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### Imported Human Rabies – California, 2008

Compared with rabies in developing countries, human rabies is rare in the United States, but animal rabies is common (1,2). In the United States, most human rabies cases are associated with rabid bats, whereas in developing countries, dogs are the most common reservoir and vector species. In March 2008, a case of imported human rabies in a recently arrived, undocumented Mexican immigrant was laboratory confirmed by public health officials in California. The rabies virus isolated from the patient was a previously uncharacterized variant most closely related to viruses found in Mexican free-tailed bats (*Tadarida brasiliensis*). The molecular and phylogenetic characterizations of this rabies virus variant have been described previously (3). This report summarizes the epidemiologic investigation and the ensuing public health response. A total of 20 persons, mostly household contacts, received postexposure prophylaxis (PEP) because of potential exposure to rabies virus from the patient. The findings underscore the difficulties encountered in the diagnosis and epidemiologic investigations of imported human rabies cases and the importance of a coordinated public health response across multiple international jurisdictions.

#### Case Report

On March 17, 2008, a male aged 16 years who had recently entered the United States from Oaxaca, Mexico, was brought by his family to an emergency department (ED) in Santa Barbara County, California, with sore throat and a recent history of not eating or drinking. The ED physician obtained a history with assistance from a translator. The patient's vital signs were remarkable for a mild temperature elevation (100.6°F [38.1°C]) and tachycardia (140 beats per minute). He was awake and alert but agitated and crying. His examination was notable for mild abdominal tenderness. Laboratory studies included a complete blood count, electrolytes, liver function tests, and urinalysis.

Results were normal except an elevated blood urea nitrogen value of 20 mg/dL (normal range: 7–18 mg/dL). The patient was given intravenous fluids and discharged with the diagnosis of pharyngitis and abdominal pain.

Several hours later, the patient was brought by his family to the same ED with nausea, vomiting, fever, and sore throat. He was mildly febrile (99.1°F [37.3°C]) with tachycardia (164 beats per minute) and was noted to be agitated and uncooperative. He refused to take fluids and was observed to spit frequently. Because of the patient's agitated behavior and his refusal to take oral fluids, the ED physician suggested that psychiatric consultation might be needed. The patient was again given intravenous fluids for dehydration. He was discharged to his aunt's home with the diagnosis of viral pharyngitis, depression, and anorexia.

The next day, on March 18, the patient experienced vomiting and shaking and then collapsed at his aunt's home. When paramedics arrived, the patient was not breathing and was unresponsive. Resuscitation efforts were not successful.

After the patient's death, the possibility of rabies as a cause of his illness was considered by the ED physician because 1) the patient exhibited hydrophobia and aggressive behavior, and 2) the patient had come to the United States from a canine rabies enzootic region in Mexico only the day before his presentation at the ED.

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## Public Health Investigation

The Santa Barbara County Public Health Department and health officials in Mexico interviewed family members and friends of the patient regarding potential rabies exposures. Through these interviews, two potential animal bite exposures were identified. Both occurred in Oaxaca, Mexico. In December 2007, the patient was bitten by a dog while tending sheep. In the same month, he was bitten by a fox. Several other persons who were bitten by the fox received rabies PEP, but the patient did not.

Brain tissue obtained from the patient postmortem was sent to the Santa Barbara Public Health Laboratory. On March 21, rabies virus antigen was identified in the brain tissue by the direct fluorescent antibody test. Brain tissue was forwarded to the California Viral and Rickettsial Disease Laboratory (VRDL) and CDC for viral characterization. After antigenic typing and genetic sequencing on March 27, VRDL and CDC identified a rabies virus variant most closely related to viruses found in Mexican free-tailed bats, rather than a canine rabies virus variant (3).

On March 21, by request of the California Department of Public Health, CDC's San Diego Quarantine Station assisted in contacting Mexican federal and local public health authorities to notify them of the case and seek further information regarding the patient's exposures in Mexico. In addition, an investigation was begun by the Santa Barbara County Public Health Department in conjunction with the local hospital's infection control staff and the Ventura County Public Health Department. The investigation was complicated by the patient's undocumented status in the United States, his long-distance travel, and linguistic and cultural barriers.

Investigation determined that the patient had departed Oaxaca, Mexico, on March 10 and traveled through Mexico with others by foot and car before making unauthorized entry into the United States on or shortly before March 16. One of his traveling companions was his brother-in-law, who traveled with him from Oaxaca to the United States. After the patient's arrival in the United States on March 16, he remained at a family residence in Santa Barbara County, California, until the onset of his illness the following day.

Mexican health officials interviewed contacts and family members in the patient's home town; none received PEP because the patient was not considered to be infectious before his departure for California. Intensive efforts to locate the brother-in-law and other traveling companions were not successful. Because the patient had remained at one family residence after his arrival in the United States, contact exposures in the United States were limited to household members, ED staff, and health department personnel.

Assessments of potential exposure were made in accordance with Advisory Committee on Immunization Practices recommendations (2). Of 29 possible contacts identified, 20 were deemed to be potentially exposed and received PEP. Sixteen of those 20 were household members. All received PEP because of exposure of mucous membranes or nonintact skin to the patient's saliva as a result of the patient's frequent spitting and excessive salivation while at the family residence. Four persons who received PEP were health-care providers. Two ED physicians reported exposures to the patient's saliva. A microbiologist and veterinarian technician, who were previously vaccinated and assisted with the specimen preparation, received booster doses of rabies vaccine. To date, all known contacts of the patient in the United States have no evidence of rabies.

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**Editorial Note:** The case described in this report is the first case of human rabies imported into the United States that has not been associated with a canine rabies virus variant. The patient described in this report was infected with a variant most closely related to rabies viruses found in Mexican free-tailed bats (3). During 2000–2008, a total of 27 cases of human rabies were reported in the United States (1). Of these, six were imported cases, including the case described in this report. With the exception of the case described in this report, all were associated with either 1) a history of dog exposure in a canine rabies enzootic country, or 2) a canine rabies virus variant that was enzootic in the patient's country of origin. How the patient described in this report was infected with rabies virus remains unclear. Transmission might have occurred either through a bat bite directly or by secondary infection through the bite of a rabid carnivore infected with a bat rabies virus variant (i.e., the dog or fox bites identified in the investigation). Travelers should be aware of the local status and epidemiology of rabies at their destination and how to prevent exposures by avoiding stray animals and wildlife (4). Patients who have potential exposures to rabies virus should seek medical evaluation immediately.

The patient's mode of travel to the United States likely hindered more immediate prevention efforts by local health officials in his home jurisdiction. The undocumented status of the patient might have led to the patient and his family not readily disclosing complete information to health-care providers or officials, thereby delaying consideration of a rabies diagnosis. Nevertheless, a disoriented, salivating, and dehydrated patient

who avoids water should prompt a consideration of rabies in the differential diagnosis, irrespective of a documented history of animal exposure. Health-care providers should consider rabies in patients with acute progressive encephalitis. In particular, rabies should be included in the differential diagnosis where a travel history or immigration status has indicated time spent in a canine rabies endemic country.

The investigation described in this report highlights the importance of cooperation between the United States and Mexican public health agencies for the complete investigation of infectious disease cases that cross international borders (5). Sharing information about the rabies death in this Mexican national enabled officials from Mexico and the United States to conduct timely and coordinated disease surveillance, assess prevention efforts, and accurately document consequent mortality.

This case also demonstrates the need for improved international coordination in the control of infectious disease. CDC, the Mexico Secretariat of Health, and state epidemiology officials from both countries have drafted *Guidelines for U.S.–Mexico Coordination on Epidemiologic Events of Mutual Interest* (6), which addresses the issue of such binational cases and disease outbreaks to ensure systematic communication for public health purposes. The guidelines were drafted because such binational public health situations between the United States and Mexico are relatively frequent, particularly in border regions. The 2005 International Health Regulations (7) encourage such bilateral agreements to address common disease control issues and public health events in border regions and beyond, because most issues, such as this imported rabies case, do not meet the World Health Organization's definition of a public health emergency of international concern (PHEIC).<sup>\*</sup> Pilot implementation of operation protocols for the proposed U.S.–Mexico guidelines is ongoing.

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<sup>\*</sup>PHEIC must meet two of the following four criteria: 1) seriousness of the public health impact of the event, 2) unusual or unexpected nature of the event, 3) potential for the event to spread internationally, and/or 4) the risk that restrictions to travel or trade might result because of the event.

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## Clinic-Based Testing for Rectal and Pharyngeal *Neisseria gonorrhoeae* and *Chlamydia trachomatis* Infections by Community-Based Organizations – Five Cities, United States, 2007

CDC recommends screening of at-risk men who have sex with men (MSM) at least annually for urethral and rectal gonorrhea and chlamydia, and for pharyngeal gonorrhea (1). Although the standard method for diagnosis is culture, nucleic acid amplification (NAA) testing is generally more sensitive and favored by most experts (2). NAA tests have not been cleared by the Food and Drug Administration (FDA) for the diagnosis of extragenital chlamydia or gonorrhea and may not be marketed for that purpose. However, under U.S. law, laboratories may offer NAA testing for diagnosis of extragenital chlamydia or gonorrhea after internal validation of the method by a verification study.\* To determine sexually transmitted disease (STD) testing practices among community-based organizations

\*Verification studies permit the use of tests for an indication that does not have formal clearance by FDA. Verification studies can be performed at a single laboratory or in collaboration with a second laboratory. The second laboratory might be able to provide a panel of previously tested positive and negative specimens for comparative purposes. A typical verification protocol involves testing of at least 20 positive and 20 negative specimens compared to the reference standard or to results obtained from a second laboratory. The test performance (i.e., sensitivity and specificity) should be equivalent or better than the reference standard or to those obtained by the second laboratory (3).

serving MSM, CDC and the San Francisco Department of Public Health gathered data on rectal and pharyngeal gonorrhea and chlamydia testing at screening sites managed by six gay-focused community-based organizations in five U.S. cities during 2007. This report summarizes the results of the study, which found that three organizations collected samples for NAA testing and three for culture. In total, approximately 30,000 tests were performed; 5.4% of rectal gonorrhea, 8.9% of rectal chlamydia, 5.3% of pharyngeal gonorrhea, and 1.6% of pharyngeal chlamydia tests were positive. These results demonstrate that gay-focused community-based organizations can detect large numbers of gonorrhea and chlamydia cases and might reach MSM not being tested elsewhere. Public health officials could consider providing support to certain community-based organizations to facilitate testing and treatment of gonorrhea and chlamydia.

Gay-focused community-based organizations provide medical and social services and are guided and staffed by paid or unpaid community residents with various skill levels, including some who might have medical, nursing, or counseling backgrounds (4). Funding and other resources are provided by private and public sources. Many gay-focused community-based organizations in cities with large MSM, lesbian, and bisexual populations offer alternative venues to traditional public STD clinics and private physicians by providing onsite STD screening and treatment services. Gay-focused community-based organizations typically do not require health insurance for access, are located in neighborhoods with many MSM, and provide culturally competent services for a historically stigmatized population.

For this survey, gay-focused community-based organizations were defined as nongovernmental organizations that stated in published materials that they principally serve MSM. During April 2008, the 10 U.S. cities with the highest estimated number of gay, lesbian, or bisexual residents were identified (5). Gay-focused community-based organizations in each city that provide rectal and pharyngeal gonorrhea and chlamydia testing to MSM were identified through community leaders and Internet searches. Organizations were excluded if they did not provide rectal or pharyngeal gonorrhea or chlamydia testing services, or were unable to provide data on types of test used, number of tests performed, or percentage of positive tests during 2007.

Among 11 gay-focused community-based organizations identified in the 10 cities, 10 provided rectal or pharyngeal gonorrhea or chlamydia testing services. Among those 10 organizations, data were available from six in five cities, including Howard Brown Health Center (Chicago, Illinois), Callen-Lorde Community Health Center (New York, New York), AIDS Health Foundation (Los Angeles, California),

Los Angeles Gay and Lesbian Center (Los Angeles, California), Magnet (San Francisco, California), and Gay City Health Project (Seattle, Washington). Data for 2007 were collected during April–July 2008. Overall, staff from six organizations collected samples for 6,499 rectal gonorrhea tests and 5,258 rectal chlamydia tests; staff from five organizations collected 14,189 samples for pharyngeal gonorrhea tests; and staff from four organizations collected samples for 3,410 pharyngeal chlamydia tests (Table). Medical oversight at each organization assured proper specimen collection, transport, results disclosure, treatment, and partner notification. Organizations that used NAA testing generally had higher rates of positivity than those that used culture. Pharyngeal and rectal test positivity generally was high compared with urethral testing.

Four of the six organizations sent the specimens to public health laboratories for testing; costs for that testing were funded by local public health jurisdictions. The other two organizations used commercial laboratories for testing; costs for that testing were funded by patient insurance or self-pay. All laboratories had completed verification studies demonstrating adequate NAA testing performance in extragenital specimens.

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**Editorial Note:** In 2007, chlamydia and gonorrhea were the first and second most commonly reported notifiable diseases in the United States, respectively, with 1,108,374 chlamydia cases (370.2 per 100,000 population) and 355,991 gonorrhea cases (118.9 per 100,000 population) (6). Most chlamydia and gonorrhea testing is performed in traditional medical settings and is indicated for screening, diagnosis, or test-of-cure. During 2007, the six gay-focused community-based organizations in this report collected samples for approximately 30,000 rectal and pharyngeal gonorrhea and chlamydia tests from community members attending each facility and detected approximately 1,600 infections. Tests on samples collected by four of the six organizations surveyed were performed by public health laboratories and funded by local health jurisdictions, illustrating the role that partnerships between government and community-based organizations can play in prevention and control of rectal and pharyngeal gonorrhea and chlamydia.

The percentages of positive NAA tests for rectal and pharyngeal gonorrhea and chlamydia were similar to those reported for NAA testing in a previous study from a publicly funded municipal STD clinic (7). As expected, NAA test positivity for rectal gonorrhea and chlamydia infections and pharyngeal gonorrhea was generally higher than culture test positivity (7).

**TABLE. Number of tests performed by gay-focused community-based organizations,\* by test type, laboratory, and funding source, to detect rectal and pharyngeal *Neisseria gonorrhoeae* and *Chlamydia trachomatis* infections — five U.S. cities,† 2007**

Tests performed, by organization (city)	Rectal						Pharyngeal					
	<i>N. gonorrhoeae</i> infections			<i>C. trachomatis</i> infections			<i>N. gonorrhoeae</i> infections			<i>C. trachomatis</i> infections		
	No. tests	No. positive	(%)	No. tests	No. positive	(%)	No. tests	No. positive	(%)	No. tests	No. positive	(%)
<b>NAA<sup>§</sup> tests only</b>												
Los Angeles Gay and Lesbian Center (Los Angeles)**	1,845	206	(11.2)	1,841	248	(13.5)	7,214	471	(6.5)	— <sup>¶</sup>		
AIDS Healthcare Foundation (Los Angeles)**	670	30	(4.5)	658	66	(10.0)	1,410	60	(4.3)	—		
Magnet (San Francisco)**	2,307	107	(4.6)	2,307	151	(6.5)	3,397	194	(5.7)	3,397	54	(1.6)
<b>Culture only</b>												
Howard Brown Health Center (Chicago) <sup>††</sup>	40	3	(7.5)	34	0	(0)	41	0	(0)	13	0	(0)
Callen-Lorde (New York City) <sup>††</sup>	1,176	5	(0.4)	—			1,456	4	(0.3)	—		
Gay City Health Project (Seattle)**	461	2	(0.4)	418	3	(0.7)	671	30	(4.5)	—		
<b>Total</b>	<b>6,499</b>	<b>353</b>	<b>(5.4)</b>	<b>5,258</b>	<b>468</b>	<b>(8.9)</b>	<b>14,189</b>	<b>759</b>	<b>(5.3)</b>	<b>3,410</b>	<b>54</b>	<b>(1.6)</b>

\* Includes nongovernmental organizations providing sexually transmitted diseases clinics and testing, primarily for men who have sex with men, but might include persons identified as lesbian or bisexual.

† Chicago, Illinois; Los Angeles, California; New York, New York; San Francisco, California; and Seattle, Washington.

§ Nucleic acid amplification. All NAA tests were APTIMA Combo 2 assays (Gen-Probe, Inc., San Diego, California).

¶ Did not test for *C. trachomatis*.

\*\* Testing funded by local health jurisdiction and conducted at local public health laboratory.

†† Testing funded by insurance or patient out-of-pocket expenses and conducted at commercial laboratory.

Compared with cultures, NAA tests have numerous advantages in detecting gonorrhea and chlamydia. NAA tests might perform better than cultures in nontraditional medical settings, where specimens for culture could be vulnerable to suboptimal handling, compared with more traditional medical clinics. NAA tests are more sensitive than culture for diagnosis of rectal or pharyngeal chlamydia or gonorrhea among MSM, while preserving specificity >99% (7).<sup>†</sup> Furthermore, NAA tests can detect gonorrhea and chlamydia simultaneously with a single test and can detect infection in self-collected specimens, including rectal and pharyngeal specimens (3). NAA test results can be available within 48 hours, whereas most culture results are not available for at least 48 hours. Unlike cultures, NAA tests do not require specialized equipment for specimen collection (e.g., a carbon dioxide-enriched atmosphere for storage and transport for *Neisseria gonorrhoea* cultures).

CDC recommends at least yearly screening for rectal gonorrhea and chlamydia for MSM who have had receptive anal intercourse during the preceding year and for pharyngeal gonorrhea for MSM who have participated in receptive oral intercourse during the preceding year. CDC recommends screening at 3–6 month intervals for MSM who have multiple or anonymous partners, have sex in conjunction with illicit drug use, use methamphetamine, or have sex partners who participate in those activities (1). CDC does not recommend routine screening for pharyngeal chlamydia (1). Nonurethral gonorrhea and chlamydia frequently are asymptomatic and often can be present in the absence of urethral gonorrhea or chlamydia, reinforcing the need to screen persons at the relevant exposed anatomic sites (4).

Currently, a low percentage of sexually active MSM at risk for STDs are screened at the minimum frequency recommended by CDC, at least for gonorrhea. In a 2003–2005 national study, 36% of MSM reported being tested for gonorrhea at any anatomic site in the previous year (8). Screening for pharyngeal and rectal gonorrhea among MSM is less common than for urethral gonorrhea, impeding efforts to control gonorrhea transmission among MSM (9).

The findings in this report are subject to at least four limitations. First, data on indication for testing (e.g., diagnostic screening or test of cure) were available only from the Gay City Health Project, which tested only asymptomatic persons using culture; all other community-based organizations tested symptomatic and asymptomatic persons, resulting in a higher prevalence than what is found in reports limited to screening in asymptomatic persons. Second, the unknown, underlying prevalence of infections, which might have varied in the

populations tested using NAA tests compared with cultures, was not considered. Third, information regarding the sex of persons tested at the community-based organizations and of the sex partners was not available, so that results could not be limited exclusively to MSM. Finally, this study described the use of only one type of NAA test; other NAA tests might perform differently.

Two large commercial laboratory service vendors, Laboratory Corporation of America and Quest Diagnostics, recently have verified and begun offering NAA tests for diagnosis of rectal and pharyngeal gonorrhea and chlamydia. As more laboratories verify NAA tests to detect gonorrhea and chlamydia, community-based organizations increasingly can be effective partners in the STD prevention efforts to control rectal and pharyngeal gonorrhea and chlamydia, and possibly reduce HIV transmission in MSM. More widespread use of NAA tests likely would allow the detection of infections that might be missed by culture, either because of the relatively lower sensitivity of culture or because persons collecting samples might lack the experience necessary to ensure proper collection and handling. Manufacturers of NAA tests can pursue FDA clearance of those tests for the diagnosis of rectal and pharyngeal gonorrhea and chlamydia by gathering and submitting to FDA sufficient data on test performance for those indications. In the interim, CDC and the Association of Public Health Laboratories can help support increases in NAA testing by providing technical assistance and specimens to laboratories for use in verification studies (2).

Rectal and pharyngeal gonorrhea and chlamydia among MSM remain a public health concern. The feasibility and utility of integrating testing for extragenital gonorrhea and chlamydia into existing services at gay-focused community based organizations likely will depend on many factors (e.g., funding availability, staff training, and regional disease burden). Local health jurisdictions might increase chlamydia and gonorrhea testing among MSM by providing financial and technical support to gay-focused community-based organizations and collaborating with them on activities related to the prevention and control of rectal and pharyngeal gonorrhea and chlamydia.

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<sup>†</sup> Studies have shown sensitivity of 63%–100% for NAA tests, depending on the type of test used, anatomic site sampled, and the organism assayed, versus 27%–41% for culture (5).

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## Progress Toward Poliomyelitis Eradication — India, January 2007–May 2009

India is the most populous of the four remaining countries (including Afghanistan, Nigeria, and Pakistan) where transmission of wild poliovirus (WPV) has never been interrupted. The last cases of WPV type 2 worldwide were reported in October 1999 in India (1). However, transmission of WPV type 1 (WPV1) and WPV type 3 (WPV3) persists in India in the northern states of Uttar Pradesh and Bihar. Transmission of indigenous WPV in all of India's other states was successfully interrupted in 2002, and all WPV cases reported since then in the country have resulted from WPV circulating in Uttar Pradesh and Bihar. This report updates previous reports (1,2) and summarizes India's progress toward polio eradication since January 2007, as of May 29, 2009. In 2005, the government of India introduced the use of monovalent oral polio vaccine type 1 (mOPV1), which has higher efficacy against WPV1 than does trivalent oral polio vaccine (tOPV) (1–3), in supplementary immunization activities.\* After a multistate

\*Mass campaigns conducted for a brief period (days to weeks) in which 1 dose of OPV is administered to all children aged <5 years, regardless of vaccination history. Immunization campaigns can be conducted nationally or in portions of the country. The geographic extent of campaigns (national or subnational) is determined by analysis of surveillance data.

WPV1 outbreak in 2006, preferential use of mOPV1 was accelerated and WPV1 cases decreased from 83<sup>†</sup> in 2007 to 18 during January–May 2009. A resurgence of WPV3 cases in Uttar Pradesh in 2007 led to an outbreak in Bihar. SIAs using monovalent type 3 OPV (mOPV3) were expanded in 2007 (2), and the number of WPV3 cases declined from 794 in 2007 to 41 during January–May 2009. Simultaneously interrupting transmission in high-risk areas of western Uttar Pradesh and Bihar is the key to successful interruption of all WPV transmission in India.

### Immunization Activities

The routine vaccination schedule in India includes doses of tOPV at birth, 6 weeks, 10 weeks, 14 weeks, and 16–24 months. Nationally, estimated routine coverage with 3 or more doses of tOPV by age 12 months was 66% in children aged 12–23 months in 2007–2008 (4). Estimated routine coverage was 53% in Bihar and 40% in Uttar Pradesh (5).

The government of India conducted two national SIA rounds each year in 2007, 2008, and 2009, which used tOPV, mOPV1, or mOPV3 in different areas depending on serotype-specific risk assessment. Additional subnational SIAs with tOPV, mOPV1, or mOPV3 were conducted in areas with ongoing transmission and mop-up activities<sup>§</sup> with either mOPV1 or mOPV3 were conducted in areas with newly identified WPV transmission (Figure 1). Surveys conducted to assess coverage at the end of SIA activity during 2008–2009 have shown that 2%–3% of children in Uttar Pradesh and <1% of children in Bihar were missed during SIAs. SIA quality in both areas has improved from earlier periods (2). Similar surveys in the difficult to access Kosi River basin of Bihar have demonstrated that 6%–13% of children have been missed during SIAs (World Health Organization [WHO], unpublished data, 2009).

### Acute Flaccid Paralysis (AFP) Surveillance

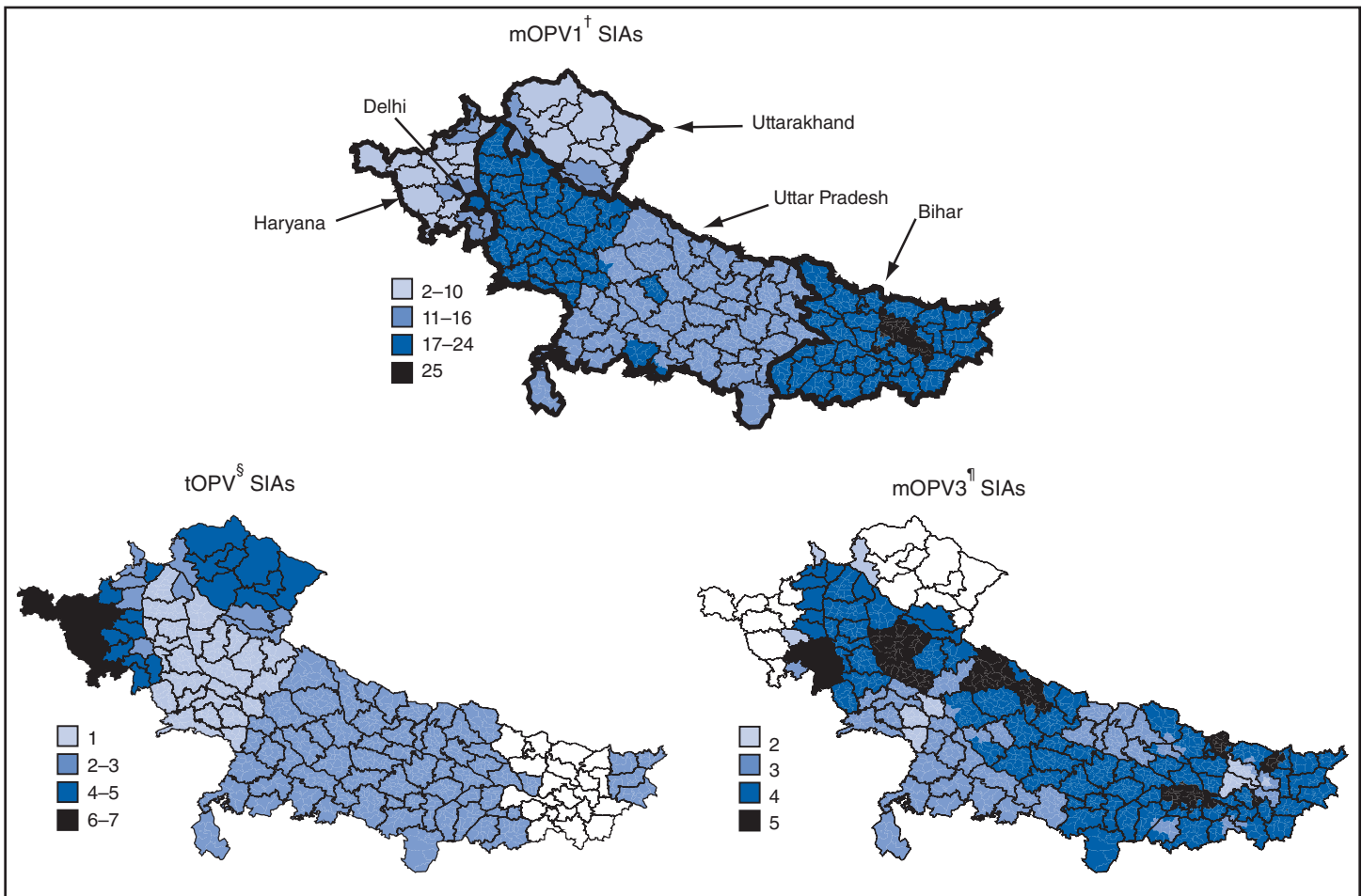
The polio eradication initiative relies on surveillance for AFP to identify poliomyelitis cases; AFP surveillance is monitored according to WHO targets for case detection and adequate stool specimen collection.<sup>¶</sup> The national nonpolio AFP rate among children aged <15 years was 9.4 per 100,000 in 2007,

<sup>†</sup> Three cases with simultaneous WPV1 and WPV3 infection occurred in 2007. These cases are included in both the WPV1 total and the WPV3 total.

<sup>§</sup> Mop-up rounds are intensive house-to-house SIAs conducted in a limited area (district or subdistrict) with evidence of recent transmission.

<sup>¶</sup> The WHO target for countries at high risk of polio transmission is a nonpolio AFP rate of at least two cases per 100,000 population aged <15 years, with adequate stool specimen collection from ≥80% AFP cases. Adequate specimens, as defined by WHO, are two specimens collected ≥24 hours apart, both specimens collected within 14 days of paralysis onset and shipped on ice or frozen ice packs to a WHO-accredited laboratory, arriving in good condition.

**FIGURE 1. Number of supplementary immunization activity (SIA)\* rounds, by vaccine used and district — Uttar Pradesh, Bihar, and surrounding areas, India, January 2007–May 2009**



\* Mass campaign conducted during a brief period (days to weeks) in which 1 dose of oral poliovirus vaccine is administered to all children aged <5 years, regardless of vaccination history. The geographic extent of campaigns (national or subnational) is determined by analysis of surveillance data.

<sup>†</sup> Monovalent oral poliovirus vaccine type 1.

<sup>§</sup> Trivalent oral poliovirus vaccine.

<sup>¶</sup> Monovalent oral poliovirus vaccine type 3.

10.2 per 100,000 in 2008, and 6.6 per 100,000 during January–May 2009. In Bihar and Uttar Pradesh, 12.9–28.4 nonpolio AFP cases per 100,000 were identified during this period. Nationally, adequate stool specimens were collected from 84% of AFP cases during 2007–2008, and 86% of AFP cases from January through May 2009.

Stool specimens from AFP cases undergo virologic testing in one of the eight WHO-accredited national Global Polio Laboratory Network laboratories.\*\* The national reference

laboratory in Mumbai performs genomic sequence analysis of all WPV isolates.

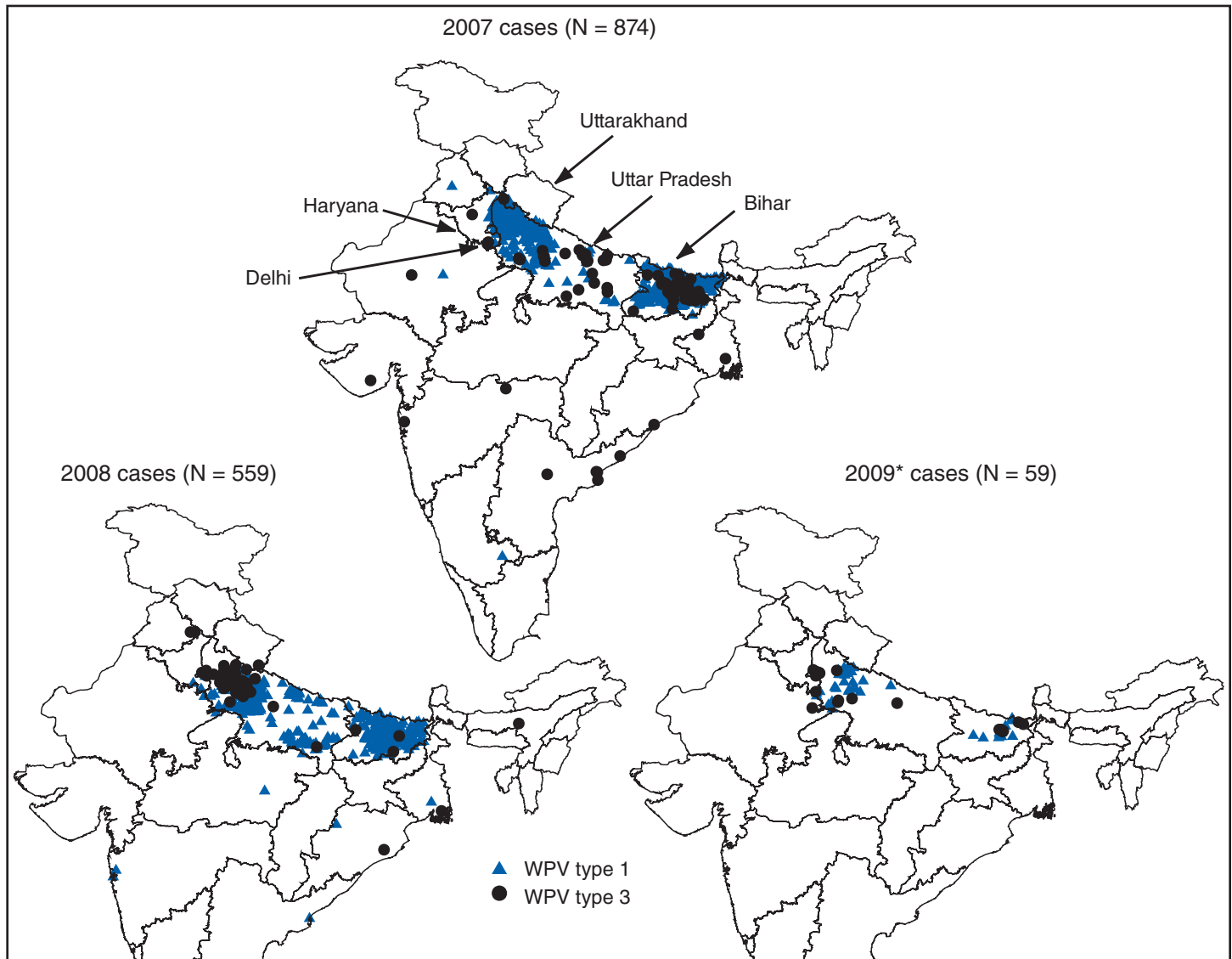
## WPV Epidemiology

A total of 874 WPV cases were reported from 13 states in 2007 and 559 WPV cases were reported in 13 states in 2008 (Figures 2 and 3). During January–May 2009, 59 WPV cases were reported from four states; 279 cases were reported during the same period in 2008. Among cases reported during 2007–2008, 867 (61%) occurred in children aged <24 months and 44 (3%) occurred in children aged >5 years. Among cases reported during 2007–2008, 1,108 (77%) of the children received >7 doses of OPV, 265 (18%) received 4–7 doses, 40 (3%) received 1–3 doses, and 20 (1%) received zero doses or the number of doses received was unknown.

\*\* These laboratories processed 80,614 specimens in 2007 and 91,222 specimens in 2008 (2). After implementation of a new laboratory algorithm in mid-2007 (6), >80% of intratypic differentiation (i.e., wild or vaccine-related) results are available <21 days after specimen receipt in the laboratory, compared with only 17% in 2006. The mean interval between AFP paralysis onset to confirmation decreased from 58 days in the first quarter of 2007 to 22 days during the second half of 2008.



FIGURE 2. Wild poliovirus (WPV) cases, by type — India, January–December 2007, January–December 2008, and January–May 2009\*



\* As of May 29, 2009.

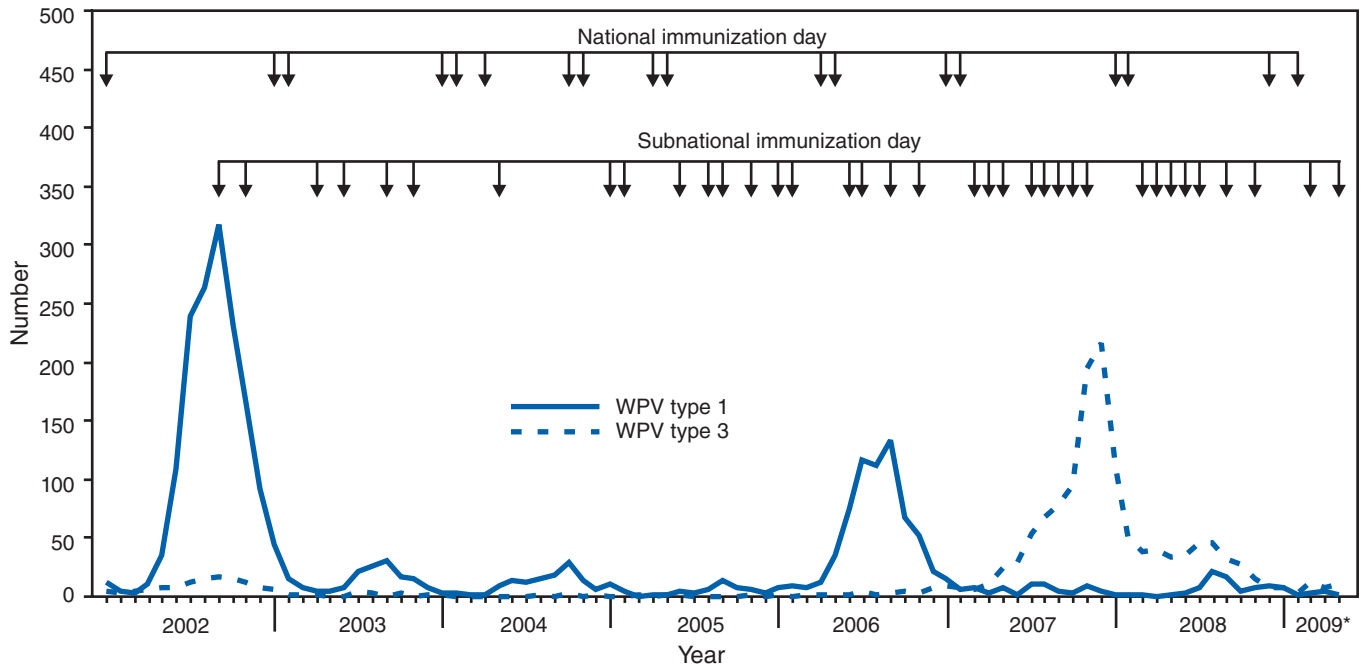
**WPV1.** A total of 83 WPV1 cases were reported in 45 districts in 2007, including 46 (55%) cases in Bihar and 22 (27%) in Uttar Pradesh. In 2008, 75 WPV1 cases were reported in 22 districts; among those cases, three (4%) were identified in two districts in Bihar and 62 (83%) were identified in 13 districts in an outbreak in Uttar Pradesh (which included 50 cases in five districts within western Uttar Pradesh). During January–May 2009, India reported 18 WPV1 cases in 11 districts; six cases (33%) were reported from two districts in Bihar and eight (44%) from seven districts in Uttar Pradesh.

The current outbreak in Uttar Pradesh, totaling 70 cases to date, began when a WPV1 case genetically linked to WPV circulating in Bihar was detected in western Uttar Pradesh in May 2008. Until then, no WPV1 cases had been reported in

Uttar Pradesh since November 2007, and in the previously highest-risk districts of western Uttar Pradesh since September 2006. All 70 WPV1 cases in Uttar Pradesh are linked genetically to this introduction, and in November 2008; a case genetically linked to this outbreak was conversely detected in Bihar. Among the nine WPV1 cases in Bihar in 2008–2009 to date, at least two genetically distinct chains of transmission were identified, primarily localized in difficult-to-reach populations in the flood-prone areas of the Kosi River basin.

**WPV3.** In all of India, 794 WPV3 cases were reported in 78 districts in 2007 and 484 cases were reported in 85 districts in 2008; 779 (98%) and 473 (98%) of cases in 2007 and 2008, respectively, occurred in Bihar and Uttar Pradesh. During January–May 2009, 41 WPV3 cases were reported,

**FIGURE 3. Number of wild poliovirus (WPV) cases, by type, month, and year of onset and type of supplementary immunization activity\* — India, January 2002–May 2009†**



\* Mass campaign conducted during a brief period (days to weeks) in which 1 dose of oral polio vaccine is administered to all children aged <5 years, regardless of vaccination history. The geographic extent of campaigns (national or subnational) is determined by analysis of surveillance data.

† As of May 29, 2009. WPV cases totaled 1,600 in 2002, 225 in 2003, 134 in 2004, 66 in 2005, 676 in 2006, 874 in 2007, 559 in 2008, and 59 to date in 2009.

versus 274 WPV3 cases reported during the same period in 2008. All 41 cases reported in 2009 have been in Bihar and Uttar Pradesh.

**Reported by:** Ministry of Health and Family Welfare, Government of India; National Polio Surveillance Project, WHO, New Delhi; Immunization and Vaccine Development Dept, WHO Regional Office for South-East Asia, New Delhi; UNICEF, New Delhi; Poliovirus Laboratory Network, Ahmedabad, Bangalore, Chennai, Coonoor, Kasauli, Kolkata, Lucknow, and Mumbai, India. Polio Eradication Dept, WHO, Geneva, Switzerland. Div of Viral Diseases and Global Immunization Div, National Center for Immunization and Respiratory Diseases; SE Kidd, MD, EIS Officer, CDC.

**Editorial Note:** Overall, WPV1 incidence in India declined during 2007–2009 following implementation of the recommendations of the Global Advisory Committee on Polio Eradication and the India Expert Advisory Group for Polio Eradication to prioritize the elimination of WPV1; this involved conducting SIA rounds using mOPV1 as often as every 6–8 weeks in high-risk areas. In contrast to other polio-endemic countries, WPV transmission in the northern Indian states of western Uttar Pradesh and Bihar persists despite  $\geq 95\%$  of WPV cases reporting receipt of at least four OPV doses. Persistent transmission in these areas despite high vaccination coverage has been attributed to relatively lower vaccine effectiveness of OPV in northern India than in other populations, possibly resulting from a combination of a high incidence of

diarrheal diseases, malnutrition, and a high force of WPV infection<sup>††</sup> resulting from crowding (1,7,8). Among WPV case children, a very high proportion are vaccinated rather than unvaccinated, which reflects the frequency and high coverage of polio vaccination campaigns.

The interruption of WPV1 transmission in Uttar Pradesh during 2007–2008 indicates that frequent mOPV1 rounds of consistently high coverage with enhanced technical support can be successful, even in areas with the most persistent transmission. Western Uttar Pradesh districts have high population density, poor sanitation, and low socioeconomic status and have been the main reservoir for WPV1 transmission in India in previous years. The 2008–2009 Uttar Pradesh outbreak, caused by WPV1 introduced from Bihar, appears to be diminishing, although the risk for continued transmission or reintroduction persists. In Bihar, the intense focus on vaccinating populations in the Kosi River area has resulted in only three WPV1 cases being reported in 2008 and six cases through May 2009, despite severe floods in Bihar in 2008; these floods displaced high-risk populations, worsened sanitary conditions, and interfered with scheduled SIAs. Genetic data from WPV

<sup>††</sup> Force of infection is the rate at which susceptible persons acquire infection, often varying by age.

isolated from cases indicate that low-grade WPV1 transmission has continued during 2008–2009 in Bihar in districts of the Kosi River basin. This transmission, often undetected for several months, has resulted occasionally in WPV1 cases in several other states.

The number of reported WPV3 cases in India has declined steadily since the peak of the 2007 outbreak. Most WPV3 cases in 2008 occurred in districts in Uttar Pradesh and Bihar in which less than three SIA rounds of mOPV3 had been administered during 2007. The mOPV3 rounds conducted at the end of 2007 and during 2008 appear to have substantially reduced WPV3 transmission and limited transmission to Bihar and Uttar Pradesh in 2009. Although multiple importations of WPV1 and WPV3 were detected in areas outside Uttar Pradesh and Bihar during 2007–2008, no outbreaks of polio occurred in those other areas, in which prompt and large scale mop-up vaccination rounds, higher vaccine effectiveness, higher routine vaccination coverage, and continued national SIAs have produced higher levels of immunity and lower risk for transmission.

India plans to conduct additional mOPV3 SIA rounds as needed to prevent further WPV3 outbreaks while continuing to use mOPV1 for most SIAs. Based on preliminary data from a clinical trial, the Advisory Committee on Polio Eradication and the India Expert Advisory Group for Polio Eradication have recommended the use of bivalent type 1 and type 3 OPV to substitute for mOPV3 in future SIAs when available. The recently developed bivalent formulation is anticipated to be licensed for use in India later in 2009.

Reaching the goal of polio eradication in India is dependent on ongoing efforts to interrupt remaining WPV transmission simultaneously in high-risk areas of western Uttar Pradesh and Bihar, first WPV1, then WPV3. Strategies to accomplish that include reaching all children during SIAs in the Kosi River area and improving the effectiveness of polio vaccines. Potential interventions to improve the effectiveness of poliovirus vaccines

under investigation include the use of inactivated poliovirus vaccine as a supplement to OPV, high-titer mOPV1, and zinc supplementation (9). Surveillance also has been expanded in high-risk areas to examine the potential contribution of older age groups to poliovirus transmission to inform a possible expansion of the target age group in these areas. Continued vigilance, sustained commitment, ongoing research and aggressive responses to new cases will be required to interrupt remaining WPV1 transmission and to eliminate polio in India. Polio eradication activities in India have provided successful operational models for elimination of transmission in many other areas of the world. Elimination of WPV circulation in India would further serve as a stimulus for the remaining countries with WPV transmission, and ultimately lead to global eradication.

### References

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**TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 4, 2009 (26th week)\***

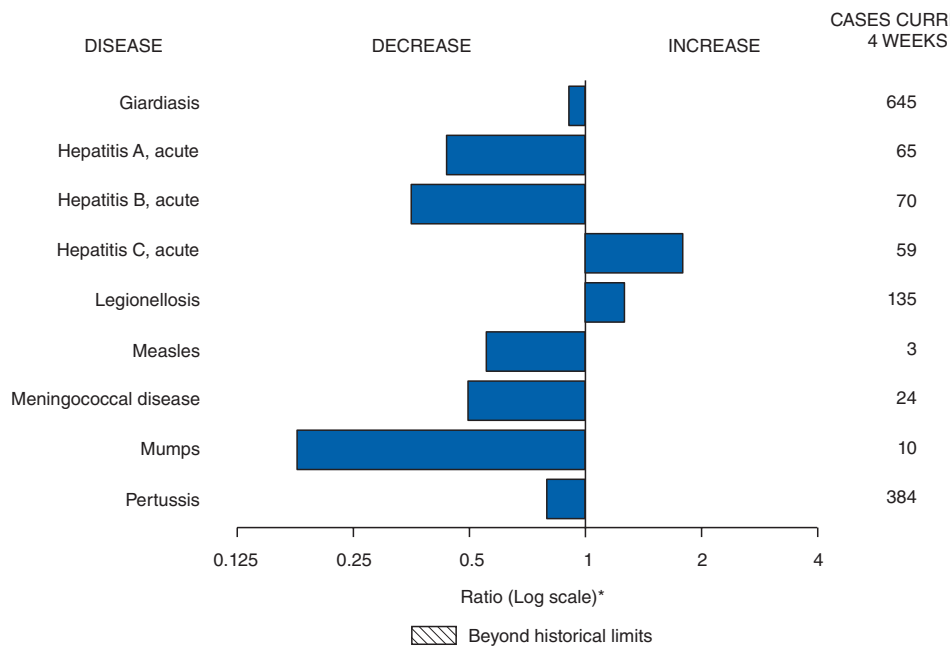
Disease	Current week	Cum 2009	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2008	2007	2006	2005	2004	
Anthrax	—	—	—	—	1	1	—	—	
Botulism:									
foodborne	—	9	0	17	32	20	19	16	
infant	—	26	2	109	85	97	85	87	
other (wound and unspecified)	1	13	1	19	27	48	31	30	CA (1)
Brucellosis	—	43	2	80	131	121	120	114	
Chancroid	1	19	1	25	23	33	17	30	WA (1)
Cholera	—	2	0	3	7	9	8	6	
Cyclosporiasis§	2	44	12	139	93	137	543	160	FL (2)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup	—	—	3	62	55	67	80	112	
eastern equine	—	—	0	4	4	8	21	6	
Powassan	—	—	0	2	7	1	1	1	
St. Louis	—	—	0	13	9	10	13	12	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§, **:									
<i>Ehrlichia chaffeensis</i>	23	174	24	1,137	828	578	506	338	NY (2), MD (2), VA (2), NC (3), FL (1), KY (1), TN (2), AL (1), AR (1), OK (8)
<i>Ehrlichia ewingii</i>	—	—	0	9	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	6	106	28	1,026	834	646	786	537	NY (5), OK (1)
undetermined	—	32	11	180	337	231	112	59	
<i>Haemophilus influenzae</i> , ††									
invasive disease (age <5 yrs):									
serotype b	—	13	0	30	22	29	9	19	
nonserotype b	2	102	3	244	199	175	135	135	GA (1), FL (1)
unknown serotype	7	119	3	163	180	179	217	177	PA (2), OH (2), MD (1), FL (1), OK (1)
Hansen disease§	1	32	2	80	101	66	87	105	OH (1)
Hantavirus pulmonary syndrome§	—	4	1	18	32	40	26	24	
Hemolytic uremic syndrome, postdiarrheal§	5	73	7	330	292	288	221	200	OH (4), OK (1)
Hepatitis C viral, acute	15	433	15	878	845	766	652	720	NY (2), OH (4), IA (3), WV (1), NC (1), GA (1), FL (1), CO (1), CA (1)
HIV infection, pediatric (age <13 years)§§	—	—	3	—	—	—	380	436	
Influenza-associated pediatric mortality§, ¶¶	5	90	1	85	77	43	45	—	NY (1), NYC (2), NJ (1), AZ (1)
Listeriosis	12	249	17	759	808	884	896	753	NY (4), OH (1), FL (1), CO (1), WA (3), CA (2)
Measles***	—	34	4	140	43	55	66	37	
Meningococcal disease, invasive†††:									
A, C, Y, and W-135	2	147	5	330	325	318	297	—	NC (1), CO (1)
serogroup B	—	79	4	188	167	193	156	—	
other serogroup	—	13	1	38	35	32	27	—	
unknown serogroup	5	239	11	616	550	651	765	—	GA (1), CA (4)
Mumps	3	173	21	454	800	6,584	314	258	NY (1), CA (2)
Novel influenza A virus infections§§§	—	33,902	—	2	4	N	N	N	
Plague	—	—	0	1	7	17	8	3	
Poliomyelitis, paralytic	—	—	—	—	—	—	1	—	
Polio virus infection, nonparalytic§	—	—	—	—	—	N	N	N	
Psittacosis§	—	6	0	8	12	21	16	12	
Q fever total§, ¶¶¶:	2	38	4	124	171	169	136	70	
acute	2	34	2	110	—	—	—	—	OH (1), NE (1)
chronic	—	4	0	14	—	—	—	—	
Rabies, human	—	—	0	1	1	3	2	7	
Rubella****	—	1	0	16	12	11	11	10	
Rubella, congenital syndrome	—	1	—	—	—	1	1	—	
SARS-CoV§, ††††	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	1	82	2	157	132	125	129	132	WV (1)
Syphilis, congenital (age <1 yr)	—	81	8	420	430	349	329	353	
Tetanus	—	5	1	19	28	41	27	34	
Toxic-shock syndrome (staphylococcal)§	1	40	2	71	92	101	90	95	CA (1)
Trichinellosis	—	10	1	39	5	15	16	5	
Tularemia	—	19	5	123	137	95	154	134	
Typhoid fever	3	162	7	447	434	353	324	322	PA (1), NC (1), AZ (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	—	29	0	63	37	6	2	—	
Vancomycin-resistant <i>Staphylococcus aureus</i> §	—	—	—	—	2	1	3	1	
Vibriosis (noncholera <i>Vibrio</i> species infections)§	5	124	6	492	549	N	N	N	MN (1), GA (1), FL (2), AZ (1)
Yellow fever	—	—	—	—	—	—	—	—	

See Table I footnotes on next page.

**TABLE I. (Continued) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 4, 2009 (26th week)\***

—: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts.  
 \* Incidence data for reporting year 2008 and 2009 are provisional, whereas data for 2004, 2005, 2006, and 2007 are finalized.  
 † Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. The total sum of incident cases is then divided by 25 weeks. Additional information is available at <http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.  
 § Not reportable in all states. Data from states where the condition is not reportable are excluded from this table, except starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.  
 ¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.  
 \*\* The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).  
 †† Data for *H. influenzae* (all ages, all serotypes) are available in Table II.  
 §§ Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.  
 ¶¶ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Eighty-nine influenza-associated pediatric deaths occurring during the 2008-09 influenza season have been reported.  
 \*\*\* No measles cases were reported for the current week.  
 ††† Data for meningococcal disease (all serogroups) are available in Table II.  
 §§§ These cases were obtained from state and territorial health departments in response to the pandemic influenza A (H1N1) virus infections and include both confirmed and probable cases in addition to those reported to the National Notifiable Diseases Surveillance System (NNDSS). Because of the volume of cases and the method by which they are being collected, a 5-year weekly average for this disease is not calculated.  
 ¶¶¶ In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.  
 \*\*\*\* No rubella cases were reported for the current week.  
 †††† Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

**FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals July 4, 2009, 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.

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**TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 4, 2009, and June 28, 2008 (26th week)\***

Reporting area	Hepatitis (viral, acute), by type†										Legionellosis				
	A				B										
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
	Med	Max				Med	Max				Med	Max			
<b>United States</b>	16	37	89	822	1,325	16	71	197	1,492	1,840	45	48	152	840	1,047
<b>New England</b>	—	2	8	34	62	—	1	4	17	41	3	2	18	31	57
Connecticut	—	0	4	12	11	—	0	3	7	14	2	0	5	19	12
Maine§	—	0	5	1	4	—	0	2	7	8	—	0	2	—	1
Massachusetts	—	1	3	14	31	—	0	2	1	12	—	1	7	6	24
New Hampshire	—	0	2	3	5	—	0	2	2	3	1	0	5	3	7
Rhode Island§	—	0	2	3	10	—	0	1	—	3	—	0	14	2	9
Vermont§	—	0	1	1	1	—	0	1	—	1	—	0	1	1	4
<b>Mid. Atlantic</b>	3	5	13	93	143	2	6	17	142	234	16	14	60	233	254
New Jersey	—	0	5	5	33	—	1	5	22	67	—	1	14	11	31
New York (Upstate)	2	1	4	26	31	—	1	11	33	34	11	5	24	85	65
New York City	—	2	6	28	44	—	1	4	29	50	—	2	12	35	32
Pennsylvania	1	1	4	34	35	2	2	8	58	83	5	5	35	102	126
<b>E.N. Central</b>	—	4	12	90	195	1	9	21	195	247	9	8	41	134	227
Illinois	—	1	4	21	75	—	2	7	24	89	—	1	13	8	32
Indiana	—	0	3	7	10	—	1	18	36	18	—	0	6	8	20
Michigan	—	1	5	33	70	—	3	8	60	71	—	2	16	27	63
Ohio	—	1	4	24	22	1	2	13	57	57	9	4	18	86	100
Wisconsin	—	0	3	5	18	—	0	4	18	12	—	0	6	5	12
<b>W.N. Central</b>	—	2	16	57	166	—	2	16	69	39	—	2	8	30	48
Iowa	—	0	5	13	78	—	0	3	11	11	—	0	2	10	8
Kansas	—	0	1	6	10	—	0	2	4	6	—	0	1	2	1
Minnesota	—	0	12	12	18	—	0	11	11	4	—	0	4	5	4
Missouri	—	0	3	14	21	—	1	5	33	15	—	1	7	9	25
Nebraska§	—	0	2	10	37	—	0	2	9	3	—	0	3	3	9
North Dakota	—	0	2	—	—	—	0	1	—	—	—	0	3	1	—
South Dakota	—	0	1	2	2	—	0	1	1	—	—	0	1	—	1
<b>S. Atlantic</b>	4	7	15	199	171	7	18	31	470	463	12	9	22	197	206
Delaware	—	0	1	3	4	U	0	1	U	U	3	0	2	6	5
District of Columbia	U	0	0	U	U	U	0	0	U	U	—	0	2	—	7
Florida	1	4	8	96	71	5	6	11	156	164	3	3	7	71	69
Georgia	—	1	4	31	26	2	3	9	72	85	—	1	5	26	17
Maryland§	2	0	4	19	18	—	2	6	41	43	2	2	9	44	54
North Carolina	—	1	7	22	26	—	1	19	119	47	1	0	7	30	11
South Carolina§	1	0	3	13	6	—	1	5	21	36	—	0	1	2	4
Virginia§	—	1	6	15	17	—	2	10	38	49	3	1	5	18	26
West Virginia	—	0	1	—	3	—	1	6	23	39	—	0	3	—	13
<b>E.S. Central</b>	1	1	5	21	39	—	8	13	147	179	2	2	5	45	65
Alabama§	—	0	2	6	5	—	2	7	46	49	—	0	2	5	7
Kentucky	1	0	2	4	15	—	2	7	40	50	1	1	3	21	31
Mississippi	—	0	2	5	2	—	1	3	6	17	—	0	1	1	1
Tennessee§	—	0	4	6	17	—	2	8	55	63	1	0	4	18	26
<b>W.S. Central</b>	—	3	43	73	131	2	11	99	214	378	—	2	21	40	35
Arkansas§	—	0	1	4	4	—	1	5	14	26	—	0	2	2	5
Louisiana	—	0	2	2	7	1	1	4	21	52	—	0	2	1	5
Oklahoma	—	0	6	1	3	—	2	17	50	43	—	0	6	3	3
Texas§	—	3	37	66	117	1	6	76	129	257	—	1	19	34	22
<b>Mountain</b>	—	3	31	74	102	2	3	10	66	90	1	2	8	41	38
Arizona	—	1	28	36	42	—	1	5	25	34	—	0	3	21	10
Colorado	—	0	5	20	21	—	0	3	12	14	1	0	2	4	3
Idaho§	—	0	1	1	14	2	0	2	4	3	—	0	1	—	2
Montana§	—	0	1	3	—	—	0	1	—	—	—	0	2	4	3
Nevada§	—	0	3	6	3	—	0	3	15	21	—	0	2	6	6
New Mexico§	—	0	1	5	14	—	0	2	5	7	—	0	2	—	3
Utah	—	0	2	3	5	—	0	3	3	7	—	0	2	5	11
Wyoming§	—	0	0	—	3	—	0	1	2	4	—	0	1	1	—
<b>Pacific</b>	8	8	25	181	316	2	7	36	172	169	2	3	12	89	117
Alaska	—	0	1	3	2	—	0	1	3	6	—	0	1	2	1
California	7	6	25	138	255	2	5	28	127	118	1	3	9	69	88
Hawaii	—	0	2	4	6	—	0	1	3	3	—	0	1	1	4
Oregon§	—	0	2	10	20	—	1	4	23	23	—	0	2	6	11
Washington	1	1	4	26	33	—	1	8	16	19	1	0	4	11	13
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	2	7	16	—	0	5	3	26	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.  
 U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.  
 \* Incidence data for reporting year 2008 and 2009 are provisional.  
 † Data for acute hepatitis C, viral are available in Table I.  
 § Contains data reported through the National Electronic Disease Surveillance System (NEDSS).



TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 4, 2009, and June 28, 2008 (26th week)\*

Reporting area	Lyme disease					Malaria					Meningococcal disease, invasive† All groups				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
<b>United States</b>	431	437	1,915	5,407	9,776	8	22	46	432	467	7	17	48	478	714
<b>New England</b>	45	55	837	611	3,868	—	1	5	15	24	—	0	4	15	19
Connecticut	—	12	264	—	1,594	—	0	4	4	5	—	0	1	1	1
Maine§	34	6	73	156	70	—	0	1	1	1	—	0	1	2	3
Massachusetts	—	14	403	117	1,592	—	0	4	6	13	—	0	3	9	13
New Hampshire	—	13	145	218	462	—	0	1	1	2	—	0	1	1	1
Rhode Island§	—	0	78	33	105	—	0	1	1	1	—	0	1	1	1
Vermont§	11	5	41	87	45	—	0	1	2	2	—	0	1	1	—
<b>Mid. Atlantic</b>	333	218	1,401	3,276	3,620	3	5	17	102	118	—	2	5	49	75
New Jersey	—	27	231	509	1,643	—	0	4	—	23	—	0	1	2	10
New York (Upstate)	185	87	1,368	1,155	786	3	0	10	23	13	—	0	2	11	19
New York City	—	3	54	—	198	—	3	11	61	65	—	0	2	9	13
Pennsylvania	148	53	338	1,612	993	—	1	3	18	17	—	1	4	27	33
<b>E.N. Central</b>	2	9	205	166	695	—	3	6	54	76	—	3	8	81	121
Illinois	—	0	13	4	42	—	1	5	20	36	—	1	6	17	44
Indiana	—	0	8	9	8	—	0	1	8	3	—	0	4	21	16
Michigan	—	1	10	12	5	—	0	3	9	9	—	0	3	14	15
Ohio	—	0	6	10	8	—	0	2	14	18	—	0	3	23	29
Wisconsin	2	9	187	131	632	—	0	2	3	10	—	0	1	6	17
<b>W.N. Central</b>	—	7	336	71	143	2	1	10	27	21	—	1	9	39	65
Iowa	—	1	9	29	53	—	0	3	5	2	—	0	1	4	12
Kansas	—	0	4	8	5	—	0	2	2	3	—	0	2	8	3
Minnesota	—	2	326	28	81	2	0	8	12	6	—	0	4	8	18
Missouri	—	0	1	2	1	—	0	2	5	5	—	0	2	13	21
Nebraska§	—	0	2	3	2	—	0	1	2	5	—	0	1	4	9
North Dakota	—	0	10	—	—	—	0	0	—	—	—	0	3	—	1
South Dakota	—	0	1	1	1	—	0	1	1	—	—	0	1	2	1
<b>S. Atlantic</b>	49	65	223	1,155	1,335	1	6	15	148	125	2	2	9	91	98
Delaware	8	12	36	312	390	—	0	1	1	1	—	0	1	2	1
District of Columbia	—	0	5	—	24	—	0	2	—	—	—	0	0	—	—
Florida	4	1	6	19	15	1	1	7	38	22	—	1	4	31	34
Georgia	2	0	6	20	16	—	1	4	33	29	1	0	2	18	12
Maryland§	27	27	163	547	620	—	1	8	39	37	—	0	1	4	12
North Carolina	4	1	7	34	2	—	0	5	18	11	1	0	5	16	8
South Carolina§	1	0	3	13	11	—	0	1	1	4	—	0	1	7	15
Virginia§	3	12	61	176	197	—	1	4	17	20	—	0	2	9	13
West Virginia	—	1	17	34	60	—	0	1	1	1	—	0	2	4	3
<b>E.S. Central</b>	—	0	5	10	19	—	0	2	12	8	—	0	3	16	37
Alabama§	—	0	1	1	8	—	0	1	3	3	—	0	1	4	4
Kentucky	—	0	2	1	1	—	0	2	5	3	—	0	1	3	7
Mississippi	—	0	0	—	1	—	0	1	—	—	—	0	1	1	9
Tennessee§	—	0	3	8	9	—	0	2	4	2	—	0	1	8	17
<b>W.S. Central</b>	—	2	21	18	40	—	1	10	11	23	—	1	12	42	75
Arkansas§	—	0	0	—	—	—	0	1	—	—	—	0	2	5	10
Louisiana	—	0	1	—	—	—	0	1	1	2	—	0	3	9	17
Oklahoma	—	0	2	—	—	—	0	2	1	2	—	0	3	3	10
Texas§	—	2	21	18	40	—	1	10	9	19	—	1	9	25	38
<b>Mountain</b>	1	1	13	15	15	—	0	3	6	13	1	1	4	41	39
Arizona	—	0	2	2	2	—	0	2	2	5	—	0	2	8	5
Colorado	—	0	1	1	2	—	0	1	2	3	1	0	2	13	8
Idaho§	—	0	2	5	3	—	0	1	1	—	—	0	1	5	4
Montana§	—	0	13	1	2	—	0	0	—	—	—	0	2	4	4
Nevada§	1	0	2	6	2	—	0	1	—	4	—	0	2	3	7
New Mexico§	—	0	2	—	3	—	0	1	—	1	—	0	1	3	4
Utah	—	0	1	—	—	—	0	1	1	—	—	0	1	1	5
Wyoming§	—	0	1	—	1	—	0	0	—	—	—	0	2	4	2
<b>Pacific</b>	1	3	13	85	41	2	3	10	57	59	4	4	14	104	185
Alaska	—	0	2	1	1	—	0	1	1	3	—	0	2	2	3
California	1	2	6	75	27	2	2	8	45	46	4	2	8	69	143
Hawaii	N	0	0	N	N	—	0	1	1	2	—	0	1	3	2
Oregon§	—	0	3	6	13	—	0	2	5	4	—	1	7	21	21
Washington	—	0	12	3	—	—	0	3	5	4	—	0	6	9	16
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	2	—	1	—	0	0	—	—
Puerto Rico	N	0	0	N	N	—	0	1	1	2	—	0	1	—	2
U.S. Virgin Islands	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting year 2008 and 2009 are provisional.

† Data for meningococcal disease, invasive caused by serogroups A, C, Y, and W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 4, 2009, and June 28, 2008 (26th week)\*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max				Med	Max		
<b>United States</b>	74	242	1,697	5,426	3,827	40	69	122	1,624	1,974	33	28	179	516	551
<b>New England</b>	—	17	35	232	439	4	8	15	166	186	—	0	2	4	3
Connecticut	—	0	4	13	32	—	3	10	73	92	—	0	0	—	—
Maine†	—	1	10	57	14	3	1	5	26	28	—	0	2	4	—
Massachusetts	—	11	30	105	346	—	0	0	—	—	—	0	1	—	1
New Hampshire	—	1	6	38	13	—	1	7	19	17	—	0	0	—	1
Rhode Island†	—	1	6	11	28	1	0	3	20	16	—	0	2	—	1
Vermont†	—	0	2	8	6	—	1	6	28	33	—	0	0	—	—
<b>Mid. Atlantic</b>	13	24	64	486	437	15	16	30	310	407	1	1	29	21	50
New Jersey	—	3	12	56	85	—	0	0	—	—	—	0	6	—	34
New York (Upstate)	6	6	41	95	135	15	8	20	192	207	1	0	29	2	4
New York City	—	0	21	47	45	—	0	2	—	10	—	0	4	12	6
Pennsylvania	7	11	33	288	172	—	7	17	118	190	—	0	2	7	6
<b>E.N. Central</b>	12	44	238	1,170	698	4	2	28	69	71	—	1	15	21	38
Illinois	—	14	45	234	82	4	1	20	26	27	—	1	10	9	27
Indiana	—	3	158	104	22	—	0	6	6	1	—	0	3	1	1
Michigan	—	9	21	242	95	—	1	9	22	26	—	0	1	3	2
Ohio	12	15	57	535	453	—	0	7	15	17	—	0	3	8	8
Wisconsin	—	4	10	55	46	N	0	0	N	N	—	0	0	—	—
<b>W.N. Central</b>	—	32	872	917	336	1	5	17	126	124	—	3	33	58	135
Iowa	—	5	21	81	48	—	0	5	9	10	—	0	1	1	5
Kansas	—	3	12	94	30	—	1	6	49	39	—	0	1	1	—
Minnesota	—	0	808	165	95	—	0	11	20	18	—	0	0	—	—
Missouri	—	14	51	479	121	—	1	8	17	14	—	3	32	52	125
Nebraska†	—	4	32	86	30	—	0	2	—	18	—	0	4	4	2
North Dakota	—	0	24	1	1	—	0	9	4	13	—	0	1	—	—
South Dakota	—	0	10	11	11	1	0	4	27	12	—	0	0	—	3
<b>S. Atlantic</b>	31	26	71	758	366	13	25	95	714	929	16	15	72	271	138
Delaware	—	0	3	6	5	—	0	0	—	—	—	0	5	3	7
District of Columbia	—	0	2	—	1	—	0	0	—	—	—	0	1	—	3
Florida	6	8	33	256	87	—	0	79	79	138	—	0	3	4	3
Georgia	—	3	9	79	33	—	5	52	154	201	—	1	5	16	31
Maryland†	2	3	10	49	50	—	6	13	146	234	1	1	7	23	22
North Carolina	21	0	65	199	76	N	4	4	N	N	13	10	55	188	22
South Carolina†	1	3	14	93	51	—	0	0	—	—	—	1	9	12	14
Virginia†	—	3	24	70	57	10	11	24	276	298	1	2	15	23	31
West Virginia	1	0	2	6	6	3	1	6	59	58	1	0	1	2	5
<b>E.S. Central</b>	5	12	33	344	131	—	3	7	63	88	2	4	23	87	91
Alabama†	—	3	19	124	19	—	0	0	—	—	1	1	7	18	25
Kentucky	1	4	15	106	25	—	1	4	29	16	—	0	0	—	1
Mississippi	—	1	5	23	56	—	0	2	—	2	—	0	3	4	4
Tennessee†	4	2	14	91	31	—	2	6	34	70	1	3	19	65	61
<b>W.S. Central</b>	—	40	389	764	432	—	0	9	27	52	13	2	161	45	80
Arkansas†	—	2	38	34	40	—	0	5	22	34	8	0	61	22	8
Louisiana	—	2	7	43	24	—	0	0	—	—	—	0	2	2	3
Oklahoma	—	0	45	15	13	—	0	9	4	16	5	0	98	10	54
Texas†	—	33	304	672	355	—	0	1	1	2	—	1	6	11	15
<b>Mountain</b>	11	15	31	402	463	—	2	9	48	32	—	1	3	7	14
Arizona	—	3	8	93	134	N	0	0	N	N	—	0	2	2	5
Colorado	10	4	12	148	74	—	0	0	—	—	—	0	1	—	—
Idaho†	—	1	5	39	20	—	0	2	—	2	—	0	1	—	—
Montana†	—	0	4	9	60	—	0	4	13	1	—	0	1	3	2
Nevada†	1	0	3	7	18	—	0	5	1	3	—	0	2	—	—
New Mexico†	—	1	10	30	25	—	0	2	15	18	—	0	1	1	1
Utah	—	4	19	75	124	—	0	6	2	2	—	0	1	1	2
Wyoming†	—	0	2	1	8	—	0	4	17	6	—	0	2	—	4
<b>Pacific</b>	2	21	98	353	525	3	4	13	101	85	1	0	1	2	2
Alaska	—	3	21	28	44	—	0	2	9	12	N	0	0	N	N
California	—	5	19	58	278	3	4	12	92	71	1	0	1	2	—
Hawaii	—	0	3	16	6	—	0	0	—	—	N	0	0	N	N
Oregon†	—	3	14	110	81	—	0	2	—	2	—	0	1	—	2
Washington	2	6	76	141	116	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	1	1	—	1	1	5	17	29	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting year 2008 and 2009 are provisional.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 4, 2009, and June 28, 2008 (26th week)\*

Table with 15 columns: Reporting area, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008, Current week, Previous 52 weeks (Med, Max), Cum 2009, Cum 2008. Rows include United States, New England, Mid. Atlantic, E.N. Central, W.N. Central, S. Atlantic, E.S. Central, W.S. Central, Mountain, Pacific, and various states/territories.

C.N.M.I.: Commonwealth of Northern Mariana Islands. U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. \* Incidence data for reporting year 2008 and 2009 are provisional. † Includes E. coli O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped. ‡ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 4, 2009, and June 28, 2008 (26th week)\*

Reporting area	Streptococcal diseases, invasive, group A				<i>Streptococcus pneumoniae</i> , invasive disease, nondrug resistant†					
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
		Med	Max				Med	Max		
<b>United States</b>	44	96	239	3,029	3,402	6	33	122	920	1,044
<b>New England</b>	2	5	28	169	249	—	1	12	24	53
Connecticut	—	0	21	49	66	—	0	11	—	—
Maine§	—	0	3	10	17	—	0	1	2	1
Massachusetts	—	2	10	60	121	—	1	2	15	41
New Hampshire	—	1	4	28	16	—	0	1	5	7
Rhode Island§	1	0	2	9	19	—	0	2	—	4
Vermont§	1	0	3	13	10	—	0	1	2	—
<b>Mid. Atlantic</b>	11	18	38	588	713	1	4	33	137	135
New Jersey	—	1	6	5	129	—	1	4	14	39
New York (Upstate)	8	6	25	223	225	1	2	17	71	60
New York City	—	4	12	124	133	—	0	31	52	36
Pennsylvania	3	6	18	236	226	N	0	2	N	N
<b>E.N. Central</b>	1	16	42	601	680	1	5	18	134	191
Illinois	—	4	12	163	188	—	1	5	15	54
Indiana	—	3	23	103	86	—	0	13	16	20
Michigan	—	3	11	100	116	—	1	5	42	53
Ohio	1	4	13	159	185	1	1	6	44	35
Wisconsin	—	2	10	76	105	—	1	4	17	29
<b>W.N. Central</b>	13	6	37	272	256	—	2	11	69	49
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	1	5	37	28	N	0	1	N	N
Minnesota	13	0	34	118	122	—	0	7	31	11
Missouri	—	2	8	61	62	—	1	4	26	22
Nebraska§	—	1	3	29	23	—	0	1	4	6
North Dakota	—	0	4	10	8	—	0	3	4	5
South Dakota	—	0	3	17	13	—	0	2	4	5
<b>S. Atlantic</b>	10	22	47	669	669	2	6	16	193	202
Delaware	—	0	1	8	6	—	0	0	—	—
District of Columbia	—	0	2	—	7	N	0	0	N	N
Florida	2	6	12	162	147	—	1	6	46	39
Georgia	3	5	13	154	151	—	2	6	49	54
Maryland§	3	3	10	100	122	1	1	3	40	39
North Carolina	1	2	12	73	86	N	0	0	N	N
South Carolina§	—	1	5	41	40	1	1	6	32	32
Virginia§	—	3	9	103	85	—	0	4	18	33
West Virginia	1	1	4	28	25	—	0	2	8	5
<b>E.S. Central</b>	1	4	10	124	114	—	1	6	35	56
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	1	5	23	24	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	2	—	7
Tennessee§	1	3	9	101	90	—	1	6	35	49
<b>W.S. Central</b>	3	9	79	262	281	2	6	46	172	154
Arkansas§	1	0	2	10	7	—	0	4	17	9
Louisiana	—	0	3	9	11	—	0	3	13	8
Oklahoma	2	2	20	92	66	1	1	7	33	46
Texas§	—	6	59	151	197	1	4	34	109	91
<b>Mountain</b>	2	9	22	265	368	—	4	16	138	172
Arizona	2	3	7	90	125	—	2	10	78	79
Colorado	—	3	9	96	93	—	1	4	28	39
Idaho§	—	0	2	3	12	—	0	2	6	3
Montana§	N	0	0	N	N	N	0	0	N	N
Nevada§	—	0	1	5	6	—	0	1	—	2
New Mexico§	—	2	7	47	93	—	0	4	15	25
Utah	—	1	6	23	34	—	0	4	11	23
Wyoming§	—	0	1	1	5	—	0	1	—	1
<b>Pacific</b>	1	3	9	79	72	—	0	3	18	32
Alaska	—	0	4	10	16	—	0	2	13	21
California	N	0	0	N	N	N	0	0	N	N
Hawaii	1	3	8	69	56	—	0	2	5	11
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	—	0	0	—	30	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

C.N.M.I.: Commonwealth of Northern Mariana Islands.

U: Unavailable. —: No reported cases. N: Not reportable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Incidence data for reporting year 2008 and 2009 are provisional.

† Includes cases of invasive pneumococcal disease, in children aged <5 years, caused by *S. pneumoniae*, which is susceptible or for which susceptibility testing is not available (NNDS event code 11717).

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 4, 2009, and June 28, 2008 (26th week)\*

Reporting area	<i>Streptococcus pneumoniae</i> , invasive disease, drug resistant†										Syphilis, primary and secondary				
	All ages				Aged <5 years										
	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008	Current week	Previous 52 weeks		Cum 2009	Cum 2008
	Med	Max				Med	Max				Med	Max			
<b>United States</b>	14	56	276	1,693	1,955	3	9	21	259	285	77	263	452	6,157	6,098
<b>New England</b>	—	1	48	30	41	—	0	5	1	5	6	5	15	155	155
Connecticut	—	0	48	—	—	—	0	5	—	—	—	1	5	32	10
Maine§	—	0	2	8	13	—	0	1	—	—	—	0	2	1	6
Massachusetts	—	0	1	1	—	—	0	1	1	—	6	3	11	108	121
New Hampshire	—	0	3	5	—	—	0	0	—	—	—	0	2	10	7
Rhode Island§	—	0	6	7	15	—	0	1	—	3	—	0	5	4	6
Vermont§	—	0	1	9	13	—	0	0	—	2	—	0	2	—	5
<b>Mid. Atlantic</b>	2	4	14	101	199	—	0	3	19	16	22	32	51	901	850
New Jersey	—	0	0	—	—	—	0	0	—	—	—	4	13	101	102
New York (Upstate)	1	1	10	43	38	—	0	2	10	5	2	2	8	55	69
New York City	—	0	4	2	84	—	0	2	—	—	15	22	36	567	531
Pennsylvania	1	1	8	56	77	—	0	2	9	11	5	6	12	178	148
<b>E.N. Central</b>	6	9	41	376	431	1	1	7	52	58	1	24	44	462	543
Illinois	N	0	0	N	N	N	0	0	N	N	—	9	19	126	206
Indiana	—	2	32	118	149	—	0	6	17	18	1	2	10	75	68
Michigan	—	0	2	16	15	—	0	1	2	2	—	4	18	116	102
Ohio	6	7	18	242	267	1	1	4	33	38	—	6	15	121	143
Wisconsin	—	0	0	—	—	—	0	0	—	—	—	1	4	24	24
<b>W.N. Central</b>	—	3	161	87	142	—	1	3	20	28	—	6	14	148	203
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	12	10
Kansas	—	1	5	38	57	—	0	2	13	3	—	0	3	13	17
Minnesota	—	0	156	—	20	—	0	3	—	20	—	2	6	29	47
Missouri	—	1	5	37	60	—	0	1	5	2	—	3	10	76	123
Nebraska§	—	0	0	—	—	—	0	0	—	—	—	0	2	14	6
North Dakota	—	0	3	10	2	—	0	0	—	—	—	0	1	3	—
South Dakota	—	0	2	2	3	—	0	2	2	3	—	0	1	1	—
<b>S. Atlantic</b>	6	25	53	804	768	2	4	14	119	116	16	63	262	1,481	1,291
Delaware	—	0	2	10	2	—	0	0	—	—	—	0	3	17	8
District of Columbia	N	0	0	N	N	N	0	0	N	N	2	3	9	88	64
Florida	3	15	36	490	414	—	3	13	79	72	1	20	32	475	496
Georgia	2	8	25	226	269	2	1	5	33	37	—	14	227	292	231
Maryland§	—	0	1	4	4	—	0	0	—	1	4	6	16	143	165
North Carolina	N	0	0	N	N	N	0	0	N	N	7	8	19	264	145
South Carolina§	—	0	0	—	—	—	0	0	—	—	2	2	6	56	44
Virginia§	N	0	0	N	N	N	0	0	N	N	—	5	16	143	133
West Virginia	1	2	13	74	79	—	0	3	7	6	—	0	1	3	5
<b>E.S. Central</b>	—	5	25	181	221	—	1	3	26	40	10	22	36	516	517
Alabama§	N	0	0	N	N	N	0	0	N	N	—	8	15	179	227
Kentucky	—	1	5	51	54	—	0	2	7	9	1	1	10	26	45
Mississippi	—	0	3	—	26	—	0	1	—	8	3	3	18	98	70
Tennessee§	—	3	22	130	141	—	0	3	19	23	6	8	19	213	175
<b>W.S. Central</b>	—	1	6	56	71	—	0	3	10	12	17	51	80	1,243	1,014
Arkansas§	—	0	5	33	13	—	0	3	7	3	2	4	35	99	73
Louisiana	—	1	5	23	58	—	0	1	3	9	2	14	40	291	249
Oklahoma	N	0	0	N	N	N	0	0	N	N	—	1	7	29	41
Texas§	—	0	0	—	—	—	0	0	—	—	13	31	46	824	651
<b>Mountain</b>	—	2	7	56	81	—	0	3	11	9	4	8	18	148	322
Arizona	—	0	0	—	—	—	0	0	—	—	—	3	11	21	164
Colorado	—	0	0	—	—	—	0	0	—	—	—	1	5	45	89
Idaho§	N	0	1	N	N	N	0	1	N	N	—	0	2	3	1
Montana§	—	0	1	—	—	—	0	0	—	—	—	0	7	—	—
Nevada§	—	1	4	27	40	—	0	2	6	4	3	1	7	55	38
New Mexico§	—	0	0	—	—	—	0	0	—	—	1	1	5	23	15
Utah	—	1	6	22	41	—	0	3	4	5	—	0	2	—	13
Wyoming§	—	0	2	7	—	—	0	1	1	—	—	0	1	1	2
<b>Pacific</b>	—	0	1	2	1	—	0	1	1	1	1	46	67	1,103	1,203
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
California	N	0	0	N	N	N	0	0	N	N	—	42	60	1,011	1,088
Hawaii	—	0	1	2	1	—	0	1	1	1	—	0	3	16	12
Oregon§	N	0	0	N	N	N	0	0	N	N	1	0	4	21	6
Washington	N	0	0	N	N	N	0	0	N	N	—	2	9	55	97
American Samoa	N	0	0	N	N	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	3	3	11	107	88
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

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\* Incidence data for reporting year 2008 and 2009 are provisional.

† Includes cases of invasive pneumococcal disease caused by drug-resistant *S. pneumoniae* (DRSP) (NNDSS event code 11720).

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