2,210	8	1	5	3	2	3
Ariz.	258	170	6,410	5,621	2	2	10	15	9	14
Utah	53	57	697	1,124	11	8	5	2	7	4
Nev.	122	117	2,136	1,658	2	2	3	1	1	2
PACIFIC	2,169	2,359	51,308	51,881	100	117	79	124	62	97
Wash.	247	243	6,160	5,588	N	U	17	35	13	52
Oreg.	104	86	1,283	2,956	3	5	18	16	13	22
Calif.	1,787	1,962	42,423	40,709	95	112	42	64	34	15
Alaska	9	5	1,134	1,086	-	-	1	1	-	1
Hawaii	22	63	308	1,542	2	-	1	8	2	7
Guam	9	13	-	233	-	-	N	N	U	U
P.R.	535	431	1,570	U	-	-	-	3	U	U
V.I.	2	18	53	-	-	-	-	-	U	U
Amer. Samoa	-	-	U	U	U	U	U	U	U	U
C.N.M.I.	-	-	53	U	-	U	-	U	U	U

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

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

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

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update May 29, 2001.

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending June 9, 2001, and June 10, 2000 (23rd Week)

Reporting Area	Gonorrhea		Hepatitis C; Non-A, Non-B		Legionellosis		Listeriosis	Lyme Disease	
	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2001	Cum. 2000
UNITED STATES	126,614	147,343	980	1,531	282	309	162	1,115	2,966
NEW ENGLAND	2,673	2,801	12	12	19	23	17	372	658
Maine	57	34	-	-	1	2	-	-	-
N.H.	60	44	-	-	4	2	-	47	31
Vt.	36	29	5	3	4	1	-	1	7
Mass.	1,380	1,088	7	6	5	10	11	73	228
R.I.	305	280	-	3	1	3	1	35	26
Conn.	835	1,326	-	-	4	5	5	216	366
MID. ATLANTIC	13,751	15,870	34	328	30	82	28	423	1,784
Upstate N.Y.	3,229	2,890	22	13	19	23	12	335	448
N.Y. City	5,361	4,998	-	-	4	11	5	1	66
N.J.	1,327	3,025	-	293	4	8	6	7	675
Pa.	3,834	4,957	12	22	3	40	5	80	595
E.N. CENTRAL	21,228	29,041	99	114	74	82	20	30	149
Ohio	3,078	7,287	5	3	41	34	4	26	14
Ind.	2,495	2,587	1	-	6	9	3	1	4
Ill.	6,749	9,038	10	12	-	7	-	-	11
Mich.	7,574	7,053	83	99	18	16	12	-	7
Wis.	1,332	3,076	-	-	9	16	1	3	113
W.N. CENTRAL	6,115	7,151	335	261	20	17	4	39	43
Minn.	847	1,388	1	4	1	1	-	25	15
Iowa	392	462	-	1	5	3	-	4	-
Mo.	3,133	3,454	330	250	9	10	1	8	15
N. Dak.	14	29	-	-	-	-	-	-	-
S. Dak.	121	115	-	-	-	1	-	-	-
Nebr.	539	588	1	2	4	-	1	-	2
Kans.	1,069	1,115	3	4	1	2	2	2	11
S. ATLANTIC	33,254	38,614	51	36	52	49	28	186	264
Del.	705	731	-	2	-	4	-	5	52
Md.	3,002	3,827	12	3	12	11	2	125	157
D.C.	1,282	991	-	1	2	-	-	7	1
Va.	3,451	4,433	-	1	7	5	5	33	31
W. Va.	252	295	6	5	N	N	4	1	8
N.C.	6,488	8,069	8	12	5	7	-	6	8
S.C.	3,910	3,580	3	-	1	2	2	2	2
Ga.	5,860	6,900	-	1	3	4	8	-	-
Fla.	8,304	9,788	22	11	22	16	7	7	5
E.S. CENTRAL	13,194	15,327	102	207	26	9	8	8	11
Ky.	1,458	1,474	3	16	7	5	2	2	3
Tenn.	4,472	4,825	30	46	10	1	3	4	6
Ala.	3,943	5,119	2	7	7	2	3	2	1
Miss.	3,321	3,909	67	138	2	1	-	-	1
W.S. CENTRAL	20,699	23,475	161	465	4	12	4	7	21
Ark.	1,990	1,480	3	3	-	-	1	-	-
La.	5,001	5,905	74	241	2	6	-	1	2
Okla.	2,083	1,756	3	2	2	1	-	-	-
Tex.	11,625	14,334	81	219	-	5	3	6	19
MOUNTAIN	4,515	4,569	131	31	22	16	16	4	1
Mont.	48	22	-	2	-	-	-	-	-
Idaho	33	37	1	2	1	3	1	2	-
Wyo.	24	27	101	1	1	-	1	1	1
Colo.	1,383	1,441	10	5	6	6	2	-	-
N. Mex.	410	469	10	6	1	1	3	-	-
Ariz.	1,778	1,848	5	11	7	2	3	-	-
Utah	62	116	1	-	4	4	1	-	-
Nev.	777	609	3	4	2	-	5	1	-
PACIFIC	11,185	10,495	55	77	35	19	37	46	35
Wash.	1,315	976	14	10	6	8	2	2	-
Oreg.	197	384	7	15	N	N	1	3	3
Calif.	9,432	8,793	34	52	29	11	34	41	31
Alaska	141	140	-	-	-	-	-	-	1
Hawaii	100	202	-	-	-	-	-	N	N
Guam	-	23	-	1	-	-	-	-	-
P.R.	436	250	1	1	2	-	-	N	N
V.I.	6	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	-	U	U
C.N.M.I.	3	U	-	U	-	U	-	-	U

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

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending June 9, 2001, and June 10, 2000 (23rd Week)

	Malaria		Rabies, Animal		Salmonellosis*			
					NETSS		PHLIS	
Reporting Area	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	376	499	2,524	2,856	10,685	12,484	9,078	11,172
NEW ENGLAND	30	20	256	317	804	743	793	752
Maine	3	3	31	64	95	52	74	35
N.H.	2	1	7	4	60	51	57	49
Vt.	-	2	34	27	33	50	34	50
Mass.	9	9	83	101	463	435	393	423
R.I.	3	3	26	20	44	26	67	49
Conn.	13	2	75	101	109	129	168	146
MID. ATLANTIC	67	104	363	487	1,068	1,913	1,485	1,976
Upstate N.Y.	19	20	284	300	386	426	376	509
N.Y. City	34	54	8	4	366	506	470	525
N.J.	8	13	68	68	204	493	218	375
Pa.	6	17	3	115	112	488	421	567
E.N. CENTRAL	43	61	18	27	1,500	1,806	1,174	1,136
Ohio	9	6	4	5	517	434	412	408
Ind.	9	3	1	-	148	198	128	225
Ill.	1	33	3	1	349	571	255	1
Mich.	16	13	10	13	277	353	243	381
Wis.	8	6	-	8	209	250	136	121
W.N. CENTRAL	15	23	146	246	686	720	715	908
Minn.	6	7	17	33	211	104	260	251
Iowa	1	1	29	35	113	96	95	111
Mo.	4	4	13	12	178	256	238	309
N. Dak.	-	2	19	63	10	15	22	32
S. Dak.	-	-	21	51	45	33	39	40
Nebr.	2	3	1	-	50	77	-	60
Kans.	2	6	46	52	79	139	61	105
S. ATLANTIC	103	114	925	1,003	2,579	2,104	1,638	1,761
Del.	1	3	17	18	31	39	33	44
Md.	41	38	100	190	270	292	262	283
D.C.	4	5	-	-	29	23	U	U
Va.	21	26	195	253	415	284	328	302
W. Va.	1	-	59	56	37	54	47	52
N.C.	2	10	265	249	412	288	272	279
S.C.	4	1	55	56	290	180	272	152
Ga.	8	4	135	123	365	365	351	480
Fla.	21	27	99	58	730	579	73	169
E.S. CENTRAL	10	17	86	82	623	590	401	498
Ky.	2	3	10	11	112	134	76	93
Tenn.	5	5	61	46	175	141	187	221
Ala.	3	8	15	25	205	167	109	153
Miss.	-	1	-	-	131	148	29	31
W.S. CENTRAL	5	27	481	457	1,021	1,417	898	834
Ark.	2	1	-	-	144	137	92	99
La.	1	4	-	-	240	246	214	176
Okla.	1	3	39	31	91	124	81	98
Tex.	1	19	442	426	546	910	511	461
MOUNTAIN	22	19	96	106	769	1,016	595	938
Mont.	2	1	16	26	30	48	-	-
Idaho	2	-	1	1	44	53	4	47
Wyo.	-	-	16	30	28	24	22	20
Colo.	10	10	-	-	209	321	200	298
N. Mex.	1	-	3	7	99	89	75	85
Ariz.	2	2	60	40	220	231	194	247
Utah	3	3	-	2	85	150	77	147
Nev.	2	3	-	-	54	100	23	94
PACIFIC	81	114	153	131	1,635	2,175	1,379	2,369
Wash.	2	8	-	-	179	176	205	250
Oreg.	4	22	-	-	74	136	118	175
Calif.	71	81	120	108	1,312	1,767	930	1,848
Alaska	1	-	33	23	18	23	2	19
Hawaii	3	3	-	-	52	73	124	77
Guam	-	-	-	-	-	12	U	U
P.R.	3	4	50	30	239	197	U	U
V.I.	-	-	-	-	-	-	U	U
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	5	U	U	U

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

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

TABLE II. (Cont'd) Provisional cases of selected notifiable diseases, United States, weeks ending June 9, 2001, and June 10, 2000 (23rd Week)

	Shigellosis*				Syphilis (Primary & Secondary)		Tuberculosis	
	NETSS		PHLIS					
Reporting Area	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000
UNITED STATES	5,272	8,153	2,725	4,604	2,286	2,766	4,613	5,807
NEW ENGLAND	80	145	83	115	18	37	170	161
Maine	4	5	1	-	-	1	5	3
N.H.	1	1	1	6	1	1	7	4
Vt.	3	1	2	-	2	-	2	2
Mass.	54	104	52	74	10	26	104	95
R.I.	7	10	10	11	1	2	19	17
Conn.	11	24	17	24	4	7	33	40
MID. ATLANTIC	440	1,194	343	741	175	130	958	951
Upstate N.Y.	217	372	15	146	5	6	131	118
N.Y. City	143	555	196	365	102	56	498	513
N.J.	40	162	67	133	40	27	215	221
Pa.	40	105	65	97	28	41	114	99
E.N. CENTRAL	814	1,628	418	506	375	595	490	545
Ohio	338	102	188	84	39	32	79	121
Ind.	109	560	19	54	75	195	38	56
Ill.	156	444	105	2	102	206	253	250
Mich.	134	368	93	335	149	136	88	79
Wis.	77	154	13	31	10	26	32	39
W.N. CENTRAL	581	651	448	578	27	38	180	221
Minn.	217	125	232	197	12	4	97	75
Iowa	101	166	84	139	1	10	9	19
Mo.	119	280	76	193	6	19	48	79
N. Dak.	12	2	2	3	-	-	3	-
S. Dak.	61	2	37	1	-	-	6	9
Nebr.	32	26	-	12	-	2	17	9
Kans.	39	50	17	33	8	3	-	30
S. ATLANTIC	834	923	248	352	882	915	953	1,180
Del.	4	7	4	6	5	4	-	2
Md.	51	41	26	18	104	134	76	104
D.C.	22	11	U	U	19	19	15	2
Va.	61	111	27	115	56	62	96	120
W. Va.	4	3	6	3	-	1	12	15
N.C.	161	51	78	26	214	274	136	160
S.C.	90	50	46	45	123	95	96	129
Ga.	95	110	57	87	119	159	173	238
Fla.	346	539	4	52	242	167	349	410
E.S. CENTRAL	532	386	200	274	258	402	271	399
Ky.	193	95	73	40	18	46	42	45
Tenn.	39	185	38	211	144	250	69	155
Ala.	115	21	78	20	46	48	123	131
Miss.	185	85	11	3	50	58	37	68
W.S. CENTRAL	880	1,412	650	410	285	369	500	887
Ark.	257	87	155	24	19	45	53	90
La.	104	130	81	68	59	83	-	65
Okla.	16	47	2	16	35	64	60	57
Tex.	503	1,148	412	302	172	177	387	675
MOUNTAIN	322	386	199	251	94	94	163	206
Mont.	-	3	-	-	-	-	-	6
Idaho	14	28	-	19	-	-	4	4
Wyo.	-	2	-	2	-	1	1	1
Colo.	63	72	54	33	16	5	48	29
N. Mex.	53	40	33	22	9	8	11	23
Ariz.	146	140	82	89	59	77	60	70
Utah	23	33	22	36	6	-	8	22
Nev.	23	68	8	50	4	3	31	51
PACIFIC	789	1,428	136	1,377	172	186	928	1,257
Wash.	72	298	76	273	23	28	84	99
Oreg.	23	92	42	57	4	7	37	36
Calif.	684	1,014	-	1,029	144	150	777	1,017
Alaska	3	6	1	3	-	-	17	48
Hawaii	7	18	17	15	1	1	13	57
Guam	-	18	U	U	-	2	-	26
P.R.	6	14	U	U	101	80	31	61
V.I.	-	-	U	U	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U
C.N.M.I.	4	U	U	U	-	U	17	U

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

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

TABLE III. Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending June 9, 2001, and June 10, 2000 (23rd Week)

	H. influenzae, Invasive		Hepatitis (Viral), By Type				Measles (Rubeola)					
			A		B		Indigenous		Imported*		Total	
Reporting Area	Cum. 2001†	Cum. 2000	Cum. 2001	Cum. 2000	Cum. 2001	Cum. 2000	2001	Cum. 2001	2001	Cum. 2001	Cum. 2001	Cum. 2000
UNITED STATES	630	607	4,041	5,713	2,660	2,991	-	38	-	22	60	36
NEW ENGLAND	25	47	186	136	41	49	-	3	-	1	4	-
Maine	1	1	5	7	5	5	-	-	-	-	-	-
N.H.	-	6	5	11	10	9	-	-	-	-	-	-
Vt.	1	3	5	3	2	5	-	1	-	-	1	-
Mass.	21	27	54	56	3	3	-	2	-	1	3	-
R.I.	2	1	8	6	9	9	-	-	-	-	-	-
Conn.	-	9	109	53	12	18	-	-	-	-	-	-
MID. ATLANTIC	73	104	356	557	381	538	-	2	-	5	7	10
Upstate N.Y.	30	36	109	102	60	58	-	1	-	4	5	-
N.Y. City	23	32	152	224	221	254	-	-	-	-	-	10
N.J.	19	23	70	91	64	88	-	-	-	1	1	-
Pa.	1	13	25	140	36	138	-	1	-	-	1	-
E.N. CENTRAL	80	91	454	751	313	325	-	-	-	10	10	5
Ohio	40	28	109	134	56	56	-	-	-	3	3	2
Ind.	20	10	41	22	14	26	-	-	-	4	4	-
Ill.	10	34	128	322	37	44	-	-	-	3	3	2
Mich.	5	7	150	229	206	183	-	-	-	-	-	1
Wis.	5	12	26	44	-	16	-	-	-	-	-	-
W.N. CENTRAL	25	28	171	413	95	123	-	4	-	-	4	1
Minn.	14	16	14	113	11	16	-	2	-	-	2	1
Iowa	-	-	17	40	11	15	-	-	-	-	-	-
Mo.	9	8	48	183	50	61	-	2	-	-	2	-
N. Dak.	-	1	-	-	-	2	-	-	-	-	-	-
S. Dak.	-	-	1	-	1	-	-	-	-	-	-	-
Nebr.	1	2	21	19	11	19	-	-	-	-	-	-
Kans.	1	1	70	58	11	10	U	-	U	-	-	-
S. ATLANTIC	210	141	831	563	575	501	-	3	-	1	4	-
Del.	-	-	-	9	-	7	-	-	-	-	-	-
Md.	46	35	115	66	64	65	-	2	-	1	3	-
D.C.	-	-	20	8	4	14	-	-	-	-	-	-
Va.	15	28	60	66	59	68	-	-	-	-	-	-
W. Va.	4	4	4	39	14	6	-	-	-	-	-	-
N.C.	28	13	55	85	99	123	-	-	-	-	-	-
S.C.	5	4	26	22	6	3	-	-	-	-	-	-
Ga.	56	40	320	80	154	84	-	1	-	-	1	-
Fla.	56	17	231	188	175	131	-	-	-	-	-	-
E.S. CENTRAL	50	29	146	224	176	201	-	2	-	-	2	-
Ky.	2	11	22	24	17	42	-	2	-	-	2	-
Tenn.	24	12	68	82	80	84	-	-	-	-	-	-
Ala.	23	4	49	27	41	25	-	-	-	-	-	-
Miss.	1	2	7	91	38	50	-	-	-	-	-	-
W.S. CENTRAL	24	34	588	1,046	330	442	-	1	-	-	1	-
Ark.	-	-	29	82	46	46	U	-	U	-	-	-
La.	3	11	46	43	26	69	-	-	-	-	-	-
Okla.	21	21	80	133	46	60	-	-	-	-	-	-
Tex.	-	2	433	788	212	267	-	1	-	-	1	-
MOUNTAIN	94	65	370	388	245	217	-	-	-	1	1	9
Mont.	-	-	5	1	2	3	-	-	-	-	-	-
Idaho	1	2	29	15	6	4	-	-	-	1	1	-
Wyo.	4	1	16	3	16	-	-	-	-	-	-	-
Colo.	23	12	32	82	51	40	-	-	-	-	-	2
N. Mex.	12	15	12	38	67	66	-	-	-	-	-	-
Ariz.	42	29	206	186	75	74	-	-	-	-	-	-
Utah	5	4	32	30	10	12	-	-	-	-	-	3
Nev.	7	2	38	33	18	18	U	-	U	-	-	4
PACIFIC	49	68	939	1,635	504	595	-	23	-	4	27	11
Wash.	1	3	46	135	45	30	-	13	-	2	15	3
Oreg.	13	21	37	109	27	46	-	1	-	-	1	-
Calif.	31	25	844	1,373	428	509	-	8	-	1	9	6
Alaska	3	2	12	7	4	3	-	-	-	-	-	1
Hawaii	1	17	-	11	-	7	-	1	-	1	2	1
Guam	-	-	-	1	-	9	U	-	U	-	-	-
P.R.	1	2	40	155	84	120	-	-	-	-	-	-
V.I.	-	-	-	-	-	-	U	-	U	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	19	U	U	-	U	-	-	U

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

*For imported measles, cases include only those resulting from importation from other countries.

† Of 137 cases among children aged <5 years, serotype was reported for 62, and of those, nine were type b.

TABLE III. (Cont'd) Provisional cases of selected notifiable diseases preventable by vaccination, United States, weeks ending June 9, 2001, and June 10, 2000 (23rd Week)

	Meningococcal Disease		Mumps			Pertussis			Rubella		
Reporting Area	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000	2001	Cum. 2001	Cum. 2000
UNITED STATES	1,192	1,173	2	77	178	46	1,864	2,399	1	11	72
NEW ENGLAND	72	62	-	-	2	-	200	665	-	-	10
Maine	1	5	-	-	-	-	-	14	-	-	-
N.H.	7	4	-	-	-	-	18	59	-	-	1
Vt.	5	2	-	-	-	-	22	134	-	-	-
Mass.	41	37	-	-	-	-	151	421	-	-	8
R.I.	2	4	-	-	1	-	1	8	-	-	-
Conn.	16	10	-	-	1	-	8	29	-	-	1
MID. ATLANTIC	90	117	-	5	11	8	137	222	1	4	7
Upstate N.Y.	39	32	-	1	5	2	97	112	-	1	1
N.Y. City	22	27	-	4	3	-	23	38	-	2	6
N.J.	24	23	-	-	-	6	8	-	1	1	-
Pa.	5	35	-	-	3	-	9	72	-	-	-
E.N. CENTRAL	152	207	-	9	17	5	219	278	-	3	-
Ohio	54	41	-	1	7	-	134	159	-	-	-
Ind.	26	24	-	1	-	-	19	22	-	1	-
Ill.	20	56	-	6	5	3	26	23	-	2	-
Mich.	26	66	-	1	4	2	22	22	-	-	-
Wis.	26	20	-	-	1	-	18	52	-	-	-
W.N. CENTRAL	79	76	1	5	10	14	97	106	-	2	1
Minn.	12	7	1	2	-	13	30	52	-	-	-
Iowa	18	16	-	-	5	-	10	13	-	1	-
Mo.	28	38	-	-	2	1	40	19	-	-	-
N. Dak.	3	2	-	-	-	-	-	1	-	-	-
S. Dak.	4	4	-	-	-	-	3	2	-	-	-
Nebr.	5	4	-	1	1	-	2	3	-	-	1
Kans.	9	5	U	2	2	U	12	16	U	1	-
S. ATLANTIC	224	167	-	17	26	5	100	177	-	1	31
Del.	-	-	-	-	-	-	-	4	-	-	-
Md.	29	16	-	4	5	-	16	44	-	-	-
D.C.	-	-	-	-	-	-	1	1	-	-	-
Va.	23	29	-	2	5	2	12	17	-	-	-
W. Va.	6	7	-	-	-	-	1	-	-	-	-
N.C.	48	28	-	1	3	3	36	49	-	-	23
S.C.	21	13	-	1	8	-	19	16	-	-	6
Ga.	32	32	-	7	2	-	4	20	-	-	-
Fla.	65	42	-	2	3	-	11	26	-	1	2
E.S. CENTRAL	79	85	-	2	4	2	44	47	-	-	4
Ky.	13	17	-	1	-	-	11	25	-	-	1
Tenn.	30	37	-	-	2	2	19	11	-	-	-
Ala.	29	24	-	-	2	-	11	8	-	-	3
Miss.	7	7	-	1	-	-	3	3	-	-	-
W.S. CENTRAL	160	135	-	6	20	1	75	92	-	-	6
Ark.	10	6	U	1	1	U	4	10	U	-	1
La.	52	34	-	2	4	-	2	7	-	-	1
Okla.	18	21	-	-	-	-	1	9	-	-	-
Tex.	80	74	-	3	15	1	68	66	-	-	4
MOUNTAIN	68	56	-	7	13	8	846	353	-	-	1
Mont.	2	1	-	-	1	-	6	7	-	-	-
Idaho	6	6	-	-	-	1	159	41	-	-	-
Wyo.	5	-	-	1	1	-	1	1	-	-	-
Colo.	23	16	-	1	-	5	149	199	-	-	1
N. Mex.	10	6	-	2	1	2	52	59	-	-	-
Ariz.	11	18	-	1	3	-	454	32	-	-	-
Utah	7	6	-	1	4	-	16	10	-	-	-
Nev.	4	3	U	1	3	U	9	4	U	-	-
PACIFIC	268	268	1	26	75	3	146	459	-	1	12
Wash.	40	24	-	-	2	1	47	144	-	-	7
Oreg.	20	30	N	N	N	1	11	42	-	-	-
Calif.	204	203	1	21	61	-	85	247	-	-	5
Alaska	2	3	-	1	4	1	1	6	-	-	-
Hawaii	2	8	-	4	8	-	2	20	-	1	-
Guam	-	-	U	-	7	U	-	2	U	-	1
P.R.	2	6	-	-	-	-	2	1	-	-	-
V.I.	-	-	U	-	-	U	-	-	U	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	U	-	U	U	-	U	U	-	U

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

TABLE IV. Deaths in 122 U.S. cities,* week ending June 9, 2001 (23rd Week)

Reporting Area	All Causes, By Age (Years)						P&I† Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	532	380	105	30	8	9	42
Boston, Mass.	121	69	37	9	4	2	6
Bridgeport, Conn.	32	27	3	2	-	-	2
Cambridge, Mass.	24	18	4	2	-	-	2
Fall River, Mass.	21	17	3	1	-	-	2
Hartford, Conn.	31	20	8	1	-	2	2
Lowell, Mass.	22	16	6	-	-	-	1
Lynn, Mass.	10	8	2	-	-	-	2
New Bedford, Mass.	24	18	4	2	-	-	3
New Haven, Conn.	47	30	8	4	1	4	2
Providence, R.I.	56	47	7	1	1	-	8
Somerville, Mass.	4	4	-	-	-	-	-
Springfield, Mass.	35	27	6	2	-	-	2
Waterbury, Conn.	32	29	1	2	-	-	1
Worcester, Mass.	73	50	16	4	2	1	9
MID. ATLANTIC	2,145	1,494	446	137	39	29	99
Albany, N.Y.	40	26	9	2	3	-	6
Allentown, Pa.	12	12	-	-	-	-	1
Buffalo, N.Y.	98	71	20	3	3	1	8
Camden, N.J.	40	25	11	2	1	1	2
Elizabeth, N.J.	26	16	8	1	-	1	-
Erie, Pa.§	48	35	8	4	1	-	3
Jersey City, N.J.	41	28	7	4	1	1	-
New York City, N.Y.	1,141	792	242	72	16	19	40
Newark, N.J.	45	18	14	10	2	1	-
Paterson, N.J.	24	16	2	4	2	-	-
Philadelphia, Pa.	248	163	64	14	6	1	10
Pittsburgh, Pa.§	46	34	8	3	-	1	6
Reading, Pa.	33	25	7	1	-	-	1
Rochester, N.Y.	133	103	17	9	3	1	7
Schenectady, N.Y.	25	17	7	1	-	-	3
Scranton, Pa.§	32	27	2	3	-	-	-
Syracuse, N.Y.	75	60	10	3	-	2	7
Trenton, N.J.	18	9	7	1	1	-	1
Utica, N.Y.	20	17	3	-	-	-	4
Yonkers, N.Y.	U	U	U	U	U	U	U
E.N. CENTRAL	1,713	1,161	360	104	48	40	123
Akron, Ohio	51	34	10	1	3	3	5
Canton, Ohio	22	17	5	-	-	-	3
Chicago, Ill.	U	U	U	U	U	U	U
Cincinnati, Ohio	99	72	19	4	1	3	9
Cleveland, Ohio	155	98	33	13	9	2	8
Columbus, Ohio	201	123	47	20	3	8	11
Dayton, Ohio	137	101	20	9	3	4	9
Detroit, Mich.	223	128	57	25	10	3	11
Evansville, Ind.	49	33	13	2	-	1	5
Fort Wayne, Ind.	84	57	20	4	2	1	10
Gary, Ind.	18	9	5	2	2	-	-
Grand Rapids, Mich.	48	33	11	-	2	2	8
Indianapolis, Ind.	163	115	31	11	3	3	9
Lansing, Mich.	60	41	14	3	-	2	4
Milwaukee, Wis.	120	82	26	5	4	3	8
Peoria, Ill.	40	29	9	-	-	2	5
Rockford, Ill.	42	34	3	3	-	2	6
South Bend, Ind.	48	40	7	-	1	-	3
Toledo, Ohio	101	71	23	2	4	1	7
Youngstown, Ohio	52	44	7	-	1	-	2
W.N. CENTRAL	768	516	139	59	29	25	42
Des Moines, Iowa	39	28	6	1	1	3	1
Duluth, Minn.	32	18	10	4	-	-	-
Kansas City, Kans.	31	15	7	7	2	-	-
Kansas City, Mo.	91	62	10	12	5	2	8
Lincoln, Nebr.	44	24	13	5	1	1	2
Minneapolis, Minn.	134	90	31	5	3	5	5
Omaha, Nebr.	80	57	14	4	4	1	4
St. Louis, Mo.	123	75	20	13	10	5	9
St. Paul, Minn.	95	80	8	3	2	2	8
Wichita, Kans.	99	67	20	5	1	6	5
S. ATLANTIC	1,356	860	282	144	44	26	105
Atlanta, Ga.	193	122	41	14	11	5	8
Baltimore, Md.	169	99	42	23	5	-	17
Charlotte, N.C.	86	66	17	2	-	1	9
Jacksonville, Fla.	110	64	19	13	9	5	9
Miami, Fla.	137	91	24	16	3	3	12
Norfolk, Va.	50	35	9	5	1	-	1
Richmond, Va.	62	38	10	10	1	3	3
Savannah, Ga.	59	44	8	4	1	2	7
St. Petersburg, Fla.	71	55	10	3	1	2	11
Tampa, Fla.	193	130	33	23	2	5	22
Washington, D.C.	203	109	61	23	10	-	6
Wilmington, Del.	23	7	8	8	-	-	-
E.S. CENTRAL	916	587	191	80	32	26	67
Birmingham, Ala.	189	123	42	17	4	3	20
Chattanooga, Tenn.	87	60	20	3	4	-	4
Knoxville, Tenn.	88	61	15	6	4	2	3
Lexington, Ky.	60	39	12	7	-	2	8
Memphis, Tenn.	219	133	47	18	12	9	13
Mobile, Ala.	74	47	16	8	1	2	2
Montgomery, Ala.	38	24	6	4	3	1	4
Nashville, Tenn.	161	100	33	17	4	7	13
W.S. CENTRAL	1,558	999	333	129	52	45	109
Austin, Tex.	92	70	15	5	-	2	6
Baton Rouge, La.	57	38	13	3	1	2	1
Corpus Christi, Tex.	44	34	6	2	1	1	5
Dallas, Tex.	239	130	65	18	14	12	19
El Paso, Tex.	89	68	14	5	-	2	4
Ft. Worth, Tex.	110	72	22	9	2	5	4
Houston, Tex.	353	196	77	53	20	7	22
Little Rock, Ark.	79	55	20	2	1	1	2
New Orleans, La.	U	U	U	U	U	U	U
San Antonio, Tex.	255	173	45	21	7	9	23
Shreveport, La.	126	81	28	10	5	2	12
Tulsa, Okla.	114	82	28	1	1	2	11
MOUNTAIN	1,051	698	222	77	27	27	62
Albuquerque, N.M.	127	82	31	11	2	1	4
Boise, Idaho	39	25	9	3	1	1	4
Colo. Springs, Colo.	78	53	18	6	-	1	6
Denver, Colo.	108	69	24	4	2	9	7
Las Vegas, Nev.	226	146	54	20	4	2	10
Ogden, Utah	31	23	7	1	-	-	7
Phoenix, Ariz.	141	80	31	14	7	9	2
Pueblo, Colo.	27	24	3	-	-	-	3
Salt Lake City, Utah	119	85	20	8	3	3	10
Tucson, Ariz.	155	111	25	10	8	1	9
PACIFIC	1,648	1,199	279	103	35	25	117
Berkeley, Calif.	18	12	3	2	-	1	2
Fresno, Calif.	167	125	26	11	4	1	12
Glendale, Calif.	24	22	2	-	-	-	2
Honolulu, Hawaii	58	51	3	4	-	-	3
Long Beach, Calif.	59	42	10	3	3	1	6
Los Angeles, Calif.	284	198	51	21	7	7	17
Pasadena, Calif.	28	17	6	1	2	2	1
Portland, Oreg.	141	108	26	5	2	-	7
Sacramento, Calif.	158	109	30	14	2	3	16
San Diego, Calif.	153	109	29	9	2	3	19
San Francisco, Calif.	U	U	U	U	U	U	U
San Jose, Calif.	237	172	40	15	7	3	10
Santa Cruz, Calif.	36	29	4	1	2	-	-
Seattle, Wash.	105	71	24	7	2	1	9
Spokane, Wash.	61	48	6	3	1	3	5
Tacoma, Wash.	119	86	19	7	1	-	8
TOTAL	11,687¶	7,894	2,357	863	314	252	766

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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