

## Acute Illnesses Associated With Insecticides Used to Control Bed Bugs — Seven States, 2003–2010

The common bed bug, *Cimex lectularius*, is a wingless, reddish-brown insect that requires blood meals from humans, other mammals, or birds to survive (1). Bed bugs are not considered to be disease vectors (2,3), but they can reduce quality of life by causing anxiety, discomfort, and sleeplessness (4). Bed bug populations and infestations are increasing in the United States and internationally (3,5). Bed bug infestations often are treated with insecticides, but insecticide resistance is a problem, and excessive use of insecticides or use of insecticides contrary to label directions can raise the potential for human toxicity. To assess the frequency of illness from insecticides used to control bed bugs, relevant cases from 2003–2010 were sought from the Sentinel Event Notification System for Occupational Risks (SENSOR)-Pesticides program and the New York City Department of Health and Mental Hygiene (NYC DOHMH). Cases were identified in seven states: California, Florida, Michigan, North Carolina, New York, Texas, and Washington. A total of 111 illnesses associated with bed bug–related insecticide use were identified; although 90 (81%) were low severity, one fatality occurred. Pyrethroids, pyrethrins, or both were implicated in 99 (89%) of the cases, including the fatality. The most common factors contributing to illness were excessive insecticide application, failure to wash or change pesticide-treated bedding, and inadequate notification of pesticide application. Although few cases of illnesses associated with insecticides used to control bed bugs have been reported, recommendations to prevent this problem from escalating include educating the public about effective bed bug management.

To evaluate illnesses associated with insecticides used to control bed bugs, data from 2003–2010 were obtained from

states participating in the SENSOR-Pesticides program\* and from NYC DOHMH.† Acute illnesses associated with an insecticide used to control bed bugs were defined as two or more acute adverse health effects resulting from exposure to an insecticide used for bed bug control. Cases were categorized as definite, probable, possible, and suspicious based on three criteria: certainty of exposure, reported health effects, and

\* The SENSOR-Pesticides program consists of 12 states that conduct surveillance of pesticide-related illness. California, Florida, Michigan, North Carolina, New York, Texas, and Washington reported cases of acute illness associated with insecticides used for bed bug control. The other five states participating in the SENSOR-Pesticides program (Arizona, Iowa, Louisiana, New Mexico, and Oregon) did not identify any cases of acute illness associated with insecticides used for bed bug control during 2003–2010. The California Department of Public Health reported one case of acute illness associated with insecticides used for bed bug control. The other case in California was reported through the California Department of Pesticide Regulation.

† New York City Poison Control Center, a component of NYC DOHMH, contributed data from 2003–2010, in addition to data received from New York State Department of Health and Mental Hygiene. Because the New York City Poison Control Center does not report data to the New York State Department of Health, their data were reported separately.

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consistency of health effects with known toxicology of the insecticide (causal relationship) (Table 1). Data were analyzed for demographics, health effects, report source, case definition category, illness severity,<sup>§</sup> insecticide toxicity,<sup>¶</sup> insecticide chemical class, work-relatedness, and factors contributing to illness. A 2010 case report from Cincinnati Children's Hospital Medical Center (CCHMC) in Ohio also was obtained.\*\*

For 2003–2010, a total of 111 cases were identified in seven states (Table 2). The majority of cases occurred during 2008–2010 (73%), were of low severity (81%), and were identified by poison control centers (81%). New York City had the largest percentage of cases (58%). Among cases with known age, the majority occurred among persons aged ≥25 years (67%). The majority of cases occurred at private residences (93%); 40% of cases occurred in multiunit housing. Among cases, 39% of pesticide applications were performed

**TABLE 1. Case classification matrix\* for acute illness associated with insecticides used for bed bug control — seven states, 2003–2010**

Classification criteria	Classification category				
	Definite	Probable <sup>†</sup>	Possible	Suspicious	
Exposure	1	1	2	2	1 or 2
Health effects	1	2	1	2	1 or 2
Causal relationship	1	1	1	1	4

**Source:** CDC. Case definition for acute pesticide-related illness and injury cases reportable to the national public health surveillance system. Cincinnati, OH: US Department of Health and Human Services, CDC, National Institute for Occupational Safety and Health; 2005. Available at [http://www.cdc.gov/niosh/topics/pesticides/pdfs/casedef2003\\_revapr2005.pdf](http://www.cdc.gov/niosh/topics/pesticides/pdfs/casedef2003_revapr2005.pdf).

\* Cases are placed in a classification category based on scores received on available evidence for exposure, health effects, and causal relationship. Scores relating to exposure criteria are 1 = clinical, laboratory, or environmental finding supporting the exposure, 2 = evidence from written or verbal report; criteria for health effects are 1 = two or more abnormal signs after exposure and/or test or laboratory results that are reported by a licensed health-care professional, 2 = two or more symptoms postexposure are reported by the patient; and criteria for a causal relationship are 1 = health effects are consistent with known toxicity, 4 = insufficient toxicologic information to determine if a causal relationship exists between exposure and health effects.

<sup>†</sup> Based on either combination of scores for exposure, health effects, and causal relationship.

by occupants of the residence who were not certified to apply pesticides. The majority of insecticide exposures were to pyrethroids, pyrethrins, or both (89%) and were in toxicity category III (58%) (Table 2). The most frequently reported health outcomes were neurologic symptoms (40%), including headache and dizziness; respiratory symptoms (40%), including upper respiratory tract pain and irritation

<sup>§</sup> Low severity cases usually resolve without treatment and cause minimal time lost from work (<3 days). Moderate severity cases are non-life threatening but require medical treatment and result in <6 days lost from work. High severity cases are life threatening, require hospitalization, and result in >5 days lost from work.

<sup>¶</sup> The toxicity category of an insecticide is determined by the Environmental Protection Agency (EPA) under guidance from CFR Title 40 Part 156. Insecticides in category I have the greatest toxicity, and insecticides in category IV have the least toxicity.

\*\* This case was not included in the analysis because Ohio does not participate in the SENSOR-Pesticides program. However, this case received media coverage in Ohio and represents misuse and excessive application of pesticides. The case demonstrates the need for consumers to be diligent in choosing a certified or licensed pesticide applicator.

The *MMWR* series of publications is published by the Office of Surveillance, Epidemiology, and Laboratory Services, Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, Atlanta, GA 30333.

**Suggested citation:** Centers for Disease Control and Prevention. [Article title]. *MMWR* 2011;60:[inclusive page numbers].

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TABLE 2. Characteristics of acute illnesses associated with insecticides used for bed bug control — seven states, 2003–2010

Characteristic	Total	
	No.	(%)*
<b>Total</b>	<b>111</b>	<b>(100)</b>
<b>Year of exposure</b>		
2003	3	(3)
2004	4	(4)
2005	9	(8)
2006	6	(5)
2007	8	(7)
2008	23	(21)
2009	19	(17)
2010	39	(35)
<b>Location</b>		
California	2	(2)
Florida	3	(3)
Michigan	8	(7)
North Carolina	4	(4)
New York	18	(16)
New York City	64	(58)
Texas	3	(3)
Washington	9	(8)
<b>Age group (yrs)</b>		
0–5	6	(5)
6–14	9	(8)
15–24	11	(10)
25–44	26	(23)
≥45	27	(24)
Unknown	32	(29)
<b>Sex</b>		
Male	51	(46)
Female	60	(54)
<b>Case definition category</b>		
Definite	3	(3)
Probable	14	(13)
Possible	91	(82)
Suspicious	3	(3)
<b>Illness severity</b>		
Fatal	1	(1)
High	—	—
Moderate	20	(18)
Low	90	(81)
<b>Body part/System affected†</b>		
Nervous system	45	(40)
Respiratory	45	(40)
Gastrointestinal	37	(33)
Skin	35	(32)
Eye	11	(10)
Cardiovascular	8	(7)
Other	15	(14)

and dyspnea; and gastrointestinal symptoms (33%), including nausea and vomiting.

Among cases, 13 (12%) were work-related. Of these, three illnesses involved workers who applied pesticides, including two pest control operators, of whom one was a certified applicator. Four cases involved workers who were unaware of pesticide applications (e.g., two carpet cleaners who cleaned

TABLE 2. (Continued) Characteristics of acute illnesses associated with insecticides used for bed bug control — seven states, 2003–2010

Characteristic	Total	
	No.	(%)*
<b>Work related<sup>§</sup></b>		
Yes	13	(12)
<b>Pesticide applicator certification</b>		
Certified applicator	2	(2)
Uncertified/Unsupervised applicator	15	(14)
Home occupant not certified to apply pesticides	43	(39)
Unknown certification of applicator	51	(46)
<b>Site where case was exposed</b>		
Single family home	10	(9)
Mobile home/Trailer	1	(1)
Multiunit housing	44	(40)
Private residence/Type not specified	48	(43)
Residential institution <sup>¶</sup>	2	(2)
Hotels	3	(3)
Unknown	3	(3)
<b>Reporting source</b>		
Physician report	4	(4)
Poison control center	90	(81)
State health department	7	(6)
Other	10	(9)
<b>Toxicity category**</b>		
I – Danger	1	(1)
II – Warning	13	(12)
III – Caution	64	(58)
Missing/Unknown	32	(29)
<b>Insecticide chemical class<sup>†</sup></b>		
Pyrethroid	77	(69)
Pyrethrin	28	(25)
Carbamate	3	(3)
Organophosphate	2	(2)
Other <sup>††</sup>	9	(8)
Unknown	3	(3)

\* Percentages might not add to 100 because of rounding.

† The sums exceed the number of cases because some persons had more than one body part or system affected and some had exposure to more than one insecticide. Pyrethroids, pyrethrins, or both were implicated in 99 (89%) of cases.

§ By occupation, the exposed workers included two pest control workers, two emergency medical technicians, two carpet cleaners, one health educator, one caregiver, one medical technician, one support staff member at a shelter, one hotel manager, one hotel maintenance worker, and one person whose occupation was unknown.

¶ One case occurred in an independent living facility, and the other case occurred at a shelter.

\*\* Toxicity categories as classified by the Environmental Protection Agency, based on established criteria, with category I being the most toxic.

†† Includes the following active ingredients: DEET (four), hydroprene (two), chlorfenapyr (one), coal tar (one), and acetamiprid (one). DEET and hydroprene are not insecticides, but were pesticides used to control bed bugs.

an apartment recently treated with pesticides). Two cases involved hotel workers (a maintenance worker and a manager) who were exposed when they entered a recently treated hotel room, and two cases involved emergency medical technicians who responded to a scene where they found white powder thought to be an organophosphate pesticide. Contributing factors were identified for 50% of cases. Factors that most

**TABLE 3. Contributing factors in acute illnesses associated with insecticides used for bed bug control — seven states, 2003–2010**

Contributing factor	Total	
	No.	(%)*
One or more contributing factors identified <sup>†</sup>	56	(100)
Excessive application	10	(18)
Failure to wash or change pesticide-treated bedding	9	(16)
Notification lacking/ineffective	6	(11)
Failure to vacate premises	5	(9)
Spill/Splash of liquid or dust	4	(7)
Inadequate ventilation <sup>§</sup>	3	(5)
Early reentry	2	(4)
Mixing incompatible chemicals	2	(4)
Improper storage	1	(2)
Label violation not otherwise specified <sup>¶</sup>	16	(29)
No label violation but person still ill	2	(4)

\* The sum of proportions exceeds 100 because some cases had more than one contributing factor.

<sup>†</sup> For the remaining 55 (50%) cases, information was insufficient to identify contributing factors for acute illness.

<sup>§</sup> Inadequate ventilation of the treated area resulting from failure to follow label instructions.

<sup>¶</sup> Among these 16 cases, five involved indoor use of an insecticide that was labeled for outdoor use only, eight involved use of an insecticide not labeled for use on a person or for use on bed bugs, one involved insecticide use in an enclosed space, one was in a child who licked the floor near a pesticide application, and in one case, a blind person inadvertently sprayed a piece of furniture, which he touched with his hand, and then put his hand in his mouth.

frequently contributed to insecticide-related illness were excessive insecticide application (18%), failure to wash or change pesticide-treated bedding (16%), and inadequate notification of pesticide application (11%) (Table 3).

The one fatality, which occurred in North Carolina in 2010, involved a woman aged 65 years who had a history of renal failure, myocardial infarction and placement of two coronary stents, type II diabetes, hyperlipidemia, hypertension, and depression. She was taking at least 10 medications at the time of exposure. After she complained to her husband about bed bugs, he applied an insecticide<sup>††</sup> to their home interior baseboards, walls, and the area surrounding the bed, and a different insecticide<sup>§§</sup> to the mattress and box springs. Neither of these products are registered for use on bed bugs. Nine cans of insecticide fogger<sup>¶¶</sup> were released in the home the same day. Approximately 2 days later, insecticides were reapplied to the mattress, box springs, and surrounding areas, and nine cans of another fogger<sup>\*\*\*</sup> were released in the home. On both days the insecticides were applied, the couple left their home for

<sup>††</sup> Ortho Home Defense Max (Ortho Business Group), EPA registration number: 239-2663, with the active ingredient bifenthrin.

<sup>§§</sup> Ortho Lawn and Garden Insect Killer (Ortho Business Group), EPA registration number: 239-2685, with the active ingredient bifenthrin.

<sup>¶¶</sup> Hot Shot Fogger (Spectrum Group), EPA registration number: 9688-254-8845, with active ingredients tetramethrin and cypermethrin.

<sup>\*\*\*</sup> Hot Shot Bedbug and Flea Fogger (Spectrum Group), EPA registration number: 1021-1674-8845, with the active ingredient pyrethrins, piperonyl butoxide, MGK 264 (an insecticide synergist), and pyriproxyfen.

#### What is already known on this topic?

Bed bug populations and infestations are increasing in the United States and internationally. Bed bugs have an increased prevalence of insecticide resistance, including resistance to commonly used agents such as pyrethroids.

#### What is added by this report?

During 2003–2010, seven states reported 111 acute illnesses associated with insecticides used to control bed bugs. The most frequently identified causes of illness were excessive application of insecticides, failure to wash or change pesticide-treated bedding, and inadequate notification of pesticide application.

#### What are the implications for public health practice?

Inappropriate use of insecticides to control bed bugs can cause harm. Media campaigns to educate the public on nonchemical methods to control bed bugs, methods to prevent bed bug infestation, and the prudent use of effective insecticides, can reduce insecticide-related illness. Making insecticide labels easy to read and understand also might prevent illnesses associated with bed bug control.

3–4 hours before reentering. Label instructions on the foggers to air out the treated area for 30 minutes with doors and windows open were not followed on either day. On the day of the second application, the woman applied a bedbug and flea insecticide<sup>†††</sup> to her arms, sores on her chest, and on her hair before covering it with a plastic cap. She also applied the insecticide to her hair the day before the second application. Two days following the second application, her husband found her nonresponsive. She was taken to the hospital and remained on a ventilator for 9 days until she died.

Another example of insecticide misuse to control bed bugs occurred in Ohio in 2010. An uncertified pesticide applicator applied malathion to an apartment five times over the course of 3 days to treat a bed bug infestation. The malathion product was not registered for indoor use and was applied liberally such that beds and floor coverings were saturated. A family resided in the apartment that consisted of a father, mother, four children, and an adult roommate. One of the children, aged 6 years, attended kindergarten and arrived home around the time of the afternoon malathion applications. The father and roommate also were in the home during the applications. The child began experiencing diarrhea on the first application day, and headache and dizziness began on the second application day. The two adults present during the applications reported nausea, vomiting, headaches, and tremors. During the malathion applications, three younger children were in child care while their mother was at work, and they did not exhibit symptoms of insecticide poisoning. Each night following application of

<sup>†††</sup> Hot Shot Bed Bug and Flea Killer (Chemisco), EPA registration number: 9688-150-8845, with active ingredients pyrethrins and piperonyl butoxide.

malathion, the children slept on sheets placed on the floor to avoid sleeping on saturated beds.

Because symptoms in the child aged 6 years persisted on the third application day, he was taken to a community hospital emergency department (ED) and decontaminated. Because the hospital did not have pediatrics specialty care, he was transferred to CCHMC by ambulance for evaluation and treatment. His pseudocholinesterase level was within normal limits. He received 1 dose of pralidoxime and was observed in the CCHMC ED before release. The two adults were seen in a community hospital ED, treated, and released. The family did not return to the contaminated residence following the ED visits. The incident was investigated by the Cincinnati fire department and the Ohio Department of Agriculture. The applicator pled guilty to criminal charges, resulting in a fine and probation.

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### Editorial Note

Bed bug populations and infestations are increasing in the United States and internationally (3,5). Contributing factors are thought to include increased bed bug resistance to insecticides, increased domestic and international travel, rooms with more clutter, and greater prevalence of bed bug–friendly furnishings (e.g., wooden bed frames) (5). Insecticides containing pyrethroids are used widely to control bed bugs; however, pyrethroid-resistant bed bug populations have been found in five states (California, Florida, Kentucky, Ohio, and Virginia) (5). Given the increasing resistance of bed bugs to insecticides approved for bed bug control, at least one state has requested an emergency exemption from the Environmental Protection Agency (EPA) to use propoxur, a carbamate, to control bed bugs indoors.

CDC and EPA promote integrated pest management (IPM) for bed bug control (3,6). IPM is an effective pest control method that uses information on the life cycle of the pest and incorporates nonchemical and chemical methods (6). Nonchemical methods to effectively control bed bugs include heating infested rooms to 118°F (48°C) for 1 hour or cooling rooms to 3°F (-16°C) for 1 hour by professional applicators (7); encasing mattresses and box springs with bed bug–excluding covers; and vacuuming, steaming, laundering, and disposing of infested items (6). Any effective control measure for bed bugs requires support from all residents in affected buildings and ongoing monitoring for infestation from other housing units (3). Often, multiple inspections and treatments are needed to eradicate bed bugs (4).

The findings in this report are subject to at least four limitations. First, acute illness associated with insecticide use might be underreported in the regions covered by the surveillance systems. Case identification in SENSOR-Pesticides relies on a passive surveillance system, so persons experiencing minor symptoms who do not seek medical treatment or advice from poison control centers are not reported to the system. Second, cases might have been excluded if insufficient information was provided to meet the case definition<sup>§§§</sup> or to determine that the insecticide was used for bed bug control (e.g., surveillance systems do not systematically capture whether insecticides are used for bed bug control). Cases were identified only if available narrative information contained the term “bed bug.” Third, false positives might be included as cases. Symptoms for acute illnesses associated with insecticides are nonspecific; illnesses might be coincidental and not caused by insecticide exposure. Among the 111 cases described in this report, only 16% were categorized as either definite or probable. Finally, contributing factors were identified for only 50% of the cases; complete knowledge of contributing factors might alter the interpretation presented in this report.

Although the number of acute illnesses from insecticides used to control bed bugs does not suggest a large public health burden, increases in bed bug populations that are resistant to commonly available insecticides might result in increased misuse of pesticides. Public health recommendations to prevent illnesses associated with insecticides used to control bed bugs include media campaigns to educate the public about bed bug–related issues, including nonchemical methods to control bed bugs, methods to prevent bed bug infestation (e.g., avoiding the purchase of used mattresses and box springs), and prudent use of effective insecticides (3). Persons who have a bed bug

<sup>§§§</sup> Among New York City cases, 33 were excluded because the affected persons each had only one reported symptom.

infestation should be encouraged to seek the services of a certified applicator<sup>4,5</sup> who uses an IPM approach to avoid pesticide misuse. Persons applying insecticides should follow product instructions for safe and appropriate use. Insecticide labels that are easy to read and understand also can help prevent illnesses associated with bed bug control.

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<sup>4,5</sup> Restricted-use pesticides may only be applied by licensed or certified applicators. States are responsible for the training, certification, and licensing of pesticide applicators. A certified applicator is a pesticide applicator who has been determined to have the knowledge and ability to use pesticides safely and effectively. Some states also require that certified pesticide applicators be licensed. In such states, a license is required to purchase, use and/or supervise the application of restricted-use pesticides. Information on certification of pesticide applicators is available at <http://www.epa.gov/oppfead1/safety/applicators/applicators.htm>. EPA guidance for consumers on choosing a pest control company and on pesticide safety and nonchemical means of control is available at [http://www.epa.gov/oppfead1/Publications/Cit\\_Guide/citguide.pdf](http://www.epa.gov/oppfead1/Publications/Cit_Guide/citguide.pdf). Consumers who have questions about the licensing or certification of a pesticide applicator should contact their state's agriculture department or agricultural extension service for information.

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## Dental Caries in Rural Alaska Native Children — Alaska, 2008

In April 2008, the Arctic Investigations Program (AIP) of CDC was informed by the Alaska Department of Health and Social Services (DHSS) of a large number of Alaska Native (AN) children living in a remote region of Alaska who required full mouth dental rehabilitations (FMDRs), including extractions and/or restorations of multiple carious teeth performed under general anesthesia. In this remote region, approximately 400 FMDRs were performed in AN children aged <6 years in 2007; the region has approximately 600 births per year. Dental caries can cause pain, which can affect children's normal growth and development (1). AIP and Alaska DHSS conducted an investigation of dental caries and associated risk factors among children in the remote region. A convenience sample of children aged 4–15 years in five villages (two with fluoridated water and three without) was examined to estimate dental caries prevalence and severity. Risk factor information was obtained by interviewing parents. Among children aged 4–5 years and 12–15 years who were evaluated, 87% and 91%, respectively, had dental caries, compared with 35% and 51% of U.S. children in those age groups. Among children from the Alaska villages, those aged 4–5 years had a mean of 7.3 dental caries, and those aged 12–15 years had a mean of 5.0, compared with 1.6 and 1.8 dental caries in same-aged U.S. children (2). Of the multiple factors assessed, lack of water fluoridation and soda pop consumption were significantly associated with dental caries severity. Collaborations between tribal, state, and federal agencies to provide effective preventive interventions, such as water fluoridation of villages with suitable water systems and provision of fluoride varnishes, should be encouraged.

This Alaska region is comprised of 52 villages and has a population of approximately 25,000; 85% are Yup'ik Eskimo. The villages are small and remote, are commercially accessible only by air or boat, and have limited medical and dental resources; at the time of the investigation, four full-time dentists were working in the region. Sixteen villages (30%) have no in-home water and sanitation services, and only four (8%) have fluoridated water systems.

During October and November 2008, oral examinations were conducted on a convenience sample of children living in five of the 52 villages. Villages were chosen based on size, water fluoridation status, and willingness of village residents and village schools to participate. Two villages with fluoridated water and three villages without fluoridated water were selected. Village populations ranged from approximately 350 to 6,000 residents. All village children were invited to participate. Families were notified by school officials, and signed parental consents were obtained. Children were examined for the

presence of decayed teeth (untreated carious lesions) and filled and missing teeth (sequelae of decayed teeth) in their primary and permanent teeth by one experienced dentist using a visual and tactile protocol modified from the World Health Organization's oral health survey basic methods (3). The protocol was modified to match the diagnostic criteria used in surveys in the United States (2). Parents were interviewed, using questionnaires, to obtain risk factor information. All participants' families completed the questionnaire, and more than one child per family was allowed to participate.

The number of decayed primary teeth (dt), decayed and filled primary teeth (dft), decayed permanent teeth (DT), and decayed, missing, and filled permanent teeth (DMFT) were determined for each participant. Prevalence (having one or more tooth affected) and severity (mean dt, dft, DT, and DMFT) were determined by age group (4–5, 6–8, 9–11, and 12–15 years), sex, and village fluoridation status. An age-adjusted bivariate analysis was performed to assess risk factors for dental caries (dft >0 and DMFT >0). Risk factors included sociodemographic factors (e.g., sex), children's behaviors (e.g., tooth brushing, dental floss use, and soda pop consumption), parents' behaviors (e.g., tooth brushing), access to care, and water fluoridation status. Backward selection of risk factors that reached a significance level of  $p \leq 0.25$ , on age-adjusted bivariate analysis, were used to conduct multivariate logistic regression. Multivariate models were age- and sex-adjusted. In addition, dental caries severity for the region was compared with estimates for same-aged U.S. children from the National Health and Nutrition Examination Survey from 1999–2004 (2).

In total, 348 AN children aged 4–15 years were examined (39%–63% of the total age cohort in four participating villages; only 3% were examined in the other village, primarily for examiner calibration). The median age of the children was 9 years, and 52% of the children were male.

Among children aged 4–5, 6–8, and 9–11 years who lived in nonfluoridated villages, 71%–100% had one or more decayed or filled primary tooth (dft >0), and 40%–65% had one or more decayed primary tooth (dt >0). The mean dft ranged from 2.7 to 9.8. Among children aged 4–11 years from fluoridated villages, 67%–73% had one or more decayed or filled primary tooth (dft >0), and 44%–48% had one or more decayed primary tooth (dt >0). The mean dft among children aged 4–11 years from fluoridated villages ranged from 2.2 to 3.7 (Table 1, Figure).

Among children aged 6–8, 9–11, and 12–15 years from nonfluoridated villages, 57%–91% had one or more decayed, missing, or filled permanent tooth (DMFT >0), and 45%–68%

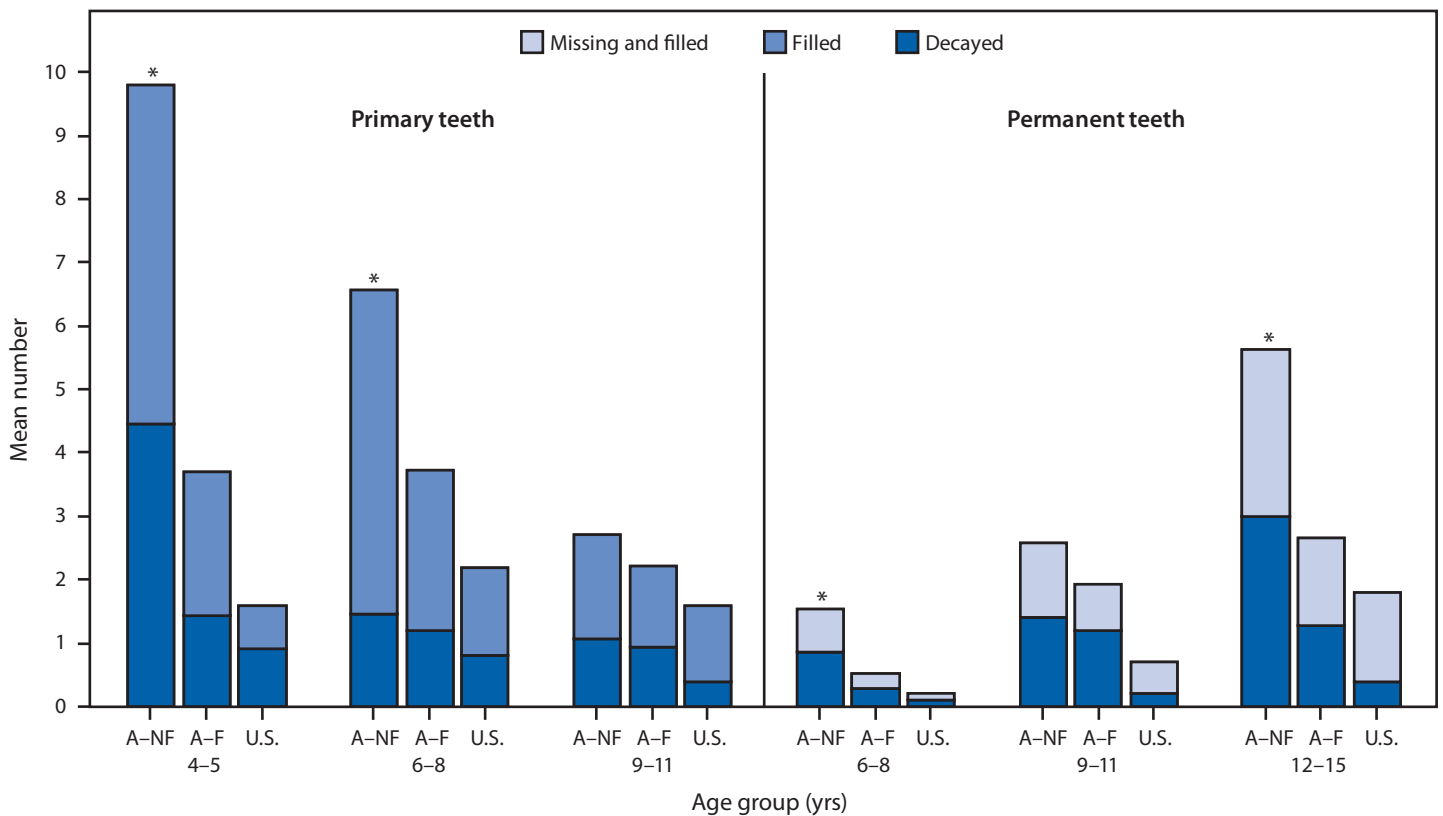
**TABLE 1. Dental caries prevalence and prevalence of decayed teeth\* among children from five villages in rural Alaska, 2008**

Age group (yrs)	Children from nonfluoridated villages					Children from fluoridated villages				
	No.	Primary teeth		Permanent teeth		No.	Primary teeth		Permanent teeth	
		% dft >0	% dt >0	% DMFT >0	% DT >0		% dft >0	% dt >0	% DMFT >0	% DT >0
4-5	26	100	65			18	67	44		
6-8	65	97	54	57	45	45	73	47	31	18
9-11	65	71	40	86	66	31	68	48	65	52
12-15	76			91	68	22			91	68

**Abbreviations:** dft = decayed and/or filled primary teeth; dt = decayed primary teeth; DMFT = decayed, missing because of caries, and/or filled permanent teeth; DT = decayed permanent teeth.

\* % dft >0 is the proportion of children with one or more decayed or filled primary tooth; % dt >0 is the proportion of children with one or more decayed primary tooth; % DMFT >0 is the proportion of children with one or more decayed, missing or filled permanent tooth; and % DT >0 is the proportion of children with one or more decayed permanent tooth.

**FIGURE. Mean number of decayed, filled, and missing primary and permanent teeth among children, by age group and village water fluoridation status, in five rural Alaska villages and the United States, 2008**



**Abbreviations:** A-NF = Alaska nonfluoridated water system, A-F = Alaska fluoridated water system, U.S. = total for the United States, based on National Health and Nutrition Examination Survey 1999–2004 results.

\* p<0.05 for comparison between Alaska region fluoridated and nonfluoridated water systems; no statistical comparison could be made between the Alaska region and the total United States because of differences in survey methodology.

had one or more decayed permanent tooth (DT >0). The mean DMFT ranged from 1.6 to 5.6. Among children aged 6–15 years from fluoridated villages, 31%–91% had one or more decayed, missing, or filled permanent tooth (DMFT >0), and 18%–68% had one or more decayed permanent tooth (DT >0). The mean DMFT among children aged 6–15 years from fluoridated villages ranged from 0.5 to 2.7 (Table 1, Figure).

Dental caries severity was greater in nonfluoridated villages. Children from nonfluoridated villages had 1.2–2.9 times higher mean dft or DMFT than children from fluoridated villages and 1.2–3.1 times the mean number of decayed teeth (Figure). Children from the Alaska region had 1.5–4.5 times the number of dft or DMFT than same-aged U.S. children



and 1.6–9.0 times the number of decayed teeth (Figure). On age-adjusted bivariate analysis, only lack of water fluoridation, increased soda pop consumption, and infrequent brushing of teeth were significantly associated with dental caries severity in primary and permanent teeth (all p-values <0.05).

On multivariate analysis, only lack of water fluoridation and soda pop consumption were associated with dental caries severity. The adjusted odds ratio (AOR) for lack of water fluoridation was 3.5 and 1.7 for primary teeth and permanent teeth, respectively. Odds of dental caries increased with increased soda pop consumption; AORs were 1.1 and 1.3 in children drinking one soda pop per day in primary and permanent teeth, respectively, and 1.5 and 2.0 in children drinking three or more soda pops per day for primary and permanent teeth, respectively ( $p \leq 0.02$  for trend). No other risk factor, including infrequent brushing or lack of dental floss use, was associated with dental caries severity (Table 2).

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### Editorial Note

Based on archeologic evidence, approximately 1% of the AN population had dental caries in the mid-1920s (4). Starting in the 1940s, air transportation into Alaskan villages became more frequent, as did the transport of processed foods. This led to gradual dietary changes among the AN population, from a diet of fish and game, to a diet high in carbohydrates. By 1999, an Indian Health Service dental survey found that 64% of American Indian (AI) and AN children aged 6–14 years, throughout the United States, had dental caries in their permanent teeth (5). In 2005, the Alaska DHSS determined that 75% of AN kindergarteners, statewide, had dental caries (6).

In contrast, since the beginning of the 20th century, the prevalence and severity of dental caries in the United States has decreased among most age groups (1) as a result of water fluoridation, use of fluoride toothpaste and other topical fluorides, and other factors. Approximately 72% of the U.S. population receives fluoridated water from public

**TABLE 2. Multivariate analysis\* of risk factors associated with dental caries severity in primary (dft) and permanent teeth (DMFT) among children from five villages in rural Alaska, 2008**

Risk factor	Primary teeth (dft)		Permanent teeth (DMFT)	
	AOR (95% CI)	p-value	AOR (95% CI)	p-value
<b>Water fluoridation</b>				
Fluoridated	Referent		Referent	
Not fluoridated	3.5 (2.8–4.3)	<0.001	1.7 (1.4–2.1)	<0.001
<b>Soda pop/day</b>				
0	Referent		Referent	
1	1.14 (1.03–1.31)		1.27 (1.18–1.37)	
2	1.30 (1.06–1.66)		1.61 (1.39–1.87)	
≥3	1.49 (1.10–2.13)	0.02 <sup>†</sup>	2.04 (1.63–2.56)	<0.001 <sup>†</sup>
<b>Brushed teeth (days/wk)</b>				
1	1.33 (0.99–1.79)			
2	1.27 (0.99–1.62)			
3	1.21 (0.99–1.47)			
4	1.15 (0.99–1.34)			
5	1.10 (0.99–1.21)			
6	1.05 (0.99–1.10)			
7	Referent	0.06 <sup>†</sup>		

**Abbreviations:** AOR = adjusted odds ratio; CI = confidence interval; dft = decayed and/or filled primary teeth; DMFT = decayed, missing because of caries, and/or filled permanent teeth.

\* The regression model was performed using backward selection of risk factors; no ORs are listed for tooth brushing in permanent teeth because this variable was not included in the final model after backward selection.

<sup>†</sup> p-value for trend.

water systems (7). Water fluoridation is one of the most cost-effective methods of preventing and controlling dental caries (7). Optimally fluoridated water can decrease dental caries by 30%–50% (7), potentially resulting in substantial cost savings from averted treatment costs. The average cost of an FMDR is approximately \$6,000 per case, whereas the yearly operational cost of fluoridating AN villages that have piped water distribution is approximately \$4 per person (7). However, 40% of the villages in the Alaska region lack piped water systems suitable for fluoridation, and additional piped water systems need to be built.

Increased use of fluoride varnishes might provide additional preventive benefits (8). Fluoride varnishes are easily applied to teeth by health-care professionals in dental and nondental settings after minimal training. In Alaska, dental health aide therapists, community health aides, and community health practitioners are providing fluoride varnishes in remote villages that have limited access to dentists. Even with an optimally fluoridated water supply, fluoride varnish applied at least four times from ages 9 to 30 months reduced caries prevalence by approximately 35% among AI children in one small, observational study (9). Soda pop consumption, an important risk factor for dental caries in the region, has been linked to other prevalent medical conditions among the AN population, including obesity and type II diabetes (10). Multiple health

**What is already known about this subject?**

Childhood dental caries can cause pain, which might affect growth and social interactions with others.

**What is added by this report?**

Alaska Native (AN) children in a remote region of the state had a high prevalence and severity of dental caries. Those living in communities with fluoridated water had fewer and less severe dental caries than those in communities without fluoridation. Reported soda pop consumption was associated with an approximately 30% increased risk for caries in permanent teeth for each soda pop consumed per day.

**What are the implications for public health practice?**

Water fluoridation is an effective and relatively inexpensive method of reducing dental caries; however, many rural AN villages have no in-home water or sanitation services, which prevents these villages from fluoridating. Because of this, additional preventive services, such as providing fluoride varnishes, are necessary to improve the dental health of rural AN children. In addition, decreasing soda pop consumption might result in fewer dental caries in primary and permanent teeth.

benefits in AN populations might result from decreasing soda pop consumption.

The findings in this report are subject to at least one limitation. This investigation used a small convenience sample, which limits the statistical power and the generalizability of the results. The small sample size might explain why some known protective factors, such as brushing with fluoridated toothpaste, were only marginally significant in the multivariate model.

In this investigation, AN children, including children from fluoridated communities, had much higher dental caries prevalence and severity than same-aged U.S. children. Thus, additional risk factors (e.g., diet), some of which might not have been captured in this investigation, contributed to higher levels of disease. The investigation suggests that fluoridating village water systems likely would decrease the prevalence and severity of dental caries among AN children in the region who live in villages without fluoridated water. Collaborations between the

villages and state and federal agencies to implement preventive interventions should be encouraged.

**Acknowledgments**

Matthew West, DMD, Sarah Shoffstall, DDS, Patty Smith, Suzy Eberling, DDS, Kim Boyd-Hummel, Troy Ritter, MPH, Jennifer Dobson, Jim Singleton, DDS, Ron Nagel, DDS, Joe McLaughlin, MD, and participating village school teachers and administrators.

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## FDA Approval of Expanded Age Indication for a Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine

On July 8, 2011, the Food and Drug Administration (FDA) approved an expanded age indication for the tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) Boostrix (GlaxoSmithKline Biologicals, Rixensart, Belgium). Originally, Boostrix was licensed in 2005 for persons aged 10 through 18 years, but in 2008, FDA approved an expanded age indication for Boostrix to include persons aged 19 through 64 years (1). FDA has now expanded the age indication to include persons aged 65 years and older. Boostrix is now licensed for use in persons aged 10 years and older as a single-dose booster vaccination (2). This notice summarizes the indications for use of Boostrix. Recommendations of the Advisory Committee on Immunization Practices (ACIP) for Tdap vaccines have been published previously (3–6). Publication of revised Tdap recommendations within the next year is anticipated.

On October 27, 2010, ACIP was presented data on the safety and immunogenicity of Boostrix in adults aged 65 years and older (6). Data were reviewed by ACIP from two clinical trials on the safety and immunogenicity of Boostrix in adults in this age group. The safety and reactogenicity profiles of Boostrix generally were similar to currently available tetanus and diphtheria toxoids (Td) vaccine. Immunogenicity of pertussis vaccine components was inferred using a serologic bridge to infants vaccinated with pediatric diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP), as defined by the Vaccines and Related Biological Products Advisory Committee (7).

For diphtheria and tetanus, immune responses to Boostrix were noninferior to the immune responses elicited by a comparator Td vaccine licensed in the United States (2). Immune responses to pertussis antigens (pertussis toxin [PT], filamentous haemagglutinin [FHA], and pertactin [PRN]) were noninferior to those observed following a 3-dose primary DTaP series with Infanrix (GlaxoSmithKline Biologicals) in a clinical trial in which clinical efficacy of DTaP also was demonstrated (2,8,9). Boostrix contains the same three pertussis antigens as Infanrix but in reduced quantities. The geometric mean concentrations for pertussis antibodies (PT, FHA, and PRN) after Boostrix administration increased 7.4 to 13.7-fold.\* There are no contraindications to the co-administration of Tdap

and influenza vaccine (2). No data on the administration of Tdap with other vaccines recommended for persons aged 65 years and older (e.g., zoster and pneumococcal polysaccharide vaccines) are available. However, Tdap can be administered with other indicated vaccines during the same visit.

### Indications and Guidance for Use

For prevention of tetanus, diphtheria, and pertussis, ACIP recommends that adolescents and adults receive a one-time booster dose of Tdap. Adolescents aged 11 through 18 years who have completed the recommended childhood diphtheria and tetanus toxoids and pertussis vaccine (DTP/DTaP) vaccination series should receive a single dose of Tdap instead of tetanus and diphtheria toxoids (Td) vaccine, preferably at a preventive-care visit at age 11 or 12 years (4). For adults aged 19 through 64 years who previously have not received a dose of Tdap, a single dose of Tdap should replace a single decennial Td booster dose (3). Persons aged 65 years and older (e.g., grandparents, child-care providers, and health-care practitioners) who have or who anticipate having close contact with an infant aged less than 12 months and who previously have not received Tdap should receive a single dose of Tdap to protect against pertussis and reduce the likelihood of transmission (6). For other adults aged 65 years and older, a single dose of Tdap vaccine may be administered instead of Td vaccine in persons who previously have not received Tdap (6). Tdap can be administered regardless of interval since the last tetanus or diphtheria toxoid-containing vaccine (6). After receipt of Tdap, persons should continue to receive Td for routine booster vaccination against tetanus and diphtheria, in accordance with previously published guidelines (3,4,6).

Currently, two Tdap products are licensed for use in the United States, Boostrix and Adacel (Sanofi Pasteur, Toronto, Canada). Adacel has been approved by FDA as a single dose in persons aged 11 through 64 years (10). With the recent FDA expanded licensure for use of Boostrix, ACIP will be reviewing the current recommendations on use of Tdap in persons aged 65 years and older. At this time, either Tdap product may be used in persons aged 65 years and older (6).

\*Additional information available at <http://clinicaltrials.gov/ct2/show/results/nct00835237>.

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## Notes from the Field

### Measles Among U.S.-Bound Refugees from Malaysia — California, Maryland, North Carolina, and Wisconsin, August–September 2011

On August 26, 2011, California public health officials notified CDC of a suspected measles case in an unvaccinated male refugee aged 15 years from Burma (the index patient), who had lived in an urban area of Kuala Lumpur, Malaysia, which is experiencing ongoing measles outbreaks. Currently, approximately 92,000 such refugees are living in urban communities in Malaysia (1). Resettlement programs in the United States and other countries are ongoing. The health and vaccination status of urban refugees are largely unknown.

The index patient developed a fever on August 21 and a rash on August 22. He and his family (his mother and two siblings, aged 13 and 16 years) departed Malaysia on August 24 and arrived the same day in Los Angeles, California, where they stayed overnight. He was hospitalized for suspected measles on August 25. Serologic testing for immunoglobulin M confirmed the diagnosis of measles on August 30 (2). The sibling aged 16 years was unvaccinated and had onset of a febrile rash illness in Malaysia on August 18. Serologic testing performed on August 30 in Los Angeles indicated evidence of recent measles infection. However, the sibling was not infectious during the flight.

On September 1, Maryland public health officials notified CDC of laboratory-confirmed cases of measles in two unvaccinated refugee children (aged 7 months and 2 years) who were on the same flight as the index patient. A suspected case of measles in an unvaccinated refugee aged 14 years, who had traveled on the same flight, was reported by North Carolina public health officials on September 4 and confirmed on September 9. Whether these three patients were exposed to measles in Malaysia or during travel to the United States is unclear. On September 7, CDC was notified of another laboratory-confirmed case in an unvaccinated refugee child aged 23 months from Burma who traveled from Malaysia to Wisconsin through Los Angeles on August 24, but on a different flight than the index patient.

Thirty-one refugees who traveled from Malaysia on the same flight with the index patient on August 24 arrived in the following seven states: Maryland, North Carolina, New Hampshire, Oklahoma, Texas, Washington, and Wisconsin. State and local health departments and CDC were contacted and initiated contact investigations and response activities. As of September 12, contact investigations and heightened surveillance had revealed three additional laboratory-confirmed

measles cases that were epidemiologically linked to the index patient: one case in a U.S. Customs and Border Protection Officer with unknown vaccination status who processed the index patient in the Los Angeles airport (reported by California public health officials on September 8), and two cases in nonrefugee, unvaccinated children (aged 12 months and 19 months) who were seated nine rows from the index patient during the flight (reported by California public health officials on September 9).

Rapid control efforts by state and local public health agencies have been a key factor in limiting the size of this outbreak and preventing the spread of measles in communities with increased numbers of unvaccinated persons. To prevent measles transmission and importation in this refugee population, refugee travel from Malaysia to the United States was temporarily suspended. CDC recommended that 1) U.S.-bound refugees in Malaysia without evidence of measles immunity (3) be vaccinated with measles, mumps, and rubella (MMR) vaccine and their travel be postponed for 21 days after vaccination; 2) refugees arriving in the United States receive their post-arrival health examinations as soon as feasible; 3) clinicians consider measles as a diagnosis in a refugee with a febrile rash illness and clinically compatible symptoms (i.e., cough, coryza, and/or conjunctivitis); 4) patients with suspected measles be isolated and appropriate specimens be obtained for measles confirmation and virus genotyping; and 5) cases be reported promptly to local health departments. To prevent measles in U.S. residents at home and abroad, CDC recommends that eligible persons without evidence of measles immunity (3) be vaccinated as recommended. Before international travel, infants aged 6–11 months should receive 1 MMR vaccine dose, and persons aged  $\geq 12$  months should receive 2 doses unless they have other evidence of measles immunity (3).

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MPH, Keysha Ross, Christopher Schembri, MPH, Heather Burke, MA, MPH, Deborah Lee, MPH, Sharmila Shetty, MD, Michelle Weinberg, MD, Weigong Zhou, MD, PhD, Div of Global Migration and Quarantine, National Center for Emerging and Zoonotic Infectious Diseases; Maria Said, MD, Eboni Taylor, PhD, EIS officers, CDC. **Corresponding contributor:** Eboni Taylor, [etaylor1@cdc.gov](mailto:etaylor1@cdc.gov), 404-639-4511.

### Acknowledgments

International Organization for Migration. Assoc of Refugee Health Coordinators. Long Beach Dept of Health and Human Svcs; Immunization Program, Los Angeles County Dept of Public Health, California. Mark Hodge, MS, Montgomery County Dept of Health and Human Svcs, Maryland. Bur of Population, Refugees, and Migration, US Dept of State. Kim Crocker, Los Angeles Quarantine Station, Miguel Ocaña, MD, Washington, DC Quarantine Station, Clive Brown, MD, Div of Global Migration and Quarantine, National Center for Emerging and Zoonotic Infectious Diseases, CDC.

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## Announcements

### Final State-Level 2010–11 Influenza Vaccination Coverage Estimates Available Online

Final state-specific influenza vaccination coverage estimates for the 2010–11 season are now available online at FluVaxView (<http://www.cdc.gov/flu/professionals/vaccination/vaccinecoverage.htm>). The online information includes estimates of the cumulative percentage of persons vaccinated by the end of each month, from August 2010 through May 2011, for each state, for each U.S. Department of Health and Human Services region, and for the United States overall. Analyses were conducted using Behavioral Risk Factor Surveillance System data for adults aged ≥18 years and National Immunization Survey data for children aged 6 months–17 years. Estimates are provided by age group and race/ethnicity. These estimates are presented using an interactive feature, complemented by an online summary report. This posting updates the estimates presented in the *MMWR* report, “Interim Results: State-Specific Influenza Vaccination Coverage — United States, August 2010–February 2011” (1).

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### National Gay Men’s HIV/AIDS Awareness Day: Focus on HIV Testing — September 27, 2011

National Gay Men’s HIV/AIDS Awareness Day is observed each year on September 27 to focus on the continuing serious and disproportionate effects of the human immunodeficiency virus infection (HIV) on gay, bisexual, and other men who have sex with men (MSM) in the United States. In 2008, an estimated 580,000 MSM were living with HIV infection (1).

Although HIV testing has been recommended at least annually for persons with ongoing risk for exposure to HIV infection (2), recent data suggest that MSM might benefit from being tested more frequently than once per year. MSM represent approximately 2% of the U.S. population (3), but in 2009 they accounted for 64% of all new HIV infections (including MSM who were also injection drug users [3% of new infections]) (4). Based on CDC’s 2008 National Behavioral Surveillance (NHBS) data, 19% of sexually active

MSM were infected with HIV, but 44% of infected MSM were unaware of their infection (5). Of MSM with undiagnosed HIV infection, 45% had been tested within the previous 12 months, and 29% within the previous 6 months (6). CDC’s 2010 sexually transmitted disease treatment guidelines already recommend more frequent HIV retesting for MSM who have multiple or anonymous partners, who have sex in conjunction with illicit drug use (particularly methamphetamine use), or whose partners participate in these activities (7). However, among MSM in NHBS who had been tested for HIV within the past 12 months, the prevalence of undiagnosed HIV among MSM who reported these high-risk behaviors (7%) was similar to that among those who did not (8%) (6).

Based on these findings, sexually active MSM might benefit from more frequent HIV testing (e.g., every 3 to 6 months) (6). CDC is using the 2011 National Gay Men’s HIV/AIDS Awareness Day as an opportunity to highlight this information for gay men and their health-care providers. Additional information is available at <http://www.cdc.gov/msmhealth>.

CDC supports a range of efforts to reduce HIV infection among MSM. These include HIV prevention services that reduce the risk for acquiring and transmitting HIV, increase diagnosis of HIV infection, and support the linkage of MSM with HIV infection to treatment. Additional information about these efforts is available at <http://www.cdc.gov/msmhealth>. Additional information about National Gay Men’s HIV/AIDS Awareness Day is available at <http://www.cdc.gov/features/ngmhaad>.

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## Errata

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### Vol. 60, No. 28

On page 974, in Table III, “Deaths in 122 U.S. cities, data for week 28, ending July 16, 2011,” data were incorrectly reported for Des Moines, IA. The correct data for All Ages,  $\geq 65$ , 45–64, 25–44, 1–24, <1 and P&I Total, respectively, are as follows: **122, 83, 28, 5, 4, 2**, and **10**.

The incorrect city data resulted in incorrect entries for two totals. The correct data for All Ages,  $\geq 65$ , 45–64, 25–44, 1–24, <1, and P&I Total, respectively, are as follows: W.N. Central (**504, 322, 126, 35, 16, 5**, and **37**) and Total (**11, 102, 7,277, 2,636, 717, 273, 193**, and **685**).

The corrected table for week 28 is available at <http://wonder.cdc.gov/mmwr/mmwrmort.asp>.

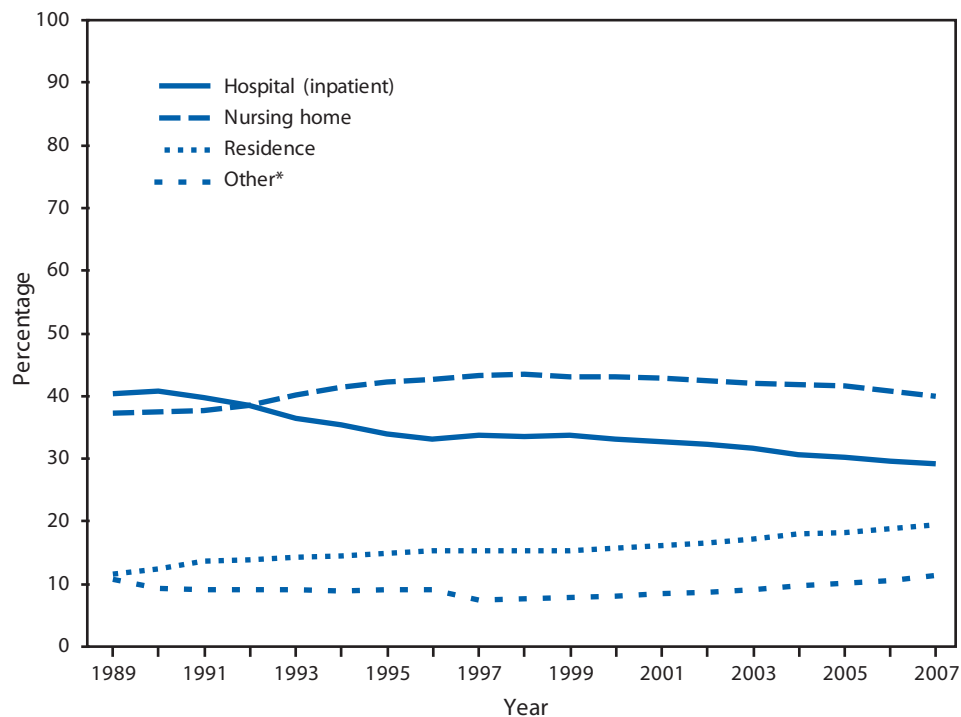
### Vol. 60, No. 34

In the report, “Human Rabies — Wisconsin, 2010,” an error appeared in the second to last sentence of the first full paragraph on p. 1165. The sentence should read as follows: “An **echocardiogram** revealed a normal ejection fraction with diastolic dysfunction but no regional wall motion abnormalities.”



## QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Location of Death for Decedents Aged  $\geq 85$  Years — United States, 1989–2007

\* Includes hospital outpatient or emergency department, including dead on arrival, inpatient hospice facilities, and all other places and unknown. Beginning in 2003, the term "long-term care facility" was added to the nursing home check box on the death certificate.

Approximately 700,000 deaths occurred among persons aged  $\geq 85$  years in 2007, accounting for nearly 30% of all deaths in the United States. Forty percent of these deaths occurred in nursing homes or other long-term care facilities. The percentage of decedents aged  $\geq 85$  years who died while a hospital inpatient decreased from 40% in 1989 to 29% in 2007. The percentage of decedents aged  $\geq 85$  years who died at home increased from 12% in 1989 to 19% in 2007.

Source: National Vital Statistics System. Mortality public use data files, 1989–2007. Available at <http://www.cdc.gov/nchs/nvss.htm>.

## Notifiable Diseases and Mortality Tables

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending September 17, 2011 (37th week)\*

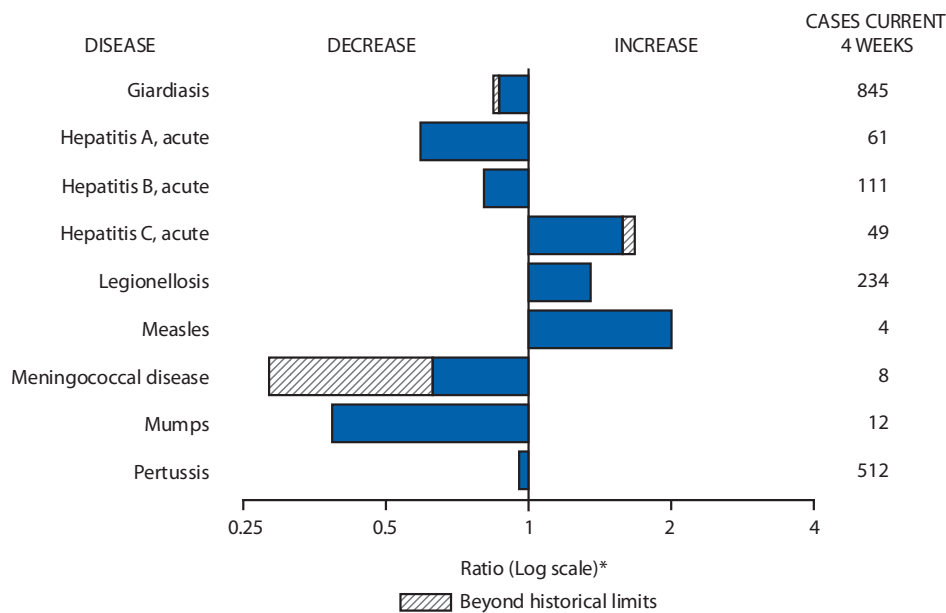
Disease	Current week	Cum 2011	5-year weekly average <sup>†</sup>	Total cases reported for previous years					States reporting cases during current week (No.)
				2010	2009	2008	2007	2006	
Anthrax	—	—	0	—	1	—	1	1	
Arboviral diseases <sup>§, ¶</sup> :									
California serogroup virus disease	—	56	3	75	55	62	55	67	
Eastern equine encephalitis virus disease	—	2	0	10	4	4	4	8	
Powassan virus disease	—	12	0	8	6	2	7	1	
St. Louis encephalitis virus disease	—	1	0	10	12	13	9	10	
Western equine encephalitis virus disease	—	—	—	—	—	—	—	—	
Babesiosis	7	399	1	NN	NN	NN	NN	NN	NY (7)
Botulism, total	—	65	3	112	118	145	144	165	
foodborne	—	8	0	7	10	17	32	20	
infant	—	50	2	80	83	109	85	97	
other (wound and unspecified)	—	7	0	25	25	19	27	48	
Brucellosis	—	49	2	115	115	80	131	121	
Chancroid	—	12	0	24	28	25	23	33	
Cholera	—	27	0	13	10	5	7	9	
Cyclosporiasis <sup>§</sup>	—	128	2	179	141	139	93	137	
Diphtheria	—	—	—	—	—	—	—	—	
<i>Haemophilus influenzae</i> ,** invasive disease (age <5 yrs):									
serotype b	—	5	1	23	35	30	22	29	
nonsensory type b	—	81	2	200	236	244	199	175	
unknown serotype	2	158	2	223	178	163	180	179	NYC (1), CO (1)
Hansen disease <sup>§</sup>	—	29	2	98	103	80	101	66	
Hantavirus pulmonary syndrome <sup>§</sup>	—	18	0	20	20	18	32	40	
Hemolytic uremic syndrome, postdiarrheal <sup>§</sup>	3	107	8	266	242	330	292	288	FL (1), CA (2)
Influenza-associated pediatric mortality <sup>§, ††</sup>	—	112	2	61	358	90	77	43	
Listeriosis	18	402	22	821	851	759	808	884	PA (1), OH (1), NE (2), FL (1), OK (4), CO (6), NM (1), CA (2)
Measles <sup>§§</sup>	—	165	1	63	71	140	43	55	
Meningococcal disease, invasive <sup>¶¶</sup> :									
A, C, Y, and W-135	—	131	4	280	301	330	325	318	
serogroup B	—	67	2	135	174	188	167	193	
other serogroup	2	10	0	12	23	38	35	32	MD (1), TX (1)
unknown serogroup	3	204	7	406	482	616	550	651	FL (2), ID (1)
Novel influenza A virus infections <sup>***</sup>	—	6	0	4	43,774	2	4	NN	
Plague	—	3	0	2	8	3	7	17	
Poliomyelitis, paralytic	—	—	—	—	1	—	—	—	
Polio virus Infection, nonparalytic <sup>§</sup>	—	—	—	—	—	—	—	NN	
Psittacosis <sup>§</sup>	—	2	0	4	9	8	12	21	
Q fever, total <sup>§</sup>	—	68	3	131	113	120	171	169	
acute	—	49	2	106	93	106	—	—	
chronic	—	19	0	25	20	14	—	—	
Rabies, human	—	—	—	2	4	2	1	3	
Rubella <sup>†††</sup>	—	3	0	5	3	16	12	11	
Rubella, congenital syndrome	—	—	—	—	2	—	—	1	
SARS-CoV <sup>§</sup>	—	—	—	—	—	—	—	—	
Smallpox <sup>§</sup>	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome <sup>§</sup>	—	84	1	142	161	157	132	125	
Syphilis, congenital (age <1 yr) <sup>§§§</sup>	—	133	8	377	423	431	430	349	
Tetanus	—	6	1	26	18	19	28	41	
Toxic-shock syndrome (staphylococcal) <sup>§</sup>	1	52	2	82	74	71	92	101	PA (1)
Trichinellosis	—	8	0	7	13	39	5	15	
Tularemia	—	91	2	124	93	123	137	95	
Typhoid fever	3	227	13	467	397	449	434	353	NY (1), MD (1), GA (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> <sup>§</sup>	1	46	1	91	78	63	37	6	NY (1)
Vancomycin-resistant <i>Staphylococcus aureus</i> <sup>§</sup>	—	—	—	2	1	—	2	1	
Vibriosis (noncholera <i>Vibrio</i> species infections) <sup>§</sup>	17	445	19	846	789	588	549	NN	PA (1), MD (1), GA (1), FL (3), CO (1), WA (8), CA (2)
Viral hemorrhagic fever <sup>¶¶¶</sup>	—	—	—	1	NN	NN	NN	NN	
Yellow fever	—	—	—	—	—	—	—	—	

See Table 1 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 September 17, 2011 (37th week)\***

—: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts.  
 \* Case counts for reporting years 2010 and 2011 are provisional and subject to change. For further information on interpretation of these data, see [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/files/ProvisionalNationa%20NotifiableDiseasesSurveillanceData20100927.pdf](http://www.cdc.gov/osels/ph_surveillance/nndss/phs/files/ProvisionalNationa%20NotifiableDiseasesSurveillanceData20100927.pdf).  
 † 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. Additional information is available at [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/files/5yearweeklyaverage.pdf](http://www.cdc.gov/osels/ph_surveillance/nndss/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 arboviral diseases, STD data, TB data, and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/infdis.htm](http://www.cdc.gov/osels/ph_surveillance/nndss/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.  
 \*\* Data for H. influenzae (all ages, all serotypes) are available in Table II.  
 †† Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Since October 3, 2010, 116 influenza-associated pediatric deaths occurring during the 2010-11 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.  
 \*\*\* CDC discontinued reporting of individual confirmed and probable cases of 2009 pandemic influenza A (H1N1) virus infections on July 24, 2009. During 2009, four cases of human infection with novel influenza A viruses, different from the 2009 pandemic influenza A (H1N1) strain, were reported to CDC. The four cases of novel influenza A virus infection reported to CDC during 2010, and the six cases reported during 2011, were identified as swine influenza A (H3N2) virus and are unrelated to the 2009 pandemic influenza A (H1N1) virus. Total case counts are provided by the Influenza Division, National Center for Immunization and Respiratory Diseases (NCIRD).  
 ††† No rubella cases were reported for the current week.  
 §§§ Updated weekly from reports to the Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.  
 ¶¶¶ There was one case of viral hemorrhagic fever reported during week 12 of 2010. The one case report was confirmed as lassa fever. See Table II for dengue hemorrhagic fever.

**FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals September 17, 2011, 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. Provisional cases of selected notifiable diseases, United States, weeks ending September 17, 2011, and September 18, 2010 (37th week)\*

Reporting area	<i>Chlamydia trachomatis</i> infection					Coccidioidomycosis					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010
		Med	Max				Med	Max				Med	Max		
<b>United States</b>	13,239	26,039	31,142	924,050	914,746	53	291	502	10,793	NN	129	133	314	5,706	6,709
<b>New England</b>	756	862	2,043	31,143	28,830	—	0	1	1	NN	1	5	55	256	406
Connecticut	172	219	1,557	7,106	7,487	—	0	0	—	NN	—	0	49	49	77
Maine†	—	59	100	2,213	1,812	—	0	0	—	NN	1	1	4	37	83
Massachusetts	465	419	860	15,938	14,526	—	0	0	—	NN	—	2	7	89	127
New Hampshire	4	53	81	1,927	1,676	—	0	1	1	NN	—	1	5	47	48
Rhode Island†	80	76	154	2,929	2,444	—	0	0	—	NN	—	0	1	1	15
Vermont†	35	26	84	1,030	885	—	0	0	—	NN	—	1	4	33	56
<b>Mid. Atlantic</b>	1,690	3,405	5,069	119,802	119,600	—	0	1	3	NN	12	17	36	662	636
New Jersey	—	519	931	18,805	18,599	—	0	0	—	NN	—	0	4	20	35
New York (Upstate)	730	712	2,099	25,292	23,766	—	0	0	—	NN	7	4	15	158	158
New York City	208	1,157	2,612	39,487	43,919	—	0	0	—	NN	—	2	6	53	67
Pennsylvania	752	957	1,240	36,218	33,316	—	0	1	3	NN	5	9	26	431	376
<b>E.N. Central</b>	524	3,974	7,039	137,453	145,225	—	0	5	37	NN	51	32	127	1,710	1,903
Illinois	23	1,081	1,320	34,873	42,824	—	0	0	—	NN	—	3	23	127	267
Indiana	189	476	3,376	18,805	14,156	—	0	0	—	NN	—	5	14	180	217
Michigan	—	921	1,408	32,515	35,241	—	0	3	22	NN	—	5	13	213	255
Ohio	180	1,005	1,134	35,398	36,474	—	0	3	15	NN	51	9	95	767	341
Wisconsin	132	458	559	15,862	16,530	—	0	0	—	NN	—	8	53	423	823
<b>W.N. Central</b>	448	1,458	1,668	50,900	51,288	—	0	2	6	NN	23	19	88	988	1,479
Iowa	11	211	255	7,439	7,500	—	0	0	—	NN	—	6	18	278	309
Kansas	—	195	288	6,897	6,938	—	0	0	—	NN	—	0	7	23	88
Minnesota	1	279	368	8,610	11,035	—	0	0	—	NN	—	0	12	—	331
Missouri	373	538	759	19,863	18,359	—	0	0	—	NN	21	4	63	401	448
Nebraska†	46	109	218	4,341	3,555	—	0	2	6	NN	2	4	26	154	199
North Dakota	—	43	90	1,407	1,666	—	0	0	—	NN	—	0	9	16	16
South Dakota	17	63	93	2,343	2,235	—	0	0	—	NN	—	2	13	116	88
<b>S. Atlantic</b>	4,546	5,237	6,685	194,689	184,421	—	0	2	3	NN	20	21	37	845	779
Delaware	92	85	220	3,041	3,126	—	0	0	—	NN	—	0	1	7	6
District of Columbia	165	108	180	3,911	3,839	—	0	0	—	NN	—	0	1	5	4
Florida	948	1,494	1,698	54,180	54,046	—	0	0	—	NN	12	8	17	327	286
Georgia	675	981	2,384	36,543	31,471	—	0	0	—	NN	4	5	11	206	203
Maryland†	285	455	1,125	16,274	16,932	—	0	2	3	NN	1	1	6	49	31
North Carolina	1,228	827	1,477	34,341	31,599	—	0	0	—	NN	—	0	13	36	66
South Carolina†	571	516	946	19,994	18,639	—	0	0	—	NN	—	3	8	105	87
Virginia†	515	653	965	23,486	22,106	—	0	0	—	NN	1	2	8	94	80
West Virginia	67	78	121	2,919	2,663	—	0	0	—	NN	—	0	5	16	16
<b>E.S. Central</b>	1,018	1,840	3,314	67,123	65,566	—	0	0	—	NN	2	7	17	225	239
Alabama†	—	528	1,566	19,732	18,898	—	0	0	—	NN	1	3	13	100	120
Kentucky	269	267	2,352	11,086	11,054	—	0	0	—	NN	—	1	4	28	58
Mississippi	478	398	696	14,862	15,621	—	0	0	—	NN	1	0	4	28	15
Tennessee†	271	595	795	21,443	19,993	—	0	0	—	NN	—	1	6	69	46
<b>W.S. Central</b>	2,254	3,366	4,338	124,530	125,574	—	0	1	1	NN	10	7	62	329	329
Arkansas†	291	320	440	11,658	11,043	—	0	0	—	NN	—	0	3	13	25
Louisiana	359	499	1,052	16,110	18,690	—	0	1	1	NN	—	0	9	35	54
Oklahoma	152	224	850	7,557	10,143	—	0	0	—	NN	1	2	34	63	65
Texas†	1,452	2,404	3,107	89,205	85,698	—	0	0	—	NN	9	4	34	218	185
<b>Mountain</b>	737	1,649	2,155	60,145	59,178	50	267	455	9,864	NN	6	12	30	441	459
Arizona	128	512	698	17,659	19,360	50	265	453	9,745	NN	—	1	4	28	29
Colorado	255	411	848	16,370	13,822	—	0	0	—	NN	3	3	12	124	101
Idaho†	40	80	235	2,895	2,757	—	0	0	—	NN	—	2	9	85	76
Montana†	58	61	89	2,350	2,162	—	0	2	3	NN	1	1	6	55	38
Nevada†	175	201	380	7,695	7,227	—	1	5	67	NN	—	0	7	3	35
New Mexico†	—	193	1,183	7,170	7,682	—	0	4	36	NN	1	3	7	93	104
Utah	75	129	175	4,662	4,688	—	0	2	10	NN	1	1	5	33	56
Wyoming†	6	38	90	1,344	1,480	—	0	2	3	NN	—	0	5	20	20
<b>Pacific</b>	1,266	3,909	6,559	138,265	135,064	3	13	77	878	NN	4	8	29	250	479
Alaska	—	109	157	3,916	4,401	—	0	0	—	NN	—	0	3	7	3
California	987	2,981	5,763	107,286	103,278	3	12	77	873	NN	2	4	19	102	250
Hawaii	—	108	138	3,467	4,388	—	0	0	—	NN	—	0	0	—	1
Oregon	279	267	524	9,737	7,965	—	0	1	5	NN	2	2	11	87	159
Washington	—	423	522	13,859	15,032	—	0	0	—	NN	—	1	9	54	66
<b>Territories</b>															
American Samoa	—	0	0	—	—	—	0	0	—	NN	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	NN	—	—	—	—	—
Guam	—	6	81	189	691	—	0	0	—	NN	—	0	0	—	—
Puerto Rico	115	102	349	3,819	4,353	—	0	0	—	NN	N	0	0	N	N
U.S. Virgin Islands	—	16	27	539	412	—	0	0	—	NN	—	0	0	—	—

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

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

\* Case counts for reporting year 2010 and 2011 are provisional and subject to change. For further information on interpretation of these data, see [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/files/ProvisionalNationalNotifiableDiseasesSurveillanceData20100927.pdf](http://www.cdc.gov/osels/ph_surveillance/nndss/phs/files/ProvisionalNationalNotifiableDiseasesSurveillanceData20100927.pdf). Data for TB are displayed in Table IV, which appears quarterly.

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

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 17, 2011, and September 18, 2010 (37th week)\*

Reporting area	Dengue Virus Infection†									
	Dengue Fever§					Dengue Hemorrhagic Fever¶				
	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010
	Med	Max				Med	Max			
<b>United States</b>	—	3	22	92	561	—	0	1	—	9
<b>New England</b>	—	0	3	1	5	—	0	0	—	—
Connecticut	—	0	0	—	—	—	0	0	—	—
Maine**	—	0	2	—	3	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	0	0	—	—	—	0	0	—	—
Rhode Island**	—	0	1	—	—	—	0	0	—	—
Vermont**	—	0	1	1	2	—	0	0	—	—
<b>Mid. Atlantic</b>	—	1	5	22	194	—	0	0	—	5
New Jersey	—	0	3	—	25	—	0	0	—	—
New York (Upstate)	—	0	1	—	28	—	0	0	—	2
New York City	—	0	5	10	123	—	0	0	—	3
Pennsylvania	—	0	2	12	18	—	0	0	—	—
<b>E.N. Central</b>	—	0	4	7	53	—	0	0	—	1
Illinois	—	0	2	1	15	—	0	0	—	—
Indiana	—	0	1	1	11	—	0	0	—	—
Michigan	—	0	1	2	8	—	0	0	—	—
Ohio	—	0	1	1	14	—	0	0	—	—
Wisconsin	—	0	2	2	5	—	0	0	—	1
<b>W.N. Central</b>	—	0	6	4	22	—	0	1	—	—
Iowa	—	0	1	3	1	—	0	0	—	—
Kansas	—	0	1	1	3	—	0	0	—	—
Minnesota	—	0	1	—	13	—	0	0	—	—
Missouri	—	0	1	—	4	—	0	0	—	—
Nebraska**	—	0	6	—	—	—	0	0	—	—
North Dakota	—	0	0	—	1	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	1	—	—
<b>S. Atlantic</b>	—	1	10	35	196	—	0	0	—	2
Delaware	—	0	0	—	—	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	0	—	—
Florida	—	1	8	27	152	—	0	0	—	2
Georgia	—	0	2	3	9	—	0	0	—	—
Maryland**	—	0	0	—	—	—	0	0	—	—
North Carolina	—	0	1	1	6	—	0	0	—	—
South Carolina**	—	0	0	—	13	—	0	0	—	—
Virginia**	—	0	1	4	14	—	0	0	—	—
West Virginia	—	0	0	—	2	—	0	0	—	—
<b>E.S. Central</b>	—	0	1	—	5	—	0	0	—	—
Alabama**	—	0	1	—	2	—	0	0	—	—
Kentucky	—	0	0	—	2	—	0	0	—	—
Mississippi	—	0	0	—	—	—	0	0	—	—
Tennessee**	—	0	0	—	1	—	0	0	—	—
<b>W.S. Central</b>	—	0	2	5	25	—	0	0	—	1
Arkansas**	—	0	0	—	—	—	0	0	—	1
Louisiana	—	0	1	2	4	—	0	0	—	—
Oklahoma	—	0	1	—	4	—	0	0	—	—
Texas**	—	0	1	3	17	—	0	0	—	—
<b>Mountain</b>	—	0	2	3	17	—	0	0	—	—
Arizona	—	0	2	2	7	—	0	0	—	—
Colorado	—	0	0	—	—	—	0	0	—	—
Idaho**	—	0	1	—	2	—	0	0	—	—
Montana**	—	0	1	—	3	—	0	0	—	—
Nevada**	—	0	0	—	4	—	0	0	—	—
New Mexico**	—	0	0	—	1	—	0	0	—	—
Utah	—	0	1	1	—	—	0	0	—	—
Wyoming**	—	0	0	—	—	—	0	0	—	—
<b>Pacific</b>	—	0	4	15	44	—	0	0	—	—
Alaska	—	0	0	—	1	—	0	0	—	—
California	—	0	2	5	30	—	0	0	—	—
Hawaii	—	0	4	5	—	—	0	0	—	—
Oregon	—	0	0	—	—	—	0	0	—	—
Washington	—	0	1	5	13	—	0	0	—	—
<b>Territories</b>										
American Samoa	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	29	391	662	8,563	—	0	10	9	197
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

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

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

\* Case counts for reporting year 2010 and 2011 are provisional and subject to change. For further information on interpretation of these data, see [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/files/ProvisionalNationalNotifiableDiseasesSurveillanceData20100927.pdf](http://www.cdc.gov/osels/ph_surveillance/nndss/phs/files/ProvisionalNationalNotifiableDiseasesSurveillanceData20100927.pdf). Data for TB are displayed in Table IV, which appears quarterly.

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

§ Dengue Fever includes cases that meet criteria for Dengue Fever with hemorrhage, other clinical and unknown case classifications.

¶ DHF includes cases that meet criteria for dengue shock syndrome (DSS), a more severe form of DHF.

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

Morbidity and Mortality Weekly Report

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 17, 2011, and September 18, 2010 (37th week)\*

Reporting area	Ehrlichiosis/Anaplasmosis†														
	<i>Ehrlichia chaffeensis</i>					<i>Anaplasma phagocytophilum</i>					Undetermined				
	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010
	Med	Max				Med	Max				Med	Max			
<b>United States</b>	9	6	109	552	546	15	16	42	414	1,416	2	1	13	80	75
<b>New England</b>	—	0	2	4	3	—	2	15	106	75	—	0	1	1	2
Connecticut	—	0	0	—	—	—	0	5	—	31	—	0	0	—	—
Maine <sup>§</sup>	—	0	1	1	2	—	0	2	12	13	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	10	49	—	—	0	0	—	—
New Hampshire	—	0	1	2	1	—	0	4	12	13	—	0	1	1	2
Rhode Island <sup>§</sup>	—	0	1	1	—	—	0	10	30	17	—	0	0	—	—
Vermont <sup>§</sup>	—	0	0	—	—	—	0	1	3	1	—	0	0	—	—
<b>Mid. Atlantic</b>	5	1	7	49	75	12	4	27	210	203	1	0	2	10	9
New Jersey	—	0	1	—	47	—	0	3	—	57	—	0	0	—	1
New York (Upstate)	5	0	7	44	22	12	3	25	182	136	1	0	2	10	6
New York City	—	0	1	5	5	—	0	5	26	10	—	0	0	—	—
Pennsylvania	—	0	1	—	1	—	0	1	2	—	—	0	1	—	2
<b>E.N. Central</b>	—	0	3	21	40	—	0	9	11	438	—	1	4	35	40
Illinois	—	0	2	11	14	—	0	2	4	6	—	0	1	2	3
Indiana	—	0	0	—	—	—	0	0	—	—	—	0	3	28	14
Michigan	—	0	2	4	2	—	0	1	—	3	—	0	2	3	—
Ohio	—	0	1	6	6	—	0	1	4	2	—	0	1	1	—
Wisconsin	—	0	1	—	18	—	0	9	3	427	—	0	1	1	23
<b>W.N. Central</b>	2	1	18	138	114	—	1	20	30	627	—	0	11	15	9
Iowa	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Kansas	—	0	1	2	6	—	0	1	2	1	—	0	0	—	—
Minnesota	—	0	12	—	—	—	0	20	1	616	—	0	11	—	—
Missouri	2	1	18	135	107	—	0	7	25	10	—	0	7	14	9
Nebraska <sup>§</sup>	—	0	1	—	1	—	0	0	—	—	—	0	1	1	—
North Dakota	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
South Dakota	—	0	1	1	—	—	0	1	2	—	—	0	0	—	—
<b>S. Atlantic</b>	2	3	33	197	209	3	1	8	44	53	1	0	1	7	4
Delaware	—	0	2	14	16	—	0	1	1	4	—	0	0	—	—
District of Columbia	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Florida	—	0	3	13	8	1	0	3	8	3	—	0	0	—	—
Georgia	—	0	3	16	19	—	0	2	7	1	—	0	1	1	1
Maryland <sup>§</sup>	2	0	3	22	18	1	0	2	4	12	—	0	0	—	2
North Carolina	—	0	17	55	76	—	0	6	17	21	—	0	0	—	—
South Carolina <sup>§</sup>	—	0	1	1	4	—	0	1	—	1	—	0	0	—	—
Virginia <sup>§</sup>	—	1	14	76	66	1	0	2	7	11	1	0	1	5	1
West Virginia	—	0	1	—	2	—	0	0	—	—	—	0	1	1	—
<b>E.S. Central</b>	—	0	8	61	82	—	0	2	10	18	—	0	3	9	8
Alabama <sup>§</sup>	—	0	2	3	10	—	0	1	3	7	N	0	0	N	N
Kentucky	—	0	3	10	14	—	0	0	—	—	—	0	0	—	1
Mississippi	—	0	1	3	3	—	0	0	—	2	—	0	0	—	1
Tennessee <sup>§</sup>	—	0	5	45	55	—	0	1	7	9	—	0	3	9	6
<b>W.S. Central</b>	—	0	87	82	22	—	0	9	2	2	—	0	0	—	1
Arkansas <sup>§</sup>	—	0	12	36	4	—	0	2	2	—	—	0	0	—	—
Louisiana	—	0	0	—	1	—	0	0	—	—	—	0	0	—	—
Oklahoma	—	0	82	45	14	—	0	7	—	2	—	0	0	—	—
Texas <sup>§</sup>	—	0	1	1	3	—	0	1	—	—	—	0	0	—	1
<b>Mountain</b>	—	0	0	—	—	—	0	0	—	—	—	0	1	3	—
Arizona	—	0	0	—	—	—	0	0	—	—	—	0	1	3	—
Colorado	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Idaho <sup>§</sup>	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Montana <sup>§</sup>	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Nevada <sup>§</sup>	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
New Mexico <sup>§</sup>	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Utah	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Wyoming <sup>§</sup>	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
<b>Pacific</b>	—	0	1	—	1	—	0	1	1	—	—	0	0	—	2
Alaska	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
California	—	0	1	—	1	—	0	0	—	—	—	0	0	—	2
Hawaii	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Oregon	—	0	0	—	—	—	0	1	1	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
<b>Territories</b>															
American Samoa	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
Puerto Rico	N	0	0	N	N	N	0	0	N	N	N	0	0	N	N
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. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Case counts for reporting year 2010 and 2011 are provisional and subject to change. For further information on interpretation of these data, see [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/files/ProvisionalNationa%20NotifiableDiseasesSurveillanceData20100927.pdf](http://www.cdc.gov/osels/ph_surveillance/nndss/phs/files/ProvisionalNationa%20NotifiableDiseasesSurveillanceData20100927.pdf). Data for TB are displayed in Table IV, which appears quarterly.

† Cumulative total *E. ewingii* cases reported for year 2010 = 10, and 11 cases reported for 2011.

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

TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 17, 2011, and September 18, 2010 (37th week)\*

Reporting area	Giardiasis					Gonorrhea					Haemophilus influenzae, invasive† All ages, all serotypes				
	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010
		Med	Max				Med	Max				Med	Max		
<b>United States</b>	228	282	545	9,693	14,003	3,366	5,876	7,484	208,888	215,576	25	63	141	2,248	2,166
<b>New England</b>	10	23	42	820	1,204	109	101	206	3,760	3,929	1	4	12	139	127
Connecticut	—	4	11	131	218	45	43	150	1,592	1,793	—	1	6	37	25
Maine <sup>§</sup>	5	3	10	120	148	—	3	17	166	125	—	0	2	15	10
Massachusetts	—	11	21	343	518	47	48	80	1,630	1,667	—	2	6	62	67
New Hampshire	—	2	6	73	129	5	2	7	96	107	1	0	2	11	8
Rhode Island <sup>§</sup>	—	1	10	40	50	11	7	16	239	190	—	0	2	9	11
Vermont <sup>§</sup>	5	2	9	113	141	1	0	8	37	47	—	0	3	5	6
<b>Mid. Atlantic</b>	65	58	103	1,995	2,331	436	762	1,121	27,092	24,821	7	13	32	514	406
New Jersey	—	5	20	132	343	—	128	215	4,883	3,974	—	2	7	77	73
New York (Upstate)	50	22	72	741	791	148	114	271	4,048	3,874	2	3	18	137	107
New York City	6	17	29	598	655	64	246	497	8,737	8,438	1	3	6	116	68
Pennsylvania	9	16	27	524	542	224	261	364	9,424	8,535	4	4	11	184	158
<b>E.N. Central</b>	23	47	93	1,587	2,415	122	1,012	2,091	35,918	39,822	2	11	22	396	353
Illinois	—	9	14	261	546	2	263	369	8,730	10,950	—	3	10	117	122
Indiana	—	6	14	188	296	47	117	1,018	4,547	4,001	—	2	7	72	70
Michigan	—	10	25	312	504	—	232	490	8,334	9,742	—	1	4	45	25
Ohio	22	16	29	570	590	46	316	392	11,142	11,664	2	2	7	112	87
Wisconsin	1	8	28	256	479	27	95	127	3,165	3,465	—	1	5	50	49
<b>W.N. Central</b>	11	25	73	776	1,538	147	299	363	10,640	10,337	—	4	10	113	159
Iowa	4	5	15	197	214	5	37	53	1,334	1,257	—	0	0	—	1
Kansas	—	2	7	65	167	—	40	57	1,389	1,473	—	0	2	16	16
Minnesota	—	0	30	—	604	1	37	53	1,184	1,550	—	0	5	—	56
Missouri	7	8	26	296	297	129	150	182	5,373	4,816	—	1	5	60	63
Nebraska <sup>§</sup>	—	4	11	139	165	12	24	49	858	812	—	1	3	25	14
North Dakota	—	0	12	22	17	—	4	8	128	143	—	0	6	11	9
South Dakota	—	1	6	57	74	—	11	20	374	286	—	0	1	1	—
<b>S. Atlantic</b>	64	55	127	1,921	2,795	1,295	1,457	1,862	52,179	54,864	6	15	31	547	561
Delaware	—	0	2	22	25	19	17	48	586	713	—	0	2	3	5
District of Columbia	2	1	3	28	43	56	40	69	1,422	1,485	—	0	1	—	3
Florida	39	24	75	859	1,507	294	379	465	13,939	14,586	2	5	12	178	130
Georgia	7	13	51	538	549	206	313	874	11,045	10,892	1	3	7	103	126
Maryland <sup>§</sup>	9	4	13	190	202	76	118	246	3,904	4,951	2	2	5	64	49
North Carolina	N	0	0	N	N	371	278	468	11,070	10,609	1	1	8	55	99
South Carolina <sup>§</sup>	—	2	7	79	110	180	145	257	5,662	5,739	—	1	5	56	67
Virginia <sup>§</sup>	7	7	32	183	332	82	110	185	3,969	5,525	—	2	8	74	65
West Virginia	—	0	8	22	27	11	16	29	582	364	—	0	9	14	17
<b>E.S. Central</b>	3	4	11	125	145	284	504	1,007	18,267	17,770	5	3	11	145	129
Alabama <sup>§</sup>	3	4	11	125	145	—	161	410	5,979	5,489	—	1	4	43	21
Kentucky	N	0	0	N	N	79	68	712	3,037	2,876	1	0	4	20	25
Mississippi	N	0	0	N	N	126	116	197	4,054	4,383	—	0	3	12	10
Tennessee <sup>§</sup>	N	0	0	N	N	79	143	217	5,197	5,022	4	2	5	70	73
<b>W.S. Central</b>	1	5	17	175	283	591	913	1,319	32,077	34,515	2	3	26	101	100
Arkansas <sup>§</sup>	1	3	9	85	83	97	95	138	3,484	3,342	1	0	3	25	15
Louisiana	—	3	12	90	138	116	140	372	4,566	5,680	—	1	4	36	20
Oklahoma	—	0	0	—	62	35	60	254	2,169	3,017	1	1	19	39	58
Texas <sup>§</sup>	N	0	0	N	N	343	598	867	21,858	22,476	—	0	4	1	7
<b>Mountain</b>	12	27	51	893	1,279	120	191	253	7,108	6,805	2	5	12	196	233
Arizona	—	3	8	89	114	56	69	110	2,641	2,286	—	2	6	74	86
Colorado	7	12	24	430	509	20	44	87	1,533	1,947	1	1	5	47	67
Idaho <sup>§</sup>	2	3	9	106	150	2	2	14	90	77	1	0	2	15	12
Montana <sup>§</sup>	3	2	5	54	79	4	1	4	57	82	—	0	1	2	2
Nevada <sup>§</sup>	—	1	6	35	77	34	35	103	1,472	1,310	—	0	2	12	6
New Mexico <sup>§</sup>	—	2	6	60	76	—	28	98	1,115	829	—	1	4	31	29
Utah	—	3	10	101	236	3	4	10	174	249	—	0	3	14	26
Wyoming <sup>§</sup>	—	0	5	18	38	1	0	3	26	25	—	0	1	1	5
<b>Pacific</b>	39	41	128	1,401	2,013	262	615	791	21,847	22,713	—	3	10	97	98
Alaska	—	2	7	60	70	—	20	34	689	955	—	0	3	19	18
California	25	25	67	847	1,228	256	501	695	18,082	18,546	—	0	6	—	16
Hawaii	—	0	4	23	45	—	13	26	450	527	—	0	3	17	17
Oregon	2	7	20	224	364	6	24	40	924	723	—	2	6	58	42
Washington	12	8	57	247	306	—	51	86	1,702	1,962	—	0	2	3	5
<b>Territories</b>															
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	3	—	0	10	6	72	—	0	0	—	—
Puerto Rico	—	1	7	29	63	1	6	14	232	212	—	0	0	—	1
U.S. Virgin Islands	—	0	0	—	—	—	2	7	83	103	—	0	0	—	—

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† Data for H. influenzae (age &lt;5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.

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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending September 17, 2011, and September 18, 2010 (37th week)\*

Reporting area	Hepatitis (viral, acute), by type														
	A					B					C				
	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010	Current week	Previous 52 weeks		Cum 2011	Cum 2010
	Med	Max				Med	Max				Med	Max			
<b>United States</b>	15	21	74	703	1,144	30	48	167	1,606	2,339	9	17	39	648	591
<b>New England</b>	—	1	4	38	81	—	1	8	46	42	—	1	4	40	40
Connecticut	—	0	3	9	22	—	0	4	10	16	—	0	3	25	26
Maine†	—	0	2	5	7	—	0	2	6	11	—	0	2	6	2
Massachusetts	—	0	2	16	43	—	0	6	29	8	—	0	2	5	12
New Hampshire	—	0	1	—	—	—	0	1	1	5	N	0	0	N	N
Rhode Island†	—	0	1	3	9	U	0	0	U	U	U	0	0	U	U
Vermont†	—	0	2	5	—	—	0	0	—	2	—	0	1	4	—
<b>Mid. Atlantic</b>	3	4	12	143	189	3	5	12	189	216	2	1	6	58	78
New Jersey	—	1	4	18	56	—	1	4	32	58	—	0	4	1	17
New York (Upstate)	2	1	4	35	41	—	1	9	34	35	2	0	4	33	38
New York City	—	1	6	49	53	—	1	5	58	68	—	0	0	—	3
Pennsylvania	1	1	3	41	39	3	2	4	65	55	—	0	4	24	20
<b>E.N. Central</b>	—	4	9	131	144	2	5	38	240	371	—	3	12	128	69
Illinois	—	1	3	32	40	—	1	6	51	95	—	0	1	5	—
Indiana	—	0	3	12	11	—	1	3	34	56	—	0	5	46	24
Michigan	—	1	6	53	49	—	1	6	61	99	—	2	7	72	30
Ohio	—	1	5	29	30	2	1	30	74	82	—	0	1	4	8
Wisconsin	—	0	2	5	14	—	0	3	20	39	—	0	1	1	7
<b>W.N. Central</b>	—	1	25	32	60	3	2	16	97	82	—	0	6	6	11
Iowa	—	0	1	4	9	—	0	1	7	12	—	0	0	—	—
Kansas	—	0	2	3	10	—	0	2	9	6	—	0	1	2	—
Minnesota	—	0	22	9	13	—	0	15	9	6	—	0	6	2	6
Missouri	—	0	1	10	16	3	2	5	60	48	—	0	1	—	3
Nebraska†	—	0	3	4	11	—	0	3	11	9	—	0	1	2	2
North Dakota	—	0	3	—	—	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	2	2	1	—	0	1	1	1	—	0	0	—	—
<b>S. Atlantic</b>	9	5	13	164	250	11	12	33	421	642	2	4	11	161	134
Delaware	—	0	1	2	6	—	0	1	—	21	U	0	0	U	U
District of Columbia	—	0	0	—	1	—	0	0	—	3	—	0	0	—	2
Florida	6	1	6	55	99	6	4	11	145	215	2	1	5	41	41
Georgia	—	1	4	32	29	1	2	8	64	128	—	1	3	26	17
Maryland†	1	0	4	21	17	—	1	4	41	46	—	0	2	28	18
North Carolina	1	0	3	19	40	—	2	12	82	73	—	1	7	39	32
South Carolina†	—	0	2	9	22	1	1	4	23	44	—	0	1	1	1
Virginia†	1	0	4	18	34	3	1	7	47	65	—	0	2	10	9
West Virginia	—	0	5	8	2	—	0	18	19	47	—	0	6	16	14
<b>E.S. Central</b>	—	0	6	35	32	5	9	14	301	256	—	3	7	114	112
Alabama†	—	0	2	4	5	2	2	4	75	49	—	0	1	9	5
Kentucky	—	0	6	7	13	—	2	6	76	90	—	1	6	44	76
Mississippi	—	0	1	6	2	—	1	3	31	23	U	0	0	U	U
Tennessee†	—	0	5	18	12	3	3	7	119	94	—	1	5	61	31
<b>W.S. Central</b>	3	2	15	81	93	5	7	67	205	414	1	2	11	66	51
Arkansas†	—	0	1	—	1	—	1	4	35	45	—	0	0	—	1
Louisiana	—	0	1	2	7	—	1	4	23	43	—	0	2	5	2
Oklahoma	—	0	4	3	1	1	1	16	48	72	—	1	10	34	18
Texas†	3	2	11	76	84	4	3	45	99	254	1	0	3	27	30
<b>Mountain</b>	—	1	5	50	118	—	2	5	55	104	—	1	4	41	47
Arizona	—	0	2	13	50	—	0	3	12	18	U	0	0	U	U
Colorado	—	0	2	17	32	—	0	3	15	34	—	0	3	14	10
Idaho†	—	0	1	6	6	—	0	1	2	6	—	0	2	7	8
Montana†	—	0	1	2	4	—	0	0	—	—	—	0	1	3	2
Nevada†	—	0	3	5	12	—	0	3	16	34	—	0	1	5	4
New Mexico†	—	0	1	4	3	—	0	2	5	4	—	0	1	9	13
Utah	—	0	2	1	8	—	0	1	5	7	—	0	1	1	10
Wyoming†	—	0	1	2	3	—	0	1	—	1	—	0	1	2	—
<b>Pacific</b>	—	1	15	29	177	1	2	25	52	212	4	1	12	34	49
Alaska	—	0	1	2	1	—	0	1	4	2	U	0	0	U	U
California	—	0	15	—	140	—	0	22	1	142	—	0	4	—	20
Hawaii	—	0	2	7	6	—	0	1	5	5	U	0	0	U	U
Oregon	—	0	2	5	15	—	0	4	25	33	—	0	3	10	11
Washington	—	0	4	15	15	1	0	4	17	30	4	0	5	24	18
<b>Territories</b>															
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	5	8	4	—	0	8	28	64	—	0	4	10	52
Puerto Rico	1	0	2	5	11	1	0	3	7	17	N	0	0	N	N
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. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.

\* Case counts for reporting year 2010 and 2011 are provisional and subject to change. For further information on interpretation of these data, see [http://www.cdc.gov/osels/ph\\_surveillance/nndss/phs/files/ProvisionalNationa%20NotifiableDiseasesSurveillanceData20100927.pdf](http://www.cdc.gov/osels/ph_surveillance/nndss/phs/files/ProvisionalNationa%20NotifiableDiseasesSurveillanceData20100927.pdf). Data for TB are displayed in Table IV, which appears quarterly.

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

















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U.S. Government Printing Office: 2011-723-011/21073 Region IV ISSN: 0149-2195