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Multistate Outbreak of Monkeypox — Illinois, Indiana, and Wisconsin, 2003

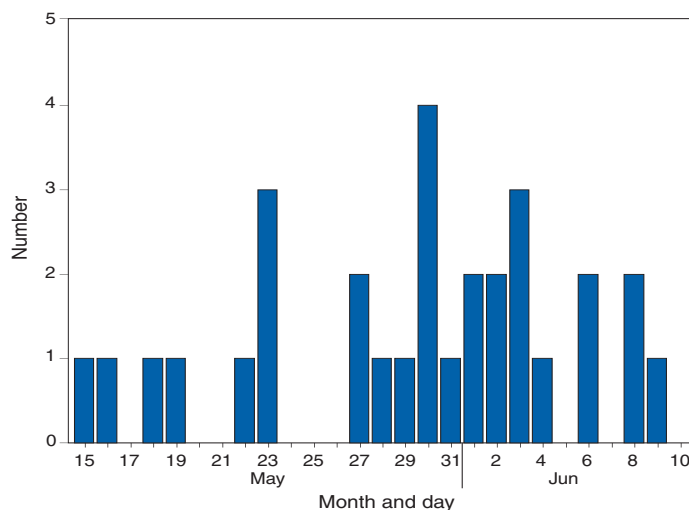
CDC has received reports of patients with a febrile rash illness who had close contact with pet prairie dogs and other animals. The Marshfield Clinic, Marshfield, Wisconsin, identified a virus morphologically consistent with a poxvirus by electron microscopy of skin lesion tissue from a patient, lymph node tissue from the patient's pet prairie dog, and isolates of virus from culture of these tissues. Additional laboratory testing at CDC indicated that the causative agent is a monkeypox virus, a member of the orthopoxvirus group. This report summarizes initial descriptive epidemiologic, clinical, and laboratory data, interim infection-control guidance, and new animal import regulations.

As of June 10, a total of 53 cases had been investigated in Illinois, Indiana, and Wisconsin. Of these, 29 (49%) cases were among males; the median age was 26 years (range: 4–53 years). Data were unavailable for sex and age for two and 14 patients, respectively. A total of 14 (26%) patients have been hospitalized, including a child aged <10 years with encephalitis.

Detailed clinical information was available for 30 cases reported in Illinois and Wisconsin. Among these, the earliest reported onset of illness was on May 15 (Figure 1). For the majority of patients (22 [73%]), a febrile illness has either preceded or accompanied the onset of a papular rash (Figure 2); respiratory symptoms (16 [64%]), lymphadenopathy (14 [47%]), and sore throat (10 [33%]) also were prominent signs and symptoms (Table). The rash typically progressed through stages of vesiculation, pustulation, umbilication, and encrustation. Early lesions became ulcerated in some patients. Rash distribution and lesions have occurred on the head, trunk, and extremities; many patients had initial and satellite lesions on palms, soles, and extremities. Rashes were generalized in some patients.

All patients have had contact with animals; however, at least two patients also reported contact with another patient's lesions or ocular drainage. A total of 51 patients reported

FIGURE 1. Number* of persons with monkeypox, by date of first symptom onset — Illinois and Wisconsin, May 15–June 10, 2003



* N = 30.

direct or close contact with prairie dogs (*Cynomys* sp.), and one patient reported contact with a Gambian giant rat (*Cricetomys* sp.). One patient had contact with a rabbit (Family *Leporidae*) that became ill after exposure to an ill prairie dog at a veterinary clinic. Traceback investigations have been initiated to identify the source of monkeypox virus introduced into the United States and have identified a common distributor where prairie dogs and Gambian giant rats were housed

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Notifiable Disease Morbidity and 122 Cities Mortality Data

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FIGURE 2. Secondary lesions of monkeypox on a patient's hand — Marshfield Clinic, Marshfield, Wisconsin, 2003



TABLE. Clinical features of persons with monkeypox — Illinois and Wisconsin, 2003*

Clinical features	No. cases	(%)
Rash	25	(83)
Fever	22	(73)
Respiratory†	16	(64)
Lymphadenopathy	14	(47)
Sweats	12	(40)
Sore throat	10	(33)
Chills	11	(37)
Headache	10	(33)
Nausea and/or vomiting	6	(20)

* N = 30. As of June 10.

† Includes cough, shortness of breath, and nasal congestion. Data were missing for five patients.

together in Illinois. A search of imported animal records revealed that Gambian giant rats were shipped from Ghana in April to a wildlife importer in Texas and subsequently were sold to the Illinois distributor. The shipment contained approximately 800 small mammals of nine different species that might have been the actual source of introduction of monkeypox.

As of June 9, specimens obtained from 10 patients in Illinois, Indiana, and Wisconsin had been forwarded to CDC for testing; nine patients with skin lesions had DNA sequence signatures specific for monkeypox. No skin lesions were observed in one patient who tested negative by polymerase chain reaction. Skin biopsies were available for five patients; four showed orthopox viral antigens by immunohistochemical testing. Skin lesions from four of the 10 patients were evaluated by negative stain electron microscopy, and pox viral particles were found in three patients. Monkeypox specific DNA signatures also were found in a viral isolate derived from lymphoid tissue of a patient's ill prairie dog.

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Editorial Note: In 1970, human monkeypox was first identified in the Democratic Republic of the Congo (DRC) in a region where smallpox had been eradicated in 1968 (1). Monkeypox is caused by an orthopoxvirus that clinically resembles smallpox virus but differs both biologically and epidemiologically (2–5). After an incubation period of 7–17 days, the disease is characterized by the onset of a prodrome of fever, headache, backache, and fatigue. The monkeypox rash includes macules, papules, vesicles, pustules, and crusts that evolve in the same stage over 14–21 days, similar to smallpox (6). A major clinical difference between monkeypox and smallpox is pronounced lymphadenopathy in a majority of patients with monkeypox (6). Relatively inefficient person-to-person transmission has been documented for monkeypox, and the case-fatality rate has been approximately 1%–10% in Africa, with higher death rates among young children (2,5,6).

Preliminary findings from these investigations indicate that the primary route of transmission to humans is from close contact with infected mammalian pets. However, the possibility of human-to-human transmission cannot be excluded. CDC has issued interim guidance for infection control, exposure management, monitoring of exposed persons, and duration of isolation procedures in health-care and community settings for patients with suspected monkeypox (<http://www.cdc.gov/ncidod/monkeypox/infectioncontrol.htm>). Persons seeking medical care with unexplained fever, rash, or prominent lymphadenopathy should be asked about exposure to unusual or exotic pets, especially small mammals such as prairie dogs or Gambian giant rats. If monkeypox infection is suspected, standard, contact, and airborne precautions should be applied in all health-care settings (<http://www.cdc.gov/ncidod/hip/ISOLAT/Isolat.htm>). Interim guidance for veterinarians and pet owners also are available at <http://www.cdc.gov/ncidod/monkeypox/animalguidance.htm>. These recommendations are modeled after human infection-control guidelines, with modifications appropriate for veterinary and home settings where airborne precautions might not be

feasible. In addition, these guidelines outline the appropriate management of exposed or ill pets to help prevent further transmission of monkeypox among animals.

Introduction of exotic species, such as rodents from Africa, poses a serious public health threat because of the potential of monkeypox virus infection and other nonindigenous pathogens. Serosurveys of various healthy rodents (and nonhuman primates), including *Cricetomys emini*, captured wild in Africa, have demonstrated orthopoxvirus antibodies (7). Monkeypox virus also has been isolated from a rope squirrel (*Funisciurus anerythrus*) found with skin lesions in the vicinity of monkeypox cases in DRC (8). Accordingly, pursuant to 42 CFR 71.32(b), CDC is implementing an immediate embargo on the importation of all rodents from Africa (Order *Rodentia*). In addition, CDC and the Food and Drug Administration, pursuant to 42 CFR 70.2 and 21 CFR 1240.30, are prohibiting the transportation or offering for transportation in interstate commerce, or the sale, offering for sale, or offering for any other type of commercial or public distribution, including release into the environment of prairie dogs and the following rodents from Africa: tree squirrels (*Heliosciurus* sp.), rope squirrels (*Funisciurus* sp.), dormice (*Graphiurus* sp.), Gambian giant pouched rats (*Cricetomys* sp.), brush-tailed porcupines (*Atherurus* sp.), and striped mice (*Hybomys* sp.). States can elect to enact measures to prohibit the importation, sale, distribution, or display of animals that could result in transmission of infectious agents (9,10).

Health-care providers, veterinarians, and public health officials who suspect monkeypox in animals or humans should report such cases to their state and local health departments. CDC requests that reports of suspect cases from state health departments be directed to the CDC Emergency Operations Center, telephone 770-488-7100. Additional information about monkeypox, including an interim case definition, is available at <http://www.cdc.gov/ncidod/monkeypox> and <http://www.cdc.gov/ncidod/monkeypox/casedefinition.htm>, respectively.

References

1. Landyl ID, Ziegler P, Kima A. A human infection caused by monkeypox virus in Basankusu Territory, Democratic Republic of the Congo (DRC). *Bull WHO* 1972;46:593–7.
2. Breman JG. Monkeypox: an emerging infection for humans? In: Scheld WM, Craig WA, Hughes JM, eds. *Emerging Infections 4*. Washington, DC: ASM Press, 2000:45–76.
3. Shchelkunov SN, Totmenin AV, Babkin IV, et al. Human monkeypox and smallpox viruses: genomic comparison. *FEBS Lett* 2001;509:66–70.
4. Shchelkunov SN, Totmenin AV, Safronov PF, et al. Analysis of the monkeypox genome. *Virology* 2002;297:172–94.
5. World Health Organization. Technical Advisory Group on Human Monkeypox: report of a WHO meeting. Geneva, Switzerland, January 11–12, 1999.
6. Jezek ZM, Sczczeniowski KM, Paluku M, Putombo M, Grab B. Human monkeypox: clinical features of 282 patients. *J Infect Dis* 1987;156:293–8.

7. Hutin YJF, Williams RJ, Malfait P, et al. Outbreak of human monkeypox, Democratic Republic of Congo, 1996–1997. *Emerg Infect Dis* 2001;7:434–8.
8. Khodakevich L, Jezek Z, Kinzana K. 1986 Isolation of monkeypox from a wild squirrel. *Lancet* 1986;1:98–9.
9. State of Wisconsin, Department of Health and Family Services. Emergency order. Available at http://www.dhfs.state.wi.us/dph_bcd/monkeypox/Response.htm.
10. State of Illinois. Executive order in response to orthopox outbreak. Available at <http://www.idph.state.il.us/pdf/ExecutiveOrder14.pdf>.

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HIV Testing — United States, 2001

As of December 2001, a cumulative total of 816,149 cases of acquired immunodeficiency syndrome (AIDS) had been reported to CDC (1). One of CDC's national human immunodeficiency virus (HIV)–prevention goals for 2005 (Goal 2) is to increase the proportion of HIV-infected persons in the United States who know they are infected from an estimated 70% to 95% (2). A goal of the new CDC initiative, *Advancing HIV Prevention: New Strategies for a Changing Epidemic*, is to ensure that every HIV-infected person has the opportunity to be tested and has access to state-of-the-art medical care and prevention services needed to prevent HIV transmission (3). To characterize the prevalence of HIV-antibody testing among U.S. adults, CDC analyzed data from the 2001 Behavioral Risk Factor Surveillance System (BRFSS). The findings document variability in HIV testing prevalence by area and by sex within areas, underscoring the ongoing need to promote voluntary HIV counseling and testing that will provide persons with early knowledge of their HIV status and offer them access to appropriate counseling and treatment.

BRFSS is a state-based, random-digit-dialed telephone survey of the civilian, noninstitutionalized population aged ≥ 18 years in the 50 states, the District of Columbia (DC), Guam, Puerto Rico, and the U.S. Virgin Islands. In 2001, a total of 170,412 persons aged 18–64 years responded to questions

about HIV- and AIDS-related knowledge, attitudes, and HIV-antibody testing history. Sample sizes ranged from 802 in Guam to 7,019 in Massachusetts. All estimates were weighted by demographic characteristics and selection probabilities; confidence intervals were calculated by using SUDAAN to account for the complex survey design.

Survey participants were asked, “As far as you know, have you ever had your blood tested for HIV?” Participants were directed not to count tests they might have had as part of a blood donation (4). The percentage of respondents who reported being tested ranged from 31.5% (South Dakota) to 65.3% (DC) (median: 45.6%) (Table 1). The month and year of the most recent test were used to identify persons whose most recent test was during the 12 months preceding the interview. Respondents who reported being tested in 2001 but who did not report the month were included in the group tested recently. Approximately 2% of respondents reported being tested in 2000 but could not remember the month in which they were tested and were coded as not having been tested recently. Of those ever tested, a median of 27.7% (range: 18.5% [Maine]–39.6% [Virgin Islands]) were tested during the 12 months preceding the interview (Table 1). The median age of persons who reported ever having been tested for HIV was 35.1 years (range: 32.2 [North Dakota]–37.2 [DC] years). Approximately 59.6% of respondents aged 20–39 years had ever been tested (range: 42.7% [South Dakota]–72.0% [Alaska]). Testing rates declined after age 40 years to 22.1% of respondents aged 60–64 years (range: 8.6% [Kansas]–39.6% [Nevada]).

Respondents who reported ever having been tested were asked, “What was the main reason you had your test for HIV?” Participants who reported that they were tested primarily to learn their infection status (i.e., those whose responses included “just to find out if infected,” “routine check-up,” “doctor referral,” “sex partner referral,” “because of pregnancy,” “because I am at risk,” or “other”) were coded as being tested voluntarily (5). Persons who reported that they were tested because of illness, hospitalization, surgical procedure, insurance, employment, marriage license, military service, immigration, or occupational exposure were coded as not being tested voluntarily. Among those ever tested, the percentage of persons who reported that their most recent HIV test was voluntary ranged from 53.0% (South Dakota) to 80.2% (DC) (median: 63.8%) (Table 2).

Among those ever tested, few statistically significant differences between men and women were found except for the reason they were tested. Women were more likely than men ever to have been tested in nine states (California, Kentucky, Louisiana, Minnesota, Mississippi, Montana, Tennessee, Texas,

TABLE 1. Percentage of persons aged 18–64 years who reported ever having had an HIV test and percentage of those tested who reported having had their most recent HIV test during the preceding 12 months, by area — Behavioral Risk Factor Surveillance System, United States, 2001

Area	Sample size	Ever tested		Tested during preceding 12 months	
		%	(95% CI*)	%	(95% CI)
Alabama	2,227	47.4	(44.9–49.8)	35.8	(32.4–39.3)
Alaska	2,605	56.9	(53.9–60.0)	32.5	(28.6–36.4)
Arizona	2,504	47.4	(44.5–50.3)	26.8	(23.3–30.4)
Arkansas	2,310	43.2	(40.8–45.5)	29.3	(26.1–32.6)
California	3,493	50.0	(47.8–52.1)	27.0	(24.4–29.5)
Colorado	1,729	49.2	(46.4–51.9)	28.3	(24.9–31.7)
Connecticut	6,170	48.0	(46.4–49.5)	27.4	(25.4–29.5)
Delaware	2,746	49.6	(47.1–52.0)	33.1	(29.9–36.4)
District of Columbia	1,568	65.3	(62.3–68.4)	37.0	(33.4–40.5)
Florida	3,474	57.2	(55.2–59.2)	32.4	(29.8–35.0)
Georgia	3,805	54.7	(52.6–56.8)	32.7	(30.0–35.3)
Guam	802	42.5	(38.5–46.5)	29.2	(23.9–34.5)
Hawaii	3,638	41.4	(39.2–43.6)	29.0	(25.7–32.2)
Idaho	3,838	41.2	(39.2–43.2)	26.6	(23.9–29.4)
Illinois	3,254	46.1	(43.3–48.8)	25.7	(22.1–29.3)
Indiana	3,218	42.2	(40.2–44.1)	28.6	(25.8–31.5)
Iowa	2,711	33.4	(31.2–35.5)	25.2	(21.8–28.6)
Kansas	3,683	41.1	(39.2–42.9)	26.3	(23.8–28.9)
Kentucky	5,892	39.6	(37.7–41.5)	27.4	(24.5–30.2)
Louisiana	4,079	47.4	(45.6–49.2)	35.5	(33.0–38.1)
Maine	1,918	42.4	(39.8–45.0)	18.5	(15.0–22.0)
Maryland	3,645	55.8	(53.7–57.9)	31.5	(28.9–34.1)
Massachusetts	7,019	46.4	(44.9–47.8)	25.1	(23.2–26.9)
Michigan	3,111	46.9	(44.8–48.9)	27.1	(24.3–29.9)
Minnesota	3,172	37.4	(35.5–39.4)	28.3	(25.1–31.4)
Mississippi	2,429	47.9	(45.5–50.3)	33.5	(30.0–36.9)
Missouri	3,247	43.3	(41.0–45.7)	31.5	(28.2–34.8)
Montana	2,596	43.5	(40.8–46.2)	25.8	(22.2–29.4)
Nebraska	2,803	32.5	(30.5–34.6)	26.7	(23.3–30.1)
Nevada	2,118	59.6	(56.5–62.7)	34.4	(30.0–38.9)
New Hampshire	3,334	44.8	(42.8–46.8)	22.9	(20.3–25.5)
New Jersey	4,814	47.7	(45.7–49.6)	27.2	(24.8–29.7)
New Mexico	2,875	47.6	(45.4–49.8)	33.0	(30.0–36.1)
New York	3,229	49.9	(47.8–51.9)	30.1	(27.4–32.8)
North Carolina	4,951	49.5	(47.3–51.6)	30.6	(27.8–33.4)
North Dakota	2,015	34.0	(31.7–36.3)	27.2	(23.4–31.0)
Ohio	2,732	41.3	(39.0–43.6)	25.8	(22.7–28.9)
Oklahoma	3,482	40.6	(38.4–42.8)	25.5	(22.2–28.7)
Oregon	2,046	45.2	(42.8–47.7)	24.6	(21.6–27.6)
Pennsylvania	2,842	40.0	(37.8–42.1)	26.9	(23.7–30.1)
Puerto Rico	3,292	44.4	(42.1–46.8)	27.4	(24.1–30.8)
Rhode Island	3,251	48.1	(46.0–50.3)	29.8	(26.9–32.8)
South Carolina	2,618	51.0	(48.7–53.4)	33.9	(30.6–37.1)
South Dakota	3,808	31.5	(29.8–33.2)	27.2	(24.2–30.1)
Tennessee	2,393	43.2	(40.8–45.7)	26.0	(22.7–29.3)
Texas	4,881	49.5	(47.8–51.1)	34.3	(32.1–36.5)
Utah	3,077	33.7	(31.6–35.9)	28.2	(24.7–31.7)
Vermont	3,566	43.3	(41.4–45.2)	24.2	(21.6–26.9)
Virgin Islands	1,937	58.1	(55.2–60.9)	39.6	(35.9–43.4)
Virginia	2,418	54.0	(51.6–56.5)	31.8	(28.7–34.9)
Washington	3,462	49.1	(47.2–51.1)	24.1	(21.8–26.4)
West Virginia	2,333	39.7	(37.4–42.0)	28.0	(24.6–31.4)
Wisconsin	2,760	40.8	(38.6–43.0)	27.3	(24.2–30.3)
Wyoming	2,492	41.9	(39.7–44.1)	24.7	(21.7–27.8)
Total (median)	170,412	45.6		27.7	

* Confidence interval.

TABLE 2. Percentage of persons aged 18–64 years among those ever tested for HIV who reported that their last test was voluntary,* by area and sex — Behavioral Risk Factor Surveillance System, United States, 2001

Area	Men		Women		Total	
	%	(95% CI†)	%	(95% CI)	%	(95% CI)
Alabama	52.8	(46.9–58.7)	75.3	(71.7–78.8)	64.9	(61.5–68.3)
Alaska	55.0	(48.9–61.2)	74.8	(70.5–79.0)	64.7	(60.9–68.5)
Arizona	64.1	(58.3–69.9)	73.6	(69.1–78.1)	68.8	(65.2–72.5)
Arkansas	56.9	(51.3–62.5)	72.4	(68.3–76.4)	65.0	(61.6–68.5)
California	62.3	(57.9–66.7)	74.7	(71.2–78.1)	68.8	(66.0–71.5)
Colorado	55.4	(49.8–61.1)	73.8	(69.4–78.3)	64.7	(61.0–68.3)
Connecticut	52.8	(49.3–56.3)	68.7	(66.0–71.3)	61.1	(58.9–63.3)
Delaware	42.4	(37.1–47.8)	62.2	(58.0–66.4)	53.1	(49.7–56.5)
District of Columbia	78.3	(73.6–83.1)	81.9	(78.4–85.4)	80.2	(77.4–83.1)
Florida	64.3	(60.3–68.4)	71.4	(68.4–74.3)	68.1	(65.6–70.5)
Georgia	52.5	(47.9–57.0)	71.8	(68.7–74.9)	62.3	(59.5–65.1)
Guam	48.7	(40.1–57.3)	71.4	(64.4–78.4)	58.8	(52.8–64.7)
Hawaii	47.7	(42.4–53.1)	69.4	(65.2–73.6)	58.3	(54.9–61.8)
Idaho	53.3	(48.5–58.1)	72.9	(69.4–76.4)	63.5	(60.5–66.5)
Illinois	49.6	(43.2–56.0)	69.4	(64.5–74.3)	60.1	(56.1–64.1)
Indiana	54.0	(49.2–58.7)	75.6	(72.3–78.9)	65.2	(62.3–68.1)
Iowa	49.9	(44.0–55.9)	71.5	(66.8–76.1)	61.5	(57.6–65.3)
Kansas	55.4	(50.9–59.8)	71.8	(68.5–75.0)	63.8	(61.0–66.5)
Kentucky	53.6	(48.8–58.4)	72.2	(68.8–75.7)	64.0	(61.1–66.9)
Louisiana	61.3	(57.1–65.4)	71.0	(68.1–73.9)	66.6	(64.2–69.1)
Maine	53.1	(46.9–59.3)	67.1	(62.4–71.8)	60.5	(56.6–64.3)
Maryland	61.3	(57.0–65.7)	74.4	(71.3–77.5)	68.3	(65.7–70.9)
Massachusetts	56.0	(52.9–59.1)	66.6	(64.0–69.1)	61.5	(59.5–63.5)
Michigan	50.7	(46.0–55.5)	68.2	(64.8–71.6)	60.0	(57.0–62.9)
Minnesota	55.8	(50.6–61.0)	72.8	(69.0–76.5)	64.9	(61.7–68.1)
Mississippi	48.9	(43.0–54.8)	75.0	(71.4–78.6)	63.4	(60.0–66.9)
Missouri	60.5	(55.1–66.0)	74.3	(70.5–78.1)	67.9	(64.6–71.1)
Montana	49.1	(42.6–55.6)	66.9	(61.8–72.0)	58.8	(54.7–62.9)
Nebraska	47.6	(41.6–53.6)	66.2	(61.7–70.7)	57.4	(53.6–61.3)
Nevada	54.4	(47.8–61.1)	66.1	(60.7–71.5)	60.2	(55.8–64.6)
New Hampshire	54.6	(50.2–59.0)	69.0	(65.5–72.5)	61.8	(58.9–64.7)
New Jersey	60.3	(56.3–64.4)	72.8	(69.8–75.8)	66.9	(64.4–69.4)
New Mexico	59.7	(54.9–64.5)	75.1	(71.6–78.7)	67.8	(64.9–70.8)
New York	59.0	(54.6–63.4)	71.3	(67.9–74.8)	65.5	(62.8–68.3)
North Carolina	59.7	(55.2–64.2)	74.9	(71.1–78.7)	67.7	(64.7–70.6)
North Dakota	46.8	(40.8–52.8)	72.5	(67.4–77.7)	58.6	(54.5–62.7)
Ohio	55.6	(49.7–61.4)	70.6	(66.7–74.5)	63.8	(60.3–67.2)
Oklahoma	50.2	(44.9–55.5)	72.8	(68.9–76.8)	61.9	(58.6–65.3)
Oregon	60.2	(55.0–65.3)	72.3	(68.0–76.5)	66.2	(62.8–69.6)
Pennsylvania	55.4	(50.0–60.7)	72.3	(68.5–76.0)	64.3	(61.1–67.6)
Puerto Rico	56.2	(50.3–62.1)	74.4	(70.8–78.0)	66.5	(63.2–69.9)
Rhode Island	55.3	(50.4–60.1)	70.1	(66.9–73.4)	62.9	(59.9–65.8)
South Carolina	54.8	(49.7–59.9)	73.7	(70.1–77.2)	64.4	(61.3–67.6)
South Dakota	44.3	(39.4–49.2)	61.4	(57.1–65.6)	53.0	(49.7–56.2)
Tennessee	53.9	(47.4–60.4)	70.3	(66.5–74.1)	63.2	(59.5–66.8)
Texas	55.6	(52.0–59.2)	75.3	(72.7–77.9)	66.3	(64.1–68.5)
Utah	47.0	(41.3–52.8)	68.9	(64.0–73.7)	58.3	(54.5–62.1)
Vermont	52.6	(48.0–57.2)	67.6	(64.1–71.1)	60.4	(57.4–63.3)
Virgin Islands	54.9	(50.2–59.5)	72.0	(68.3–75.6)	63.6	(60.6–66.6)
Virginia	65.6	(59.9–71.2)	80.4	(76.7–84.2)	73.8	(70.5–77.2)
Washington	55.9	(51.7–60.0)	75.1	(72.2–78.0)	66.0	(63.4–68.6)
West Virginia	49.0	(43.2–54.7)	68.2	(63.9–72.4)	59.1	(55.4–62.7)
Wisconsin	58.4	(53.3–63.4)	72.6	(68.5–76.7)	65.9	(62.6–69.2)
Wyoming	49.8	(44.4–55.2)	73.0	(69.2–76.8)	62.0	(58.6–65.3)
Total (median)	54.8		72.2		63.8	

* Reasons given for testing include “just to find out if infected,” “routine check-up,” “doctor referral,” “sex partner referral,” “because of pregnancy,” “because I am at risk,” or “other.”

† Confidence interval.

trust·wor·thy: *adj*

('trəst-"wər-thē) 1 : worthy of belief

2 : capable of being depended upon;

see also *MMWR*.



know what matters.



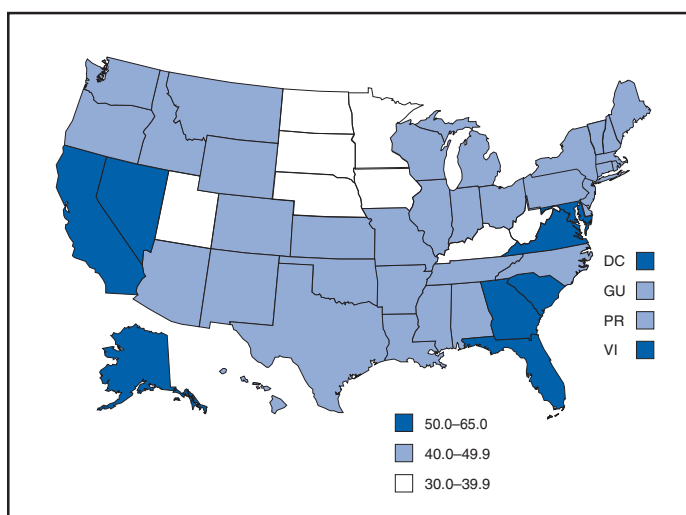
and Washington) and in Puerto Rico. A median of 44.4% of men (range: 30.8% [South Dakota]–59.3% [Nevada]) and of 47.5% of women (range: 31.7% [North Dakota]–59.9% [Nevada]) reported ever having been tested for HIV. Among those persons ever tested, a median of 29.1% of men and 27.0% of women had their most recent test during the 12 months preceding the interview (range: 21.0% [Maine]–41.5% [Virgin Islands] for men; 16.3% [Maine]–38.1% [Virgin Islands] for women). Of those tested, the difference in recent HIV testing between men and women was statistically significant only in Hawaii (men, 36.1%; women, 21.5%).

In 47 states, Guam, Puerto Rico, and the U.S. Virgin Islands, a significantly higher proportion of women than men reported being tested voluntarily (Table 2). Among those ever tested, a median of 72.2% of women reported that their most recent HIV test was voluntary (range: 61.4% [South Dakota]–81.9% [DC]), compared with a median of 54.8% of men (range: 42.4% [Delaware]–78.3% [DC]).

HIV testing prevalence was >50% in eight states (Alaska, California, Florida, Georgia, Maryland, Nevada, South Carolina, and Virginia), DC, and the U.S. Virgin Islands and <40% in eight states (Iowa, Kentucky, Minnesota, Nebraska, North Dakota, South Dakota, Utah, and West Virginia) (Figure). In states where the AIDS rate* was high (1), HIV testing also tended to be high. For example, in 2001, Florida ranked third in both AIDS rate (31.3) (1) and testing (57.2%). However, in Alaska, where AIDS incidence was low (2.8), the prevalence estimate for testing was among the highest (56.9%).

* Per 100,000 population for July 2000–June 2001, reported through June 2001.

FIGURE. Percentage of persons aged 18–64 years reporting ever having been tested for HIV infection, by area — Behavioral Risk Factor Surveillance System, United States, 2001



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Editorial Note: This report indicates that approximately half (median: 45.6%) of persons in the United States aged 18–64 years have been tested for HIV. This finding is consistent with previous BRFSS data indicating increased testing rates (6) and with other general population surveys (4). The proportion of persons tested for HIV varied by area and sex. The variability in HIV testing by area probably represents area-specific differences in the prevalence of HIV infection and AIDS and in the scope of HIV-prevention and -education programs. The variability in HIV testing by sex probably is attributable to pregnancy testing; 28.5% of women reported that the reason for their most recent test was pregnancy. Because an increasing proportion of persons with AIDS are women (7), variability in HIV testing by sex should be monitored. Differences between men and women in testing prevalence and reasons for being tested might have implications for developing HIV-prevention and -education programs.

The findings in this report are subject to at least three limitations. First, BRFSS excludes persons without telephones and those who are institutionalized. Second, BRFSS data are self-reported and thus are subject to recall bias in testing reports. Finally, the median response rate was 51.1% (range: 33.3% [New Jersey]–81.5% [Puerto Rico]); however, BRFSS data have minimal bias (8).

Although general population surveys such as BRFSS reach a population that is generally at low risk for HIV infection (9), such surveys provide useful data about the HIV-antibody testing behaviors of U.S. adults outside of public clinics. BRFSS data can be used to assess progress toward achieving the goals of CDC's HIV-prevention strategic plan (2). The findings indicate an ongoing need to promote voluntary HIV counseling and testing and underscore the importance of reducing barriers for early diagnosis of HIV infection and providing persons with knowledge of their HIV status and access to counseling and treatment to prevent further transmission (3).

Acknowledgment

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References

1. CDC. HIV/AIDS surveillance report, 2001. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2001;13(2).
2. CDC. HIV prevention strategic plan through 2005. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2001. Available at <http://www.cdc.gov/hiv/pubs/prev-strat-plan.pdf>.
3. CDC. Advancing HIV prevention: new strategies for a changing epidemic—United States, 2003. MMWR 2003;52:329–32.

4. Holtzman D, Rubinson R, Bland S, McQueen D. HIV testing behavior and associated characteristics among U.S. adults, 1993 and 1994. *AIDS and Behavior* 1998;2:269–81.
5. Holtzman D, Mack K, Nakashima A, Rubinson R. Trends in HIV testing among U.S. adults, Behavioral Risk Factor Surveillance System (BRFSS), 1994–2000. Poster presentation at the XIV International AIDS Conference, Barcelona, Spain, July 7–12, 2002.
6. Anderson JE, Carey JW, Taveras S. HIV testing among the general U.S. population and persons at increased risk: information from national surveys, 1987–1996. *Am J Public Health* 2000;90:1089–95.
7. Karon J, Fleming PL, Steketee RW, DeCock KM. HIV in the United States at the turn of the century: an epidemic in transition. *Am J Public Health* 2001;91:1060–8.
8. CDC. Public health surveillance for behavioral risk factors in a changing environment: recommendations from the Behavioral Risk Factor Surveillance Team. *MMWR* 2003;52(No. RR-9).
9. Holtzman D, Bland S, Lansky A, Mack K. HIV-related behaviors and perceptions among adults in 25 states: 1997 BRFSS. *Am J Public Health* 2001;91:1882–8.

Varicella-Related Deaths — United States, 2002

Varicella is a vaccine-preventable disease that can be fatal. During 2002, state health departments notified CDC about nine fatal cases of varicella in adults and children. This report summarizes clinical data for one adult and one child, reported from Kansas and Illinois, respectively. Both patients were susceptible, unvaccinated, and exposed to unvaccinated children with varicella. These deaths highlight the importance of implementing strategies recommended for varicella disease prevention (1,2), including child care and school vaccination requirements, and underscore the need for improving varicella death surveillance.

Case Reports

Case 1. On January 19, 2002, an immunocompetent man aged 37 years reported to an emergency department (ED) with acute cough and shortness of breath preceded by a 3-day history of skin rash and a 4-day history of fever. He was exposed to his unvaccinated daughter aged 9 years, who had varicella disease (rash onset: January 3). The patient's other daughter aged 5 years (also unvaccinated) had rash onset 2 days after her father's. Before the patient's admission, neither he nor his children had been examined by a health-care provider for varicella-related signs or symptoms. The patient had no history of varicella and was unvaccinated. His medical history included current smoking.

On initial examination, the patient had numerous skin lesions consistent with varicella and diffuse inspiratory crackles. Chest radiography showed a five-lobe interstitial infiltrate with slight nodularity, suggestive of varicella pneumonia.

Intravenous acyclovir, broad-spectrum antibiotic therapy, and oxygen were initiated. The patient was admitted to the intensive care unit. Overnight, his respiratory difficulty increased, and he required intubation.

During hospitalization, the patient had complications including recurrent pneumothoraces, cardiopulmonary arrest, anoxic encephalopathy, bacteremia (methicillin-resistant coagulase negative staphylococcus), left upper extremity deep venous thrombosis, and coma. He died on March 9. Laboratory tests of nasopharyngeal specimens were negative for influenza A and B antigens. An autopsy was not performed.

Case 2. On January 14, a girl aged 9 years was taken to an ED with a 3-day history of classic varicella rash, a 2–3 day history of inability to bear weight on the left foot and leg, and a history of fever of unspecified duration. The patient had no history of varicella and was unvaccinated. Her history was negative for traumatic injury.

On initial examination, the patient had fever (101° F [38.3° C]), a generalized rash with crusted lesions, and mild swelling, induration, and warmth over the left calf, ankle, and foot. The patient was admitted with diagnoses of varicella, possible sepsis, and possible left lower extremity cellulitis. Intravenous nafcillin was ordered. Approximately 12 hours after initial evaluation, purple discoloration surrounding the patient's varicella lesions was noted. Subsequently, the patient had respiratory distress and, despite intubation, cardiac arrest ensued. The patient died approximately 16 hours after initial assessment. Premortem blood cultures yielded beta-hemolytic *Streptococcus pyogenes* group A.

Autopsy revealed multiple scabbed lesions consistent with varicella, intravascular thrombi, increased fluid in the pericardial sac, bilateral pulmonary edema and congestion, hepatic and splenic congestion, and a left lower extremity calf circumference 2 cm greater than that of the right calf. No evidence of a saddle pulmonary thromboembolus was noted.

The patient had been exposed in after-school child care to an unvaccinated child aged 7 years with varicella (rash onset: December 20, 2001) and in school to two unvaccinated children with varicella (rash onset: December 21).

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Editorial Note: The cases described in this report demonstrate the potential seriousness of varicella disease. With the licensure of a safe and effective varicella vaccine in 1995, vari-

cella became a vaccine-preventable disease. Prevention of varicella-related deaths through vaccination should be a public health priority. During 1990–1994, before implementation of the varicella vaccination program, an estimated 4 million cases, 11,000 hospitalizations, and 100 deaths were attributed to varicella disease each year in the United States (3,4). As with the patients described in this report, the majority of persons who died of varicella during 1990–1994 were previously healthy (4).

In 1995 and 1996, respectively, the American Academy of Pediatrics and the Advisory Committee on Immunization Practices (ACIP) recommended that all children aged 12–18 months be vaccinated routinely and that all susceptible children be vaccinated by age 13 years (1). In addition, ACIP recommended vaccination for susceptible persons who have close contact with persons at high risk for serious complications (e.g., health-care workers and family contacts of immunocompromised persons) (1). In 1999, ACIP expanded its recommendations to promote varicella vaccination for susceptible persons in the following high-risk groups: 1) persons who live or work in environments in which transmission of varicella is likely (e.g., teachers of young children, child care employees, and residents and staff members in institutional settings), 2) persons who live and work in environments in which transmission can occur (e.g., college students, inmates and staff members of correctional institutions, and military personnel), 3) nonpregnant women of child-bearing age, 4) adolescents and adults living in households with children, and 5) international travelers. ACIP also recommended postexposure vaccination for susceptible persons (2).

Varicella disease was not nationally reportable in 1995 when the vaccine was introduced. As a result, no national data were available to monitor the impact of the vaccination program. In 1995, CDC, in collaboration with state and local health departments, instituted active surveillance in three communities. In 2000, disease and hospitalizations in these areas declined approximately 80% compared with 1995. Herd immunity probably contributed to these trends. This hypothesis is supported by the observation of declines in all age groups, including children aged <1 year, who are ineligible for vaccination, and persons aged >20 years, who are not highly vaccinated (5). This hypothesis is further supported by declines occurring at vaccine coverage levels of 74%–84% among children aged 19–35 months (6). Disease rates are expected to decline further with improved coverage (5).

In 2001, state-specific varicella vaccination coverage in the United States among children aged 19–35 months ranged from 53% to 90% (7). Vaccination coverage among children aged >35 months is unknown. If each state implements child care and school entry vaccination requirements as recommended

by ACIP in 1999, high nationwide coverage will be achieved. The recommendations specify that children entering child care facilities and elementary schools in every state should be required either to have received varicella vaccine or to demonstrate other evidence of varicella immunity (2). By December 2002, a total of 34 (67%) states had implemented child care and/or school laws (CDC, unpublished data, 2002). Requirements differ among states, applying to children at one or more levels of education (i.e., kindergarten, elementary school, middle school, and high school). When the two deaths described in this report occurred, neither Kansas nor Illinois had implemented child care or school entry vaccination requirements.

Active surveillance data demonstrate morbidity reduction since initiation of the varicella vaccination program, but national disease data are unavailable. In 1999, in initiating national varicella surveillance, the Council of State and Territorial Epidemiologists mandated reporting of varicella-related deaths to CDC's National Immunization Program (NIP) (8). To date, substantial underreporting of varicella-related deaths to NIP continues to occur, and the use of limited mortality data in assessing the impact of the varicella vaccination program remains difficult. According to National Center for Health Statistics (NCHS) data for 2000, varicella was listed in death certificates as the primary cause of death for 44 deaths reported by 23 states and the district of Columbia; however, only nine (20%) varicella-related deaths were reported to NIP by seven states (CDC, unpublished data, 2002). Reporting to NIP complements NCHS data. Data submitted to NIP include detailed case information that allows examination of each patient's risk factors for morbidity and mortality.

Through adherence to current varicella vaccination recommendations (1,2), further reduction of varicella-related morbidity and mortality can be achieved and sustained in the United States (5; CDC, unpublished data, 2002). More widespread implementation of child care and school vaccination requirements (including those for middle and high school) will ensure that children who are not infected during childhood because of decreasing varicella zoster virus circulation will be protected by vaccination before reaching adulthood, when their risk for severe disease and complications is increased. When susceptible persons are exposed, they should be vaccinated. When disease severity necessitates hospitalization or results in death, laboratory confirmation of disease should be considered (9). When patients die from varicella or associated complications, a varicella-related death investigation worksheet, available through state health departments, should be completed. State personnel should fax or mail investigation worksheets (without personal identifiers) to NIP, fax 404-639-8665. For reporting assistance, state health

departments should contact NIP's Viral Vaccine-Preventable Disease Branch, telephone 404-639-8230.

References

1. CDC. Prevention of varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1996;45(No. RR-11).
2. CDC. Prevention of varicella: updated recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1999;48(No. RR-6).
3. Galil K, Lin F, Seward J. Hospitalizations for varicella in the United States, 1988–1995. *Pediatr Infect Dis J* 2002;21:931–4.
4. Meyer PA, Seward JF, Jumaan AO, Wharton M. Varicella mortality: trends before vaccine licensure in the United States, 1970–1994. *J Infect Dis* 2000;182:383–90.
5. Seward JF, Watson BM, Peterson CL, et al. Varicella disease after introduction of varicella vaccine in the United States, 1995–2000. *JAMA* 2002;287:606–11.
6. CDC. Estimated vaccination coverage with individual vaccines and selected vaccination series among children 19–35 months of age by state and immunization action plan area, National Immunization Survey, Q1/2000–Q4/2000. Available at http://www.cdc.gov/nip/coverage/NIS/00/var_race_iap.xls.
7. CDC. Estimated vaccination coverage with individual vaccines and selected vaccination series among children 19–35 months of age by state and immunization action plan area, National Immunization Survey, Q1/2001–Q4/2001. Available at http://www.cdc.gov/nip/coverage/NIS/01/TAB25-var_race_iap.xls.
8. Council of State and Territorial Epidemiologists. CSTE position statement 1998-ID-10: inclusion of varicella-related deaths in the National Public Health Surveillance System (NPHSS). Available at <http://www.cste.org/ps/1998/1998-id-10.htm>.
9. CDC. Manual for the surveillance of vaccine-preventable diseases. Chapter 14. Atlanta, Georgia: U.S. Department of Health and Human Services, CDC, 2002, 5–7. Available at http://www.cdc.gov/nip/publications/surv-manual/chpt14_varicella.pdf.

Update: Severe Acute Respiratory Syndrome — Toronto, Canada, 2003

Severe acute respiratory syndrome (SARS) was first recognized in Toronto in a woman who returned from Hong Kong on February 23, 2003 (1). Transmission to other persons resulted subsequently in an outbreak among 257 persons in several Greater Toronto Area (GTA) hospitals. After implementation of provincewide public health measures that included strict infection-control practices, the number of recognized cases of SARS declined substantially, and no cases were detected after April 20. On April 30, the World Health Organization (WHO) lifted a travel advisory issued on April 22 that had recommended limiting travel to Toronto. This report describes a second wave of SARS cases among patients, visitors, and health-care workers (HCWs) that occurred at a Toronto hospital approximately 4 weeks after SARS transmission was thought to have been interrupted. The findings indicate that exposure to hospitalized patients with unrecognized SARS after a provincewide relaxation of strict SARS control measures probably contributed to transmission among

HCWs. The investigation underscores the need for monitoring fever and respiratory symptoms in hospitalized patients and visitors, particularly after a decline in the number of reported SARS cases.

During February 23–June 7, the Ontario Ministry of Health and Long-Term Care received reports of 361 SARS cases (suspect: 136 [38%]; probable: 225 [62%]) (Figure 1); as of June 7, a total of 33 (9%) persons had died. Of 74 cases reported during April 15–June 9 to Toronto Public Health, 29 (39%) occurred among HCWs, 28 (38%) occurred as a result of exposure during hospitalization, and 17 (23%) occurred among hospital visitors (Figure 2). Of the 74 cases, 67 (90%) resulted directly from exposure in hospital A, a 350-bed GTA community hospital.

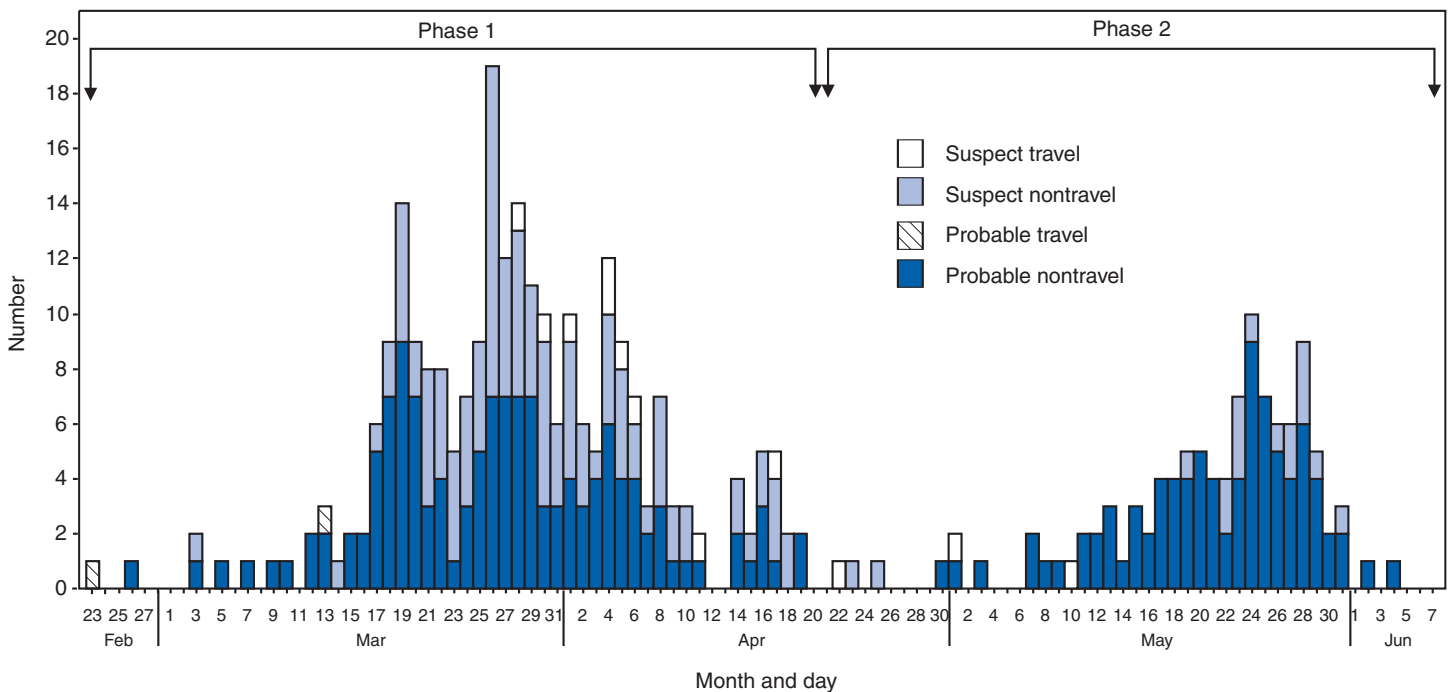
The majority of cases were associated with a ward used primarily for orthopedic patients (14 rooms) and gynecology patients (seven rooms). Nursing staff members used a common nursing station, shared a washroom, and ate together in a lounge just outside the ward. SARS attack rates among nurses assigned routinely to the orthopedic and gynecology sections of the ward were approximately 40% and 25%, respectively.

During early and mid-May, as recommended by provincial SARS-control directives, hospital A discontinued SARS expanded precautions (i.e., routine contact precautions with use of an N95 or equivalent respirator) for non-SARS patients without respiratory symptoms in all hospital areas other than the emergency department and the intensive care unit (ICU). In addition, staff no longer were required to wear masks or respirators routinely throughout the hospital or to maintain distance from one another while eating. Hospital A instituted changes in policy on May 8; the number of persons allowed to visit a patient during a 4-hour period remained restricted to one, but the number of patients who were allowed to have visitors was increased.

On May 20, five patients in a rehabilitation hospital in Toronto were reported with febrile illness. One of these five patients was determined to have been hospitalized in the orthopedic ward of hospital A during April 22–28, and a second was found on May 22 to have SARS-associated coronavirus (SARS-CoV) by nucleic acid amplification test. On investigation, a second patient was determined to have been hospitalized in the orthopedic ward of hospital A during April 22–28. After the identification of these cases, an investigation of pneumonia cases at hospital A identified eight cases of previously unrecognized SARS among patients.

The first patient linked to the second phase of the Ontario outbreak was a man aged 96 years who was admitted to hospital A on March 22 with a fractured pelvis. On April 2, he was transferred to the orthopedic ward, where he had fever and an infiltrate on chest radiograph. Although he appeared

FIGURE 1. Number* of reported cases of severe acute respiratory syndrome, by classification and date of illness onset — Ontario, February 23–June 7, 2003



* N = 361.

initially to respond to antimicrobial therapy, on April 19, he again had respiratory symptoms, fever, and diarrhea. He had no apparent contact with a patient or an HCW with SARS, and aspiration pneumonia and *Clostridium difficile*-associated diarrhea appeared to be probable explanations for his symptoms. In the subsequent outbreak investigation, other patients in close proximity to this patient and several visitors and HCWs linked to these patients were determined to have SARS. At least one visitor became ill before the onset of illness of a hospitalized family member, and another visitor was determined to have SARS although his hospitalized wife did not.

On May 23, hospital A was closed to all new admissions other than patients with newly identified SARS. Soon after, new provincial directives were issued, requiring an increased level of infection-control precautions in hospitals located in several GTA regions. HCWs at hospital A were placed under a 10-day work quarantine and instructed to avoid public places outside work, avoid close contact with friends and family, and to wear a mask whenever public contact was unavoidable. As of June 9, of 79 new cases of SARS that resulted from exposure at hospital A, 78 appear to have resulted from exposures that occurred before May 23.

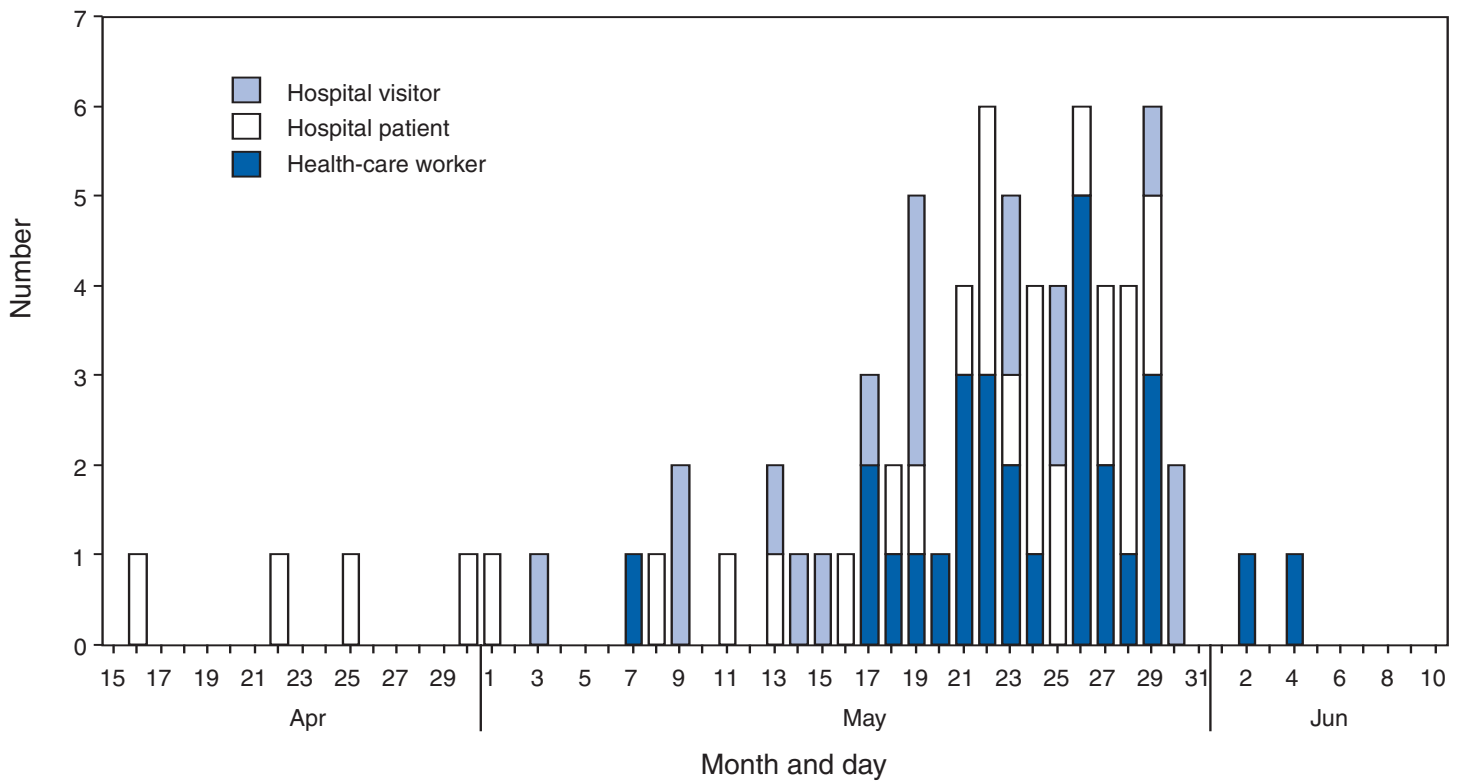
Reported by: T Wallington, MD, L Berger, MD, B Henry, MD, R Shahin, MD, B Yaffe, MD, Toronto Public Health; B Mederski, MD, G Berall, MD, North York General Hospital; M Christian, MD,

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Editorial Note: On May 14, 2003, WHO removed Toronto from the list of areas with recent local SARS transmission because 20 days (i.e., twice the maximum incubation period) had elapsed since the most recent case of locally acquired SARS was isolated or a SARS patient had died, suggesting that the chain of transmission had terminated. Before recognition of the second phase of the outbreak, the most recent case of locally acquired SARS in Toronto was reported before April 20. However, unrecognized transmission, limited initially to patient-to-patient and patient-to-visitor transmission, apparently was continuing in hospital A. After directives for increased hospitalwide infection-control precautions were lifted, an increase in the number of cases was observed, particularly among HCWs.

The findings from this investigation underscore the importance of controlling health-care-associated SARS transmission and highlight the difficulty in determining when expanded precautions for SARS no longer are necessary. Investigations in Canada and other countries have identified HCWs to be at increased risk for SARS, and methods for performing surveillance among HCWs have been recommended (2). The Toronto

FIGURE 2. Number* of reported cases of severe acute respiratory syndrome, by source of infection and date of illness onset — Toronto, Canada, April 15–June 9, 2003



* N = 74.

investigation suggests that unrecognized patient-to-patient and patient-to-visitor transmission of SARS might have been occurring with no associated cases of HCW illness until after a provincewide lifting of the expanded precautions for SARS. Transient carriage of pathogens on the hands of HCWs is the most common form of transmission for several nosocomial infections, and both direct contact and droplet spread appear to be major modes for transmitting SARS-CoV (3). HCWs should be directed to use gloves appropriately (e.g., change gloves after every patient contact and avoid their use outside a patient's room) and to pay scrupulous attention to hand hygiene before putting on and after removing gloves.

In addition to active and passive surveillance for fever and respiratory symptoms among HCWs, early detection of SARS cases among persons in health-care facilities in SARS-affected areas is critical, particularly in facilities that provide care to SARS patients. Identifying hospitalized patients with SARS is difficult, especially when no epidemiologic link has been recognized and the presentation of symptoms is nonspecific. Patients with SARS might develop symptoms common to hospitalized patients (e.g., fever or prodromal symptoms of headache, malaise, and myalgias), and diagnostic testing to detect

cases is limited. Available nucleic acid amplification assays for SARS-CoV have reported sensitivities as low as 50% (4). Although serologic testing for SARS-CoV antibody is available, definitive interpretation of an initial negative test requires a convalescent specimen to be obtained >21 days after onset of symptoms (5).

Several potential approaches for monitoring patients might improve recognition of SARS in hospitalized patients. A standardized assessment for SARS (e.g., clinical, radiographic, and laboratory criteria) might be used among all hospitalized patients with new-onset fever, especially for units or wards in which clusters of febrile patients are identified. In addition, some hospital computer information systems might allow review of administrative and physician order data to monitor selected observations that might serve as triggers for further investigation.

The Toronto investigation found early transmission of SARS to both patients and visitors in hospital A. In areas affected recently by SARS, clusters of pneumonia occurring in either visitors to health-care facilities or HCWs should be evaluated fully to determine if they represent transmission of SARS. To facilitate detection and reporting, clinicians in these areas

should be encouraged to obtain a history from pneumonia patients of whether they visited or worked at a health-care facility and whether family members or close contacts also are ill. Targeted surveillance for community-acquired pneumonia in areas recently affected by SARS might provide another means for early detection of these cases.

The findings from the Toronto investigation indicate that continued transmission of SARS can occur among patients and visitors during a period of apparent HCW adherence to expanded infection-control precautions for SARS. Maintaining a high level of suspicion for SARS on the part of health-care providers and infection-control staff is critical, particularly after a decline in reported SARS cases. The prevention of health-care-associated SARS infections must involve HCWs, patients, visitors, and the community.

References

1. Poutanen SM, Low DE, Henry B, et al. Identification of severe acute respiratory syndrome in Canada. *N Engl J Med* 2003;348:1995–2005.
2. CDC. Interim domestic guidance for management of exposures to severe acute respiratory syndrome (SARS) for health-care settings. Available at <http://www.cdc.gov/ncidod/sars/exposureguidance.htm>.
3. Seto WH, Tsang D, Yung RW, et al. Effectiveness of precautions against droplets and contact in prevention of nosocomial transmission of severe acute respiratory syndrome (SARS). *Lancet* 2003;361:1519–20.
4. Peiris JS, Lai ST, Poon LL, et al. Coronavirus as a possible cause of severe acute respiratory syndrome. *Lancet* 2003;361:1319–25.
5. Stohr K. A multicentre collaboration to investigate the cause of severe acute respiratory syndrome. *Lancet* 2003;361:1730–3.

Update: Severe Acute Respiratory Syndrome — United States, June 11, 2003

CDC continues to work with state and local health departments, the World Health Organization (WHO), and other partners to investigate cases of severe acute respiratory syndrome (SARS). This report updates SARS cases reported worldwide and in the United States, and describes the eighth probable U.S. SARS case with laboratory evidence of SARS-associated coronavirus (SARS-CoV) infection.

During November 1, 2002–June 11, 2003, a total of 8,435 probable SARS cases were reported to WHO from 29 countries, including 70 from the United States; 789 deaths (case-fatality proportion: 9.4%) have been reported, with no SARS-related deaths reported from the United States (1). In the United States, a total of 393 SARS cases have been reported from 42 states and Puerto Rico, with 323 (82%)

cases classified as suspect SARS and 70 (18%) classified as probable SARS (i.e., more severe illnesses characterized by the presence of pneumonia or acute respiratory distress syndrome) (2). Of the 70 probable patients, 68 (97%) had traveled to areas with documented or suspected community transmission of SARS within the 10 days before illness onset; the remaining two (3%) patients were a health-care worker who provided care to a SARS patient and a household contact of a SARS patient (3). Of the 68 probable SARS cases attributed to travel, 35 (51%) patients reported travel to mainland China; 17 (25%) to Hong Kong Special Administrative Region, China; five (7%) to Singapore; one (1%) to Hanoi, Vietnam; 14 (21%) to Toronto, Canada; and five (7%) to Taiwan; of these, seven (10%) reported travel to more than one of these areas.

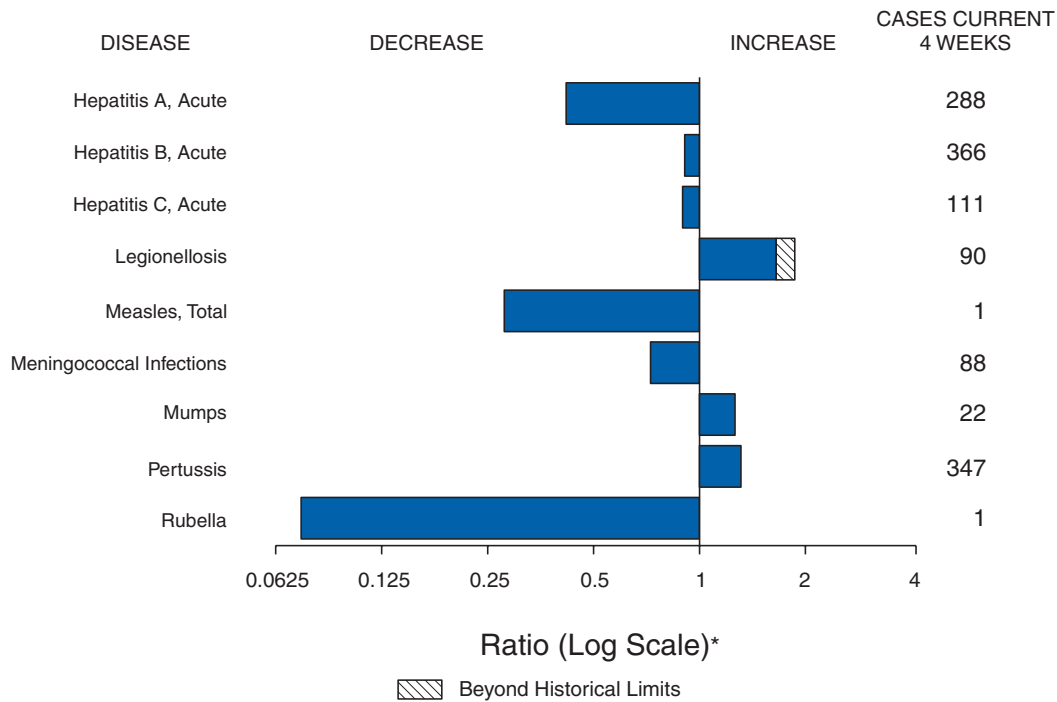
Serologic testing for antibody to SARS-CoV has been completed for 134 suspect and 41 probable cases. None of the suspect cases and eight (20%) of the probable cases have demonstrated antibodies to SARS-CoV, seven of which have been described previously (3). The eighth serologically confirmed probable SARS case occurred in a North Carolina resident who traveled to Toronto, Canada, on May 15 and visited a relative in a health-care facility on May 16 and 17. The relative's hospital roommate and another visitor in the room during these visits both subsequently had SARS diagnosed. The patient returned to the United States on May 18, and had a fever on May 24, followed by respiratory symptoms. He was treated as an outpatient for these symptoms beginning on May 27, and a chest radiograph on June 3 documented pneumonia. The patient has remained in isolation at home. All of the exposed health-care workers and family contacts are under active surveillance for SARS.

Serologic testing on this patient was negative for antibody to SARS-CoV at day 10 of illness and positive at day 11. SARS-CoV RNA was not detected by RT-PCR in nasopharyngeal and oropharyngeal swabs collected from the patients 11 days after onset of symptoms.

Reported by: *State and local health departments. SARS Investigative Team, CDC.*

References

1. World Health Organization. Cumulative number of reported cases of severe acute respiratory syndrome (SARS). Available at http://www.who.int/csr/sarscountry/2003_06_10/en.
2. CDC. Updated interim U.S. case definition of severe acute respiratory syndrome (SARS). Available at <http://www.cdc.gov/ncidod/sars/casedefinition.htm>.
3. CDC. Update: Severe acute respiratory syndrome—United States, 2003. *MMWR* 2003;52:525–6.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals June 7, 2003, 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 7, 2003 (23rd Week)*

	Cum. 2003	Cum. 2002		Cum. 2003	Cum. 2002
Anthrax	-	1	Hansen disease (leprosy) [†]	21	37
Botulism:	-	-	Hantavirus pulmonary syndrome [†]	8	8
foodborne	7	6	Hemolytic uremic syndrome, postdiarrheal [†]	53	54
infant	26	31	HIV infection, pediatric [§]	108	64
other (wound & unspecified)	10	6	Measles, total	17 [¶]	13 ^{**}
Brucellosis [†]	31	48	Mumps	99	141
Chancroid	14	37	Plague	-	-
Cholera	-	-	Poliomyelitis, paralytic	-	-
Cyclosporiasis [†]	14	66	Psittacosis [†]	6	11
Diphtheria	-	-	Q fever [†]	39	22
Ehrlichiosis:	-	-	Rabies, human	-	1
human granulocytic (HGE) [†]	28	53	Rubella	4	4
human monocytic (HME) [†]	34	24	Rubella, congenital	-	1
other and unspecified	3	2	Streptococcal toxic-shock syndrome [†]	89	68
Encephalitis/Meningitis:	-	-	Tetanus	3	10
California serogroup viral [†]	-	-	Toxic-shock syndrome	59	48
eastern equine [†]	-	-	Trichinosis	3	10
Powassan [†]	-	-	Tularemia [†]	10	16
St. Louis [†]	-	-	Yellow fever	-	-
western equine [†]	-	-			

-: No reported cases.

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

[†] Not notifiable in all states.

[§] Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention (NCHSTP). Last update May 25, 2003.

[¶] Of 17 cases reported, 16 were indigenous and one was imported from another country.

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

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd Week)*

Reporting area	AIDS		Chlamydia†		Coccidiomycosis		Cryptosporidiosis		Encephalitis/Meningitis West Nile	
	Cum. 2003§	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	19,482	16,491	350,401	356,212	1,424	1,943	790	911	-	-
NEW ENGLAND	654	627	11,724	11,576	-	-	49	44	-	-
Maine	27	19	771	608	N	N	5	2	-	-
N.H.	15	15	653	699	-	-	5	10	-	-
Vt.	6	6	444	328	-	-	9	8	-	-
Mass.	277	313	4,679	4,649	-	-	18	14	-	-
R.I.	51	49	1,420	1,134	-	-	9	5	-	-
Conn.	278	225	3,757	4,158	N	N	3	5	-	-
MID. ATLANTIC	4,098	3,436	38,398	38,917	-	-	107	135	-	-
Upstate N.Y.	274	239	8,308	6,908	N	N	31	26	-	-
N.Y. City	1,976	1,812	13,828	13,476	-	-	28	56	-	-
N.J.	787	665	5,777	5,479	-	-	5	11	-	-
Pa.	1,061	720	10,485	13,054	N	N	43	42	-	-
E.N. CENTRAL	1,982	1,773	61,807	66,086	3	11	168	257	-	-
Ohio	303	311	16,207	17,369	-	-	28	60	-	-
Ind.	259	206	7,096	7,281	N	N	20	20	-	-
Ill.	959	814	18,002	20,818	-	2	16	50	-	-
Mich.	359	360	14,008	13,278	3	9	35	47	-	-
Wis.	102	82	6,494	7,340	-	-	69	80	-	-
W.N. CENTRAL	358	269	20,269	19,756	1	11	75	92	-	-
Minn.	74	55	4,110	4,650	N	N	37	33	-	-
Iowa	41	41	1,896	2,290	N	N	10	9	-	-
Mo.	177	116	7,572	6,246	-	-	6	15	-	-
N. Dak.	-	-	513	561	N	N	4	6	-	-
S. Dak.	7	2	1,098	959	-	-	15	5	-	-
Nebr.¶	25	23	1,905	1,984	1	-	3	17	-	-
Kans.	34	32	3,175	3,066	N	N	-	7	-	-
S. ATLANTIC	5,488	5,341	68,705	66,741	2	1	119	127	-	-
Del.	106	95	1,387	1,218	N	N	1	1	-	-
Md.	558	815	7,350	6,723	2	1	9	5	-	-
D.C.	595	264	1,106	1,439	-	-	3	3	-	-
Va.	481	344	8,110	7,208	-	-	12	2	-	-
W. Va.	42	39	1,099	1,082	N	N	1	1	-	-
N.C.	581	399	11,539	10,714	N	N	15	18	-	-
S.C.	330	420	6,404	6,462	-	-	2	2	-	-
Ga.	736	920	14,408	13,597	-	-	47	47	-	-
Fla.	2,059	2,045	17,302	18,298	N	N	29	48	-	-
E.S. CENTRAL	841	749	23,216	23,289	N	N	47	53	-	-
Ky.	79	122	3,609	3,844	N	N	10	1	-	-
Tenn.	374	324	8,264	7,288	N	N	13	27	-	-
Ala.	185	143	6,039	7,225	-	-	21	21	-	-
Miss.	203	160	5,304	4,932	N	N	3	4	-	-
W.S. CENTRAL	2,125	1,801	45,018	47,908	-	-	35	29	-	-
Ark.	65	123	3,029	3,225	-	-	1	4	-	-
L.a.	368	431	6,976	8,385	N	N	1	8	-	-
Okla.	92	94	4,859	4,600	N	N	4	3	-	-
Tex.	1,600	1,153	30,154	31,698	-	-	29	14	-	-
MOUNTAIN	722	553	20,656	21,848	1,017	1,335	41	53	-	-
Mont.	10	6	989	728	N	N	8	4	-	-
Idaho	13	10	1,084	1,054	N	N	7	16	-	-
Wyo.	4	3	450	387	-	-	1	5	-	-
Colo.	159	107	4,423	6,139	N	N	9	12	-	-
N. Mex.	52	34	2,949	3,344	1	5	2	6	-	-
Ariz.	341	235	6,513	6,424	994	1,307	2	6	-	-
Utah	31	30	1,873	1,053	5	6	9	1	-	-
Nev.	112	128	2,375	2,719	17	17	3	3	-	-
PACIFIC	3,214	1,942	60,608	60,091	400	596	149	121	-	-
Wash.	214	228	6,858	6,436	N	N	14	9	-	-
Oreg.	126	178	3,366	2,840	-	-	18	16	-	-
Calif.	2,815	1,496	48,149	47,371	400	596	117	95	-	-
Alaska	12	9	1,650	1,566	-	-	-	-	-	-
Hawaii	47	31	585	1,878	-	-	-	1	-	-
Guam	2	1	-	285	-	-	-	-	-	-
P.R.	514	502	664	1,332	N	N	N	N	-	-
V.I.	15	53	-	84	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	2	U	-	U	-	U	-	U	-	U

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

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

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

§ Updated monthly from reports to the Division of HIV/AIDS Prevention — Surveillance and Epidemiology, National Center for HIV, STD, and TB Prevention. Last update May 25, 2003.

¶ For Nebraska, data for hepatitis A, B, and C; meningococcal disease; pertussis; streptococcal disease (invasive, group A); and *Streptococcus pneumoniae* (invasive) were collected by using the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd 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. 2003	Cum. 2002	Cum. 2003	Cum. 2002
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002				
UNITED STATES	496	676	72	40	56	6	6,125	7,587	131,748	151,277
NEW ENGLAND	31	57	10	9	6	1	431	682	2,922	3,418
Maine	4	3	1	-	-	-	51	67	87	42
N.H.	6	5	-	-	-	-	15	22	46	56
Vt.	-	2	-	-	-	-	36	49	37	46
Mass.	10	29	2	6	6	1	200	356	1,158	1,482
R.I.	1	4	-	-	-	-	46	49	424	412
Conn.	10	14	7	3	-	-	83	139	1,170	1,380
MID. ATLANTIC	29	54	3	-	17	2	1,235	1,659	15,490	17,991
Upstate N.Y.	21	32	1	-	9	-	356	448	3,172	3,586
N.Y. City	3	6	-	-	-	-	450	639	5,297	5,474
N.J.	5	16	-	-	-	-	98	196	3,374	3,368
Pa.	N	N	2	-	8	2	331	376	3,647	5,563
E.N. CENTRAL	120	182	8	9	8	-	1,016	1,271	27,704	31,806
Ohio	34	29	8	4	8	-	350	343	9,080	9,453
Ind.	17	16	-	-	-	-	-	-	2,687	3,143
Ill.	18	62	-	3	-	-	229	384	7,970	10,525
Mich.	25	30	-	2	-	-	274	341	5,777	6,133
Wis.	26	45	-	-	-	-	163	203	2,190	2,552
W.N. CENTRAL	70	83	5	5	8	-	600	713	6,829	7,609
Minn.	23	25	5	4	-	-	231	254	1,027	1,328
Iowa	9	18	-	-	-	-	83	97	426	523
Mo.	23	16	N	N	N	N	151	195	3,513	3,681
N. Dak.	1	-	-	-	2	-	13	6	23	33
S. Dak.	3	5	-	-	-	-	21	28	81	105
Nebr.	6	12	-	1	-	-	51	61	631	696
Kans.	5	7	-	-	6	-	50	72	1,128	1,243
S. ATLANTIC	51	61	24	10	-	-	1,024	1,122	33,435	38,745
Del.	-	2	N	N	N	N	14	21	521	728
Md.	-	5	-	-	-	-	51	42	3,399	3,795
D.C.	1	-	-	-	-	-	17	19	839	1,181
Va.	18	14	2	-	-	-	118	87	3,732	4,570
W. Va.	1	2	-	-	-	-	10	13	365	426
N.C.	5	9	6	-	-	-	N	N	6,495	7,199
S.C.	-	-	-	-	-	-	48	27	3,401	3,912
Ga.	10	18	2	5	-	-	389	348	7,043	7,327
Fla.	16	11	14	5	-	-	377	565	7,640	9,607
E.S. CENTRAL	23	33	-	-	4	-	137	133	11,148	13,176
Ky.	8	8	-	-	4	-	N	N	1,533	1,510
Tenn.	10	19	-	-	-	-	55	63	3,319	4,065
Ala.	4	2	-	-	-	-	82	70	3,592	4,592
Miss.	1	4	-	-	-	-	-	-	2,704	3,009
W.S. CENTRAL	44	30	12	-	9	2	104	55	18,090	21,073
Ark.	2	1	-	-	-	-	58	54	1,595	1,866
La.	-	1	-	-	-	-	3	-	4,346	5,131
Okla.	3	5	-	-	-	-	43	-	1,829	2,007
Tex.	39	23	12	-	9	2	-	1	10,320	12,069
MOUNTAIN	54	52	8	5	4	1	519	548	4,270	4,745
Mont.	2	8	-	-	-	-	28	32	55	39
Idaho	13	5	4	2	-	-	62	27	37	37
Wyo.	1	2	-	1	-	-	7	10	21	26
Colo.	16	13	1	1	4	1	150	189	1,024	1,522
N. Mex.	1	4	3	1	-	-	17	67	485	652
Ariz.	11	5	N	N	N	N	89	75	1,704	1,548
Utah	9	9	-	-	-	-	117	91	176	93
Nev.	1	6	-	-	-	-	49	57	768	828
PACIFIC	74	124	2	2	-	-	1,059	1,404	11,860	12,714
Wash.	19	14	1	-	-	-	85	166	1,259	1,276
Oreg.	13	31	1	2	-	-	135	163	439	355
Calif.	41	57	-	-	-	-	786	995	9,792	10,570
Alaska	1	4	-	-	-	-	36	35	234	264
Hawaii	-	18	-	-	-	-	17	45	136	249
Guam	N	N	-	-	-	-	-	3	-	29
P.R.	-	1	-	-	-	-	10	8	70	205
V.I.	-	-	-	-	-	-	-	-	-	20
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

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

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd Week)*

Reporting area	<i>Haemophilus influenzae</i> , invasive								Hepatitis (viral, acute), by type	
	All ages		Age <5 years						A	
	All serotypes		Serotype B		Non-serotype B		Unknown serotype		Cum.	Cum.
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	2003	2002
UNITED STATES	729	858	5	15	106	148	17	9	2,526	4,364
NEW ENGLAND	55	60	-	-	7	7	3	1	107	163
Maine	2	1	-	-	-	-	1	-	4	6
N.H.	7	4	-	-	-	-	-	-	6	10
Vt.	6	3	-	-	-	-	-	-	4	-
Mass.	26	27	-	-	7	3	1	1	59	76
R.I.	3	9	-	-	-	-	1	-	11	20
Conn.	11	16	-	-	-	4	-	-	23	51
MID. ATLANTIC	142	162	-	1	16	25	5	-	464	552
Upstate N.Y.	53	60	-	1	8	8	-	-	47	84
N.Y. City	21	36	-	-	5	7	-	-	138	190
N.J.	27	38	-	-	3	5	-	-	64	85
Pa.	41	28	-	-	-	5	5	-	215	193
E.N. CENTRAL	97	178	1	2	15	31	-	-	244	504
Ohio	39	46	-	-	7	5	-	-	44	130
Ind.	22	25	-	1	2	6	-	-	19	25
Ill.	25	67	-	-	5	12	-	-	78	148
Mich.	9	7	1	1	1	-	-	-	82	113
Wis.	2	33	-	-	-	8	-	-	21	88
W.N. CENTRAL	54	23	-	-	6	2	5	3	73	162
Minn.	22	15	-	-	6	2	1	1	20	23
Iowa	-	1	-	-	-	-	-	-	15	35
Mo.	21	5	-	-	-	-	4	2	20	44
N. Dak.	-	-	-	-	-	-	-	-	-	1
S. Dak.	1	1	-	-	-	-	-	-	-	3
Nebr.	-	-	-	-	-	-	-	-	4	6
Kans.	10	1	-	-	-	-	-	-	14	50
S. ATLANTIC	168	189	-	3	18	24	-	1	627	1,232
Del.	-	-	-	-	-	-	-	-	4	8
Md.	35	47	-	1	4	1	-	-	65	134
D.C.	-	-	-	-	-	-	-	-	20	44
Va.	16	14	-	-	4	2	-	-	35	40
W. Va.	7	2	-	-	-	-	-	-	9	10
N.C.	13	20	-	-	-	3	-	-	32	120
S.C.	3	6	-	-	-	2	-	-	19	36
Ga.	40	43	-	-	5	8	-	-	254	257
Fla.	54	57	-	2	5	8	-	1	189	583
E.S. CENTRAL	46	29	1	1	6	8	-	-	67	136
Ky.	2	3	-	-	-	-	-	-	12	27
Tenn.	26	14	-	-	4	5	-	-	36	54
Ala.	16	6	1	1	1	2	-	-	11	23
Miss.	2	6	-	-	1	1	-	-	8	32
W.S. CENTRAL	31	29	-	2	5	6	-	-	240	420
Ark.	4	1	-	-	1	-	-	-	2	22
La.	6	3	-	-	1	1	-	-	20	39
Okla.	21	23	-	-	3	5	-	-	7	20
Tex.	-	2	-	2	-	-	-	-	211	339
MOUNTAIN	99	104	3	3	26	24	3	2	186	277
Mont.	-	-	-	-	-	-	-	-	2	7
Idaho	2	1	-	-	1	-	-	-	-	19
Wyo.	-	2	-	-	-	-	-	-	1	2
Colo.	17	19	-	-	4	2	-	-	26	41
N. Mex.	13	17	-	-	4	4	1	-	8	8
Ariz.	55	47	3	1	12	14	-	1	112	155
Utah	7	12	-	1	4	3	-	-	16	18
Nev.	5	6	-	1	1	1	2	1	21	27
PACIFIC	37	84	-	3	7	21	1	2	518	918
Wash.	3	2	-	1	2	1	1	-	27	80
Oreg.	27	32	-	-	3	3	-	-	30	37
Calif.	2	29	-	2	2	14	-	2	455	780
Alaska	-	1	-	-	-	1	-	-	5	7
Hawaii	5	20	-	-	-	2	-	-	1	14
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	-	-	-	-	-	-	-	-	9	93
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

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

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd Week)*

Reporting area	Hepatitis (viral, acute), by type				Legionellosis		Listeriosis		Lyme disease	
	B		C		Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002						
UNITED STATES	2,721	3,145	1,336	827	454	340	198	196	2,820	3,394
NEW ENGLAND	109	119	-	15	15	17	7	19	223	360
Maine	-	3	-	-	-	2	-	2	-	-
N.H.	10	9	-	-	1	2	2	2	7	25
Vt.	1	2	-	10	1	1	-	-	4	4
Mass.	86	72	-	5	6	8	3	12	14	301
R.I.	4	14	-	-	1	-	-	1	97	22
Conn.	8	19	-	-	6	4	2	2	101	8
MID. ATLANTIC	540	710	77	48	90	84	35	39	2,152	2,430
Upstate N.Y.	45	56	24	24	30	17	9	12	926	1,044
N.Y. City	178	381	-	-	8	17	7	10	1	34
N.J.	209	120	-	4	2	15	4	5	275	606
Pa.	108	153	53	20	50	35	15	12	950	746
E.N. CENTRAL	190	253	104	52	90	86	18	29	59	149
Ohio	66	39	6	-	52	34	5	9	16	17
Ind.	10	13	-	-	6	4	1	3	4	3
Ill.	1	49	6	11	3	12	3	6	-	12
Mich.	91	131	92	40	29	25	9	7	-	-
Wis.	22	21	-	1	-	11	-	4	39	117
W.N. CENTRAL	124	96	113	402	17	24	5	7	45	41
Minn.	15	6	3	-	2	2	2	-	27	22
Iowa	4	11	-	1	4	6	-	1	4	5
Mo.	80	53	109	394	7	8	1	4	10	11
N. Dak.	-	1	-	-	1	-	-	1	-	-
S. Dak.	1	-	-	-	-	1	-	-	-	-
Nebr.	11	15	1	7	2	7	2	-	1	1
Kans.	13	10	-	-	1	-	-	1	3	2
S. ATLANTIC	781	734	82	85	120	70	48	27	223	299
Del.	3	8	-	-	-	5	N	N	31	43
Md.	46	68	8	6	23	9	6	4	140	170
D.C.	1	7	-	-	1	2	-	-	3	9
Va.	59	97	1	-	9	6	6	2	14	14
W. Va.	7	13	1	1	N	N	2	-	1	3
N.C.	77	97	5	13	9	5	9	3	19	35
S.C.	68	40	19	4	3	5	1	3	1	2
Ga.	251	184	3	36	11	7	13	6	4	1
Fla.	269	220	45	25	64	31	11	9	10	22
E.S. CENTRAL	164	159	45	56	22	10	8	8	13	17
Ky.	34	21	7	2	8	6	1	2	3	6
Tenn.	65	70	9	13	11	-	1	3	6	2
Ala.	31	35	5	3	2	4	4	3	1	5
Miss.	34	33	24	38	1	-	2	-	3	4
W.S. CENTRAL	131	475	848	95	42	10	29	13	56	56
Ark.	2	55	-	8	-	-	-	-	-	-
La.	26	53	18	38	-	4	-	-	3	2
Okla.	24	9	-	-	2	2	1	3	-	-
Tex.	79	358	830	49	40	4	28	10	53	54
MOUNTAIN	279	219	29	22	28	14	13	16	5	6
Mont.	8	3	1	-	1	1	1	-	-	-
Idaho	-	3	-	-	3	-	-	1	1	2
Wyo.	16	12	-	4	1	-	-	-	-	-
Colo.	42	35	21	2	7	3	6	2	1	-
N. Mex.	13	48	-	1	2	1	2	2	-	1
Ariz.	148	76	4	3	6	3	4	8	-	1
Utah	22	14	-	1	6	5	-	3	2	1
Nev.	30	28	3	11	2	1	-	-	1	1
PACIFIC	403	380	38	52	30	25	35	38	44	36
Wash.	25	28	7	11	3	1	1	3	-	-
Oreg.	57	70	6	6	N	N	1	2	12	3
Calif.	312	274	24	35	27	24	33	29	31	32
Alaska	7	5	1	-	-	-	-	-	1	1
Hawaii	2	3	-	-	-	-	-	4	N	N
Guam	-	-	-	-	-	-	-	-	-	-
P.R.	13	70	-	-	-	-	-	2	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

N: Not notifiable.

U: Unavailable.

-: No reported cases.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd Week)*

Reporting area	Malaria		Meningococcal disease		Pertussis		Rabies, animal		Rocky Mountain spotted fever	
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	351	483	954	977	2,220	2,888	1,827	2,502	139	236
NEW ENGLAND	7	30	41	57	213	281	186	342	-	1
Maine	1	1	5	2	2	3	19	22	-	-
N.H.	1	5	3	5	16	5	5	10	-	-
Vt.	-	1	-	4	29	48	12	57	-	-
Mass.	5	13	26	31	160	214	74	109	-	1
R.I.	-	1	2	4	5	1	23	25	-	-
Conn.	-	9	5	11	1	10	53	119	-	-
MID. ATLANTIC	73	121	95	123	222	131	187	436	12	23
Upstate N.Y.	19	18	22	27	108	85	124	234	1	-
N.Y. City	36	70	18	20	-	9	1	10	4	5
N.J.	4	18	12	19	14	-	62	61	5	6
Pa.	14	15	43	57	100	37	-	131	2	12
E.N. CENTRAL	31	69	126	145	168	344	28	31	4	5
Ohio	7	10	38	47	97	178	10	5	3	2
Ind.	-	2	24	20	28	19	2	6	-	-
Ill.	11	29	30	33	-	49	4	6	-	3
Mich.	12	20	24	21	19	33	12	9	1	-
Wis.	1	8	10	24	24	65	-	5	-	-
W.N. CENTRAL	17	33	70	81	117	239	252	203	6	31
Minn.	11	12	16	19	39	70	12	10	-	-
Iowa	2	2	10	12	23	85	28	21	1	1
Mo.	1	8	31	31	27	49	4	16	5	29
N. Dak.	-	1	-	-	2	5	28	14	-	-
S. Dak.	-	-	1	2	2	5	20	44	-	-
Nebr.	-	5	6	12	2	3	56	-	-	1
Kans.	3	5	6	5	22	22	104	98	-	-
S. ATLANTIC	97	111	149	143	184	188	901	1,096	90	123
Del.	-	1	7	6	1	2	23	9	-	-
Md.	26	37	12	4	26	22	2	186	22	16
D.C.	5	6	-	-	-	1	-	-	-	-
Va.	7	10	11	19	33	83	238	254	1	3
W. Va.	4	2	1	-	5	6	37	77	-	-
N.C.	6	8	19	16	65	18	317	287	54	64
S.C.	2	4	9	14	7	26	73	33	9	27
Ga.	17	13	17	16	21	13	167	177	-	11
Fla.	30	30	73	68	26	17	44	73	4	2
E.S. CENTRAL	7	7	37	46	53	82	25	137	20	35
Ky.	1	2	4	6	15	24	15	13	-	1
Tenn.	4	2	9	18	24	36	-	108	16	15
Ala.	2	1	12	11	11	15	10	16	2	4
Miss.	-	2	12	11	3	7	-	-	2	15
W.S. CENTRAL	38	15	228	122	161	691	132	48	4	15
Ark.	3	1	9	20	-	376	25	-	-	-
La.	1	2	22	24	4	5	-	-	-	-
Okla.	2	-	8	13	12	27	107	46	2	3
Tex.	32	12	189	65	145	283	-	2	2	12
MOUNTAIN	14	17	41	57	428	353	40	93	3	3
Mont.	-	-	2	2	-	2	7	4	-	1
Idaho	1	-	5	3	17	36	1	-	1	-
Wyo.	-	-	1	-	71	5	1	12	1	1
Colo.	10	8	13	18	171	159	2	-	-	-
N. Mex.	-	1	3	1	22	37	2	4	-	-
Ariz.	2	2	13	18	92	84	25	72	1	-
Utah	1	3	-	1	45	20	1	-	-	-
Nev.	-	3	4	14	10	10	1	1	-	1
PACIFIC	67	80	167	203	674	579	76	116	-	-
Wash.	10	8	14	36	160	157	-	-	-	-
Oreg.	5	3	32	31	159	58	1	-	-	-
Calif.	50	63	118	129	351	353	72	90	-	-
Alaska	-	1	1	1	-	2	3	26	-	-
Hawaii	2	5	2	6	4	9	-	-	-	-
Guam	-	-	-	1	-	2	-	-	-	-
P.R.	-	1	2	2	-	2	20	34	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-	U

N: Not notifiable. U: Unavailable. -: No reported cases.
 * Incidence data for reporting years 2002 and 2003 are provisional and cumulative (year-to-date).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd Week)*

Reporting area	Salmonellosis		Shigellosis		Streptococcal disease, invasive, group A		<i>Streptococcus pneumoniae</i> , invasive			
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Drug resistant, all ages		Age <5 years	
							Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002
UNITED STATES	11,654	13,296	9,370	6,448	2,956	2,569	1,161	1,505	188	146
NEW ENGLAND	587	711	116	110	163	200	12	64	1	1
Maine	41	62	4	3	16	16	-	-	-	-
N.H.	38	42	4	4	16	23	-	-	N	N
Vt.	18	28	5	-	13	8	5	3	1	1
Mass.	325	407	70	80	113	74	N	N	N	N
R.I.	33	28	3	4	5	8	7	3	-	-
Conn.	132	144	30	19	-	71	-	58	-	-
MID. ATLANTIC	1,306	1,892	747	489	451	434	73	67	53	44
Upstate N.Y.	312	451	132	64	211	177	34	63	41	38
N.Y. City	377	504	151	188	57	102	U	U	U	U
N.J.	104	432	118	139	26	92	N	N	N	N
Pa.	513	505	346	98	157	63	39	4	12	6
E.N. CENTRAL	1,579	2,144	678	693	666	557	259	109	79	58
Ohio	492	537	121	306	190	124	175	3	56	-
Ind.	198	154	54	32	61	26	84	104	18	23
Ill.	441	766	340	236	164	176	-	2	-	-
Mich.	258	344	110	61	234	162	N	N	N	N
Wis.	190	343	53	58	17	69	N	N	5	35
W.N. CENTRAL	696	875	331	510	195	144	109	311	26	25
Minn.	201	197	39	94	94	69	-	216	24	23
Iowa	123	124	22	42	N	N	N	N	N	N
Mo.	179	325	145	56	42	32	7	4	2	1
N. Dak.	16	18	-	7	6	-	3	1	-	1
S. Dak.	29	30	8	140	15	9	-	1	-	-
Nebr.	63	59	84	118	19	14	-	25	N	N
Kans.	85	122	33	53	19	20	99	64	N	N
S. ATLANTIC	2,886	2,956	3,072	2,120	501	393	584	713	4	3
Del.	22	19	119	6	5	1	1	3	N	N
Md.	304	267	233	351	175	55	-	-	-	-
D.C.	15	31	29	27	9	5	2	33	-	1
Va.	299	306	145	394	62	44	N	N	N	N
W. Va.	25	40	-	2	23	7	36	32	4	2
N.C.	400	406	299	125	43	77	N	N	U	U
S.C.	146	177	186	33	19	27	61	112	N	N
Ga.	557	490	918	523	59	86	168	181	N	N
Fla.	1,118	1,220	1,143	659	106	91	316	352	N	N
E.S. CENTRAL	694	740	408	525	106	59	77	77	-	-
Ky.	130	111	53	59	26	8	11	8	N	N
Tenn.	238	200	131	25	80	51	66	69	N	N
Ala.	203	203	147	230	-	-	-	-	N	N
Miss.	123	226	77	211	-	-	-	-	-	-
W.S. CENTRAL	1,275	1,262	2,741	955	293	158	29	135	24	13
Ark.	155	179	33	83	3	4	7	5	-	-
La.	69	264	77	194	1	1	22	130	9	4
Okla.	117	117	372	143	49	19	N	N	15	-
Tex.	934	702	2,259	535	240	134	N	N	-	9
MOUNTAIN	818	820	388	235	296	328	17	29	1	2
Mont.	44	38	2	1	1	-	-	-	-	-
Idaho	80	55	10	2	11	5	N	N	N	N
Wyo.	46	24	1	3	1	6	4	10	-	-
Colo.	210	209	56	48	104	67	-	-	-	-
N. Mex.	63	107	75	49	66	63	13	19	-	-
Ariz.	238	237	206	105	104	170	-	-	N	N
Utah	76	55	22	13	8	17	-	-	1	2
Nev.	61	95	16	14	1	-	-	-	-	-
PACIFIC	1,813	1,896	889	811	285	296	1	-	-	-
Wash.	196	170	71	49	26	18	-	-	N	N
Oreg.	165	150	40	38	N	N	N	N	N	N
Calif.	1,371	1,446	772	701	231	252	N	N	N	N
Alaska	39	27	4	2	-	-	-	-	N	N
Hawaii	42	103	2	21	28	26	1	-	-	-
Guam	-	19	-	16	-	-	-	3	-	-
P.R.	47	145	1	11	N	N	N	N	N	N
V.I.	-	-	-	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	U	U	-	U

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

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending June 7, 2003, and June 8, 2002 (23rd Week)*

Reporting area	Syphilis				Tuberculosis		Typhoid fever		Varicella (Chickenpox)
	Primary & secondary		Congenital		Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002	Cum. 2003
	Cum. 2003	Cum. 2002	Cum. 2003	Cum. 2002					
UNITED STATES	2,894	2,798	146	181	4,040	5,176	107	134	6,249
NEW ENGLAND	88	45	1	-	112	174	8	9	1,070
Maine	4	-	1	-	4	7	-	-	587
N.H.	8	-	-	-	5	6	1	-	-
Vt.	-	1	-	-	3	1	-	-	385
Mass.	61	32	-	-	67	85	2	7	95
R.I.	10	1	-	-	12	24	2	-	3
Conn.	5	11	-	-	21	51	3	2	-
MID. ATLANTIC	334	320	28	27	802	902	17	32	9
Upstate N.Y.	16	16	4	1	95	130	3	3	N
N.Y. City	181	187	17	10	478	437	7	15	-
N.J.	67	59	7	15	146	211	6	9	-
Pa.	70	58	-	1	83	124	1	5	9
E.N. CENTRAL	410	547	34	29	473	511	9	15	3,143
Ohio	102	62	2	-	80	81	1	4	782
Ind.	20	28	4	1	50	49	4	1	-
Ill.	149	202	12	23	227	247	-	5	-
Mich.	131	244	16	5	97	104	4	3	1,962
Wis.	8	11	-	-	19	30	-	2	399
W.N. CENTRAL	74	51	2	-	173	231	2	6	27
Minn.	21	22	-	-	72	97	-	3	N
Iowa	4	2	-	-	11	14	1	-	N
Mo.	28	12	2	-	16	67	1	1	-
N. Dak.	-	-	-	-	-	3	-	-	27
S. Dak.	-	-	-	-	13	10	-	-	-
Nebr.	1	5	-	-	13	9	-	2	-
Kans.	20	10	-	-	48	31	-	-	-
S. ATLANTIC	767	656	28	40	711	1,031	25	15	1,211
Del.	4	8	-	-	-	7	-	-	10
Md.	128	73	3	5	91	104	6	3	-
D.C.	22	20	1	1	-	-	-	-	14
Va.	37	31	1	1	67	115	10	-	302
W. Va.	-	-	-	-	10	9	-	-	759
N.C.	72	133	9	9	99	126	4	-	N
S.C.	50	56	3	4	57	69	-	-	126
Ga.	160	124	2	9	97	201	3	4	-
Fla.	294	211	9	11	290	400	2	8	N
E. S. CENTRAL	147	253	10	13	281	323	3	2	-
Ky.	21	41	1	2	51	56	-	2	N
Tenn.	65	101	4	4	84	119	1	-	N
Ala.	54	83	4	5	106	101	2	-	-
Miss.	7	28	1	2	40	47	-	-	-
W. S. CENTRAL	367	358	24	42	554	829	-	14	492
Ark.	19	17	-	2	44	54	-	-	-
La.	38	56	-	-	-	-	-	-	3
Okla.	22	26	-	1	61	67	-	-	N
Tex.	288	259	24	39	449	708	-	14	489
MOUNTAIN	122	143	13	7	112	157	3	6	297
Mont.	-	-	-	-	-	4	-	-	N
Idaho	6	1	-	-	1	2	-	-	N
Wyo.	-	-	-	-	2	2	-	-	26
Colo.	7	24	2	1	27	34	3	3	-
N. Mex.	24	14	-	-	-	20	-	-	-
Ariz.	75	97	11	6	63	77	-	-	3
Utah	4	2	-	-	13	12	-	2	268
Nev.	6	5	-	-	6	6	-	1	-
PACIFIC	585	425	6	23	822	1,018	40	35	-
Wash.	33	21	-	1	95	95	2	3	-
Oreg.	16	5	-	-	36	44	2	2	-
Calif.	535	394	6	22	653	790	36	30	-
Alaska	-	-	-	-	26	25	-	-	-
Hawaii	1	5	-	-	12	64	-	-	-
Guam	-	5	-	-	-	29	-	-	-
P.R.	86	107	1	15	-	33	-	-	115
V.I.	-	1	-	-	-	-	-	-	-
Amer. Samoa	U	U	U	U	U	U	U	U	U
C.N.M.I.	-	U	-	U	-	U	-	U	-

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

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

TABLE III. Deaths in 122 U.S. cities,* week ending June 7, 2003 (23rd 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	441	322	77	26	8	8	47	S. ATLANTIC	1,431	868	337	134	50	42	60		
Boston, Mass.	143	92	33	10	4	4	13	Atlanta, Ga.	296	161	74	31	14	16	4		
Bridgeport, Conn.	19	17	1	-	1	-	1	Baltimore, Md.	195	108	48	26	8	5	13		
Cambridge, Mass.	19	16	3	-	-	-	2	Charlotte, N.C.	124	83	24	12	3	2	9		
Fall River, Mass.	21	20	1	-	-	-	6	Jacksonville, Fla.	150	100	36	10	3	1	5		
Hartford, Conn.	40	29	7	2	2	-	4	Miami, Fla.	114	68	24	13	5	4	6		
Lowell, Mass.	11	10	1	-	-	-	1	Norfolk, Va.	37	22	8	2	-	5	1		
Lynn, Mass.	10	7	1	2	-	-	1	Richmond, Va.	71	37	21	7	4	2	2		
New Bedford, Mass.	21	15	4	2	-	-	3	Savannah, Ga.	51	38	10	3	-	-	5		
New Haven, Conn.	27	19	5	1	-	2	3	St. Petersburg, Fla.	56	47	7	2	-	-	4		
Providence, R.I.	U	U	U	U	U	U	U	Tampa, Fla.	215	140	51	12	7	5	9		
Somerville, Mass.	4	3	-	1	-	-	-	Washington, D.C.	100	49	28	15	6	2	-		
Springfield, Mass.	43	28	9	6	-	-	7	Wilmington, Del.	22	15	6	1	-	-	2		
Waterbury, Conn.	24	20	3	1	-	-	-	E.S. CENTRAL	812	542	160	66	29	13	61		
Worcester, Mass.	59	46	9	1	1	2	6	Birmingham, Ala.	186	126	33	15	6	4	13		
MID. ATLANTIC	2,259	1,529	468	176	52	33	133	Chattanooga, Tenn.	70	51	13	4	2	-	8		
Albany, N.Y.	49	37	9	-	2	1	6	Knoxville, Tenn.	64	42	13	4	4	1	2		
Allentown, Pa.	27	25	2	-	-	-	2	Lexington, Ky.	85	61	14	4	6	-	5		
Buffalo, N.Y.	82	52	16	12	-	2	3	Memphis, Tenn.	153	96	35	13	7	2	12		
Camden, N.J.	22	13	4	3	1	1	2	Mobile, Ala.	74	45	16	11	1	1	1		
Elizabeth, N.J.	20	14	5	1	-	-	-	Montgomery, Ala.	51	32	11	6	1	1	3		
Erie, Pa.	46	34	11	1	-	-	5	Nashville, Tenn.	129	89	25	9	2	4	17		
Jersey City, N.J.	36	28	7	-	-	1	-	W.S. CENTRAL	1,516	955	352	116	46	47	95		
New York City, N.Y.	1,096	733	237	89	23	13	47	Austin, Tex.	85	61	15	4	2	3	7		
Newark, N.J.	50	19	19	9	3	-	4	Baton Rouge, La.	47	33	8	6	-	-	-		
Paterson, N.J.	28	17	7	2	1	1	-	Corpus Christi, Tex.	51	41	7	1	1	1	4		
Philadelphia, Pa.	396	251	90	39	13	3	23	Dallas, Tex.	224	130	60	22	6	6	13		
Pittsburgh, Pa. [‡]	37	23	7	-	3	4	4	El Paso, Tex.	88	57	21	4	3	3	2		
Reading, Pa.	23	21	-	1	-	1	2	Ft. Worth, Tex.	125	75	30	10	4	6	8		
Rochester, N.Y.	132	95	22	9	2	4	11	Houston, Tex.	405	225	99	43	21	17	27		
Schenectady, N.Y.	29	23	5	1	-	-	3	Little Rock, Ark.	75	48	20	3	1	3	-		
Scranton, Pa.	36	29	5	1	1	-	2	New Orleans, La.	U	U	U	U	U	U	U		
Syracuse, N.Y.	98	74	14	6	2	2	17	San Antonio, Tex.	242	169	54	10	5	4	13		
Trenton, N.J.	10	8	2	-	-	-	2	Shreveport, La.	55	37	15	3	-	-	8		
Utica, N.Y.	20	17	2	1	-	-	-	Tulsa, Okla.	119	79	23	10	3	4	13		
Yonkers, N.Y.	22	16	4	1	1	-	-	MOUNTAIN	934	623	193	77	25	15	64		
E.N. CENTRAL	1,800	1,202	387	121	38	52	127	Albuquerque, N.M.	136	86	25	21	4	-	6		
Akron, Ohio	3	3	-	-	-	-	3	Boise, Idaho	57	42	8	5	-	2	4		
Canton, Ohio	40	27	9	2	1	1	4	Colo. Springs, Colo.	84	57	17	4	2	4	1		
Chicago, Ill.	365	226	88	34	9	8	29	Denver, Colo.	95	55	30	6	2	2	7		
Cincinnati, Ohio	82	57	10	4	6	5	12	Las Vegas, Nev.	236	146	55	22	9	3	20		
Cleveland, Ohio	112	68	32	8	3	1	3	Ogden, Utah	34	28	4	-	1	1	2		
Columbus, Ohio	202	126	50	16	6	4	12	Phoenix, Ariz.	U	U	U	U	U	U	U		
Dayton, Ohio	U	U	U	U	U	U	U	Pueblo, Colo.	27	22	4	-	1	-	3		
Detroit, Mich.	183	99	52	17	5	10	13	Salt Lake City, Utah	111	74	24	7	3	3	7		
Evansville, Ind.	46	38	6	1	1	-	3	Tucson, Ariz.	154	113	26	12	3	-	14		
Fort Wayne, Ind.	91	71	13	4	2	1	4	PACIFIC	1,733	1,237	323	100	48	25	130		
Gary, Ind.	19	12	6	1	-	-	1	Berkeley, Calif.	16	14	2	-	-	-	-		
Grand Rapids, Mich.	58	42	7	6	-	3	5	Fresno, Calif.	133	94	24	10	3	2	11		
Indianapolis, Ind.	199	129	40	14	4	12	12	Glendale, Calif.	21	12	7	2	-	-	2		
Lansing, Mich.	34	26	8	-	-	-	4	Honolulu, Hawaii	79	61	15	1	-	2	8		
Milwaukee, Wis.	127	97	24	5	-	1	9	Long Beach, Calif.	72	55	12	5	-	-	7		
Peoria, Ill.	48	40	6	1	-	1	4	Los Angeles, Calif.	324	245	57	16	3	3	18		
Rockford, Ill.	48	36	5	3	1	3	3	Pasadena, Calif.	26	13	4	5	3	1	-		
South Bend, Ind.	60	43	13	3	-	1	3	Portland, Oreg.	151	102	30	7	9	3	9		
Toledo, Ohio	83	62	18	2	-	1	3	Sacramento, Calif.	198	141	36	11	9	1	19		
Youngstown, Ohio	U	U	U	U	U	U	U	San Diego, Calif.	180	117	34	15	9	5	19		
W.N. CENTRAL	483	331	81	43	13	15	21	San Francisco, Calif.	U	U	U	U	U	U	U		
Des Moines, Iowa	14	11	2	1	-	-	-	San Jose, Calif.	189	134	40	8	4	3	19		
Duluth, Minn.	32	29	3	-	-	-	2	Santa Cruz, Calif.	32	22	6	2	2	-	1		
Kansas City, Kans.	43	25	12	-	-	6	2	Seattle, Wash.	125	87	27	8	2	1	4		
Kansas City, Mo.	69	45	14	6	1	3	3	Spokane, Wash.	66	48	12	4	1	1	7		
Lincoln, Nebr.	41	31	8	1	1	-	3	Tacoma, Wash.	121	92	17	6	3	3	6		
Minneapolis, Minn.	67	44	14	6	2	1	3	TOTAL	11,409 [¶]	7,609	2,378	859	309	250	738		
Omaha, Nebr.	94	64	18	8	-	4	1										
St. Louis, Mo.	U	U	U	U	U	U	U										
St. Paul, Minn.	53	40	10	1	1	1	2										
Wichita, Kans.	70	42	-	20	8	-	5										

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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