

Weekly

April 28, 2006 / Vol. 55 / No. 16

Workers' Memorial Day — April 28, 2006

Workers' Memorial Day, April 28, was established to remember those workers who died or were injured on the job. On average, nearly 16 workers in the United States die each day from injuries sustained at work (1), and 134 die from work-related diseases (2). Daily, an estimated 11,700 private-sector workers have a nonfatal workrelated injury or illness, and more than half will require job transfer, work restrictions, or time away from their jobs as a result (3). More than 9,000 workers are treated in emergency departments each day, and approximately 200 of these workers are hospitalized (4). In 2003, workers' compensation costs for employers totaled \$81 billion (5).

Workers' Memorial Day also will commemorate the 35th anniversary of the creation of the National Institute for Occupational Safety and Health within the U.S. Department of Health and Human Services and the Occupational Safety and Health Administration within the U.S. Department of Labor. Additional information about workplace safety and health is available at http://www.cdc.gov/niosh/homepage.html or telephone, 800-356-4674.

References

- 1. Bureau of Labor Statistics. National census of fatal occupational injuries in 2004. Washington, DC: US Department of Labor; 2005. Available at http://www.bls.gov/news.release/pdf/cfoi.pdf.
- 2. Steenland K, Burnett C, Lalich N, Ward E, Hurrel J. Dying for work: the magnitude of US mortality from selected causes of death associated with occupation. Am J Ind Med 2003;43:461–82.
- 3. Bureau of Labor Statistics. Workplace injuries and illnesses in 2004. Washington, DC: US Department of Labor; 2005. Available at http://www.bls.gov/news.release/pdf/osh.pdf.
- CDC. Nonfatal occupational injuries and illnesses treated in hospital emergency departments—United States, 2003. MMWR 2006;55:449–52.
- 5. Sengupta I, Reno V, Burton JF Jr. Workers' compensation: benefits, coverage, and costs, 2003. Washington, DC: National Academy of Social Insurance; 2005. Available at http://www.nasi.org/ usr_doc/nasi_workers_comp_report.pdf.

Nonfatal Occupational Injuries and Illnesses Among Workers Treated in Hospital Emergency Departments — United States, 2003

CDC's National Institute for Occupational Safety and Health (NIOSH) collects data on nonfatal occupational injuries and illnesses through the National Electronic Injury Surveillance System (NEISS), an emergency department (ED)-based surveillance system. This report summarizes data for 2003. The overall number and rate of occupational injuries and illnesses did not change substantially during the 5-year period since data were last reported in 1998 (1). In 2003, age-, sex-, and diagnosis-related patterns of injury and illness among workers treated in EDs (ED-treated injuries/illnesses) were similar to those reported in 1998. To achieve substantial decreases in these injuries and illnesses, prevention efforts must focus on effective, targeted workplace-safety interventions for diverse occupations.

The Consumer Product Safety Commission (CPSC) administers NEISS, a national stratified probability sample of U.S. hospitals with 24-hour EDs that tracks productrelated injuries/illnesses that are not work related. In addition, CPSC collaborates with CDC to collect data for two

INSIDE

- 453 Fatalities Among Volunteer and Career Firefighters United States, 1994–2004
- 456 Health Hazard Evaluation of Police Officers and Firefighters After Hurricane Katrina — New Orleans, Louisiana, October 17–28 and November 30– December 5, 2005
- 458 Progress Toward Interruption of Wild Poliovirus Transmission — Worldwide, January 2005–March 2006
- 462 Notices to Readers
- 463 QuickStats

DEPARTMENT OF HEALTH AND HUMAN SERVICES CENTERS FOR DISEASE CONTROL AND PREVENTION

The *MMWR* series of publications is published by the Coordinating Center for Health Information and Service, 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 2006;55:[inclusive page numbers].

Centers for Disease Control and Prevention

Julie L. Gerberding, MD, MPH Director

Dixie E. Snider, MD, MPH Chief Science Officer

Tanja Popovic, MD, PhD Associate Director for Science

Coordinating Center for Health Information and Service

Steven L. Solomon, MD Director

National Center for Health Marketing

Jay M. Bernhardt, PhD, MPH Director

Division of Scientific Communications

Judith R. Aguilar (Acting) Director

Mary Lou Lindegren, MD Editor, MMWR Series

Suzanne M. Hewitt, MPA Managing Editor, MMWR Series

Douglas W. Weatherwax (Acting) Lead Technical Writer-Editor

> Stephanie M. Neitzel Jude C. Rutledge *Writers-Editors*

Lynda G. Cupell Malbea A. LaPete Visual Information Specialists

Quang M. Doan, MBA Erica R. Shaver Information Technology Specialists

Notifiable Disease Morbidity and 122 Cities Mortality Data

Patsy A. Hall Deborah A. Adams Lenee Blanton

Rosaline Dhara Pearl C. Sharp adjunct programs: the NIOSH work-related injuries/illnesses program (NEISS-Work) (1,2) and the NEISS All-Injury Program (NEISS-AIP) (3). NEISS-Work tracks nonfatal workrelated injuries and illnesses by using the CPSC ED surveillance system. These cases are in addition to the CPSC productrelated cases, and the cases are mutually exclusive. NEISS-AIP collects data on all injuries, regardless of consumer-product involvement or work relatedness (i.e., it tracks all other types of injuries in addition). The case-capture criteria are similar but not identical for the two adjunct programs (e.g., NEISS-Work includes illnesses whereas NEISS-AIP does not). This report presents data solely from NEISS-Work, which tracks cases reported at 67* of the 101 hospitals in the CPSC NEISS sample.

Work-related injuries/illnesses were identified from ED chart review. A case was defined as work related if the injury or illness was sustained by a civilian noninstitutionalized worker while working for pay or other compensation, working on a farm, or volunteering for an organization (e.g., volunteer fire department), without regard to self-employment and full- or part-time work (2). Common illnesses (e.g., colds or other viral infections) or revisits to the same ED for a previously treated injury or illness were excluded. Cases were assigned statistical weights based on a sampling frame of national hospital ED visits in 2002 (SMG Marketing Group, Chicago, Illinois). The weights were summed to provide national estimates of the number of work-related ED-treated injuries/ illnesses.

Rates for ED-treated injuries and illnesses were calculated using 2003 Current Population Survey (CPS) employment estimates of full-time equivalent (FTE) workers on the basis of total hours worked (i.e., one FTE = 2,000 hours worked per year and includes hours for all jobs worked by a person) (4). CPS is a monthly household survey of the U.S. civilian noninstitutionalized population aged ≥ 15 years that includes wage and salary workers, self-employed workers, part-time workers, and unpaid workers in family-operated enterprises; volunteers for organizations are excluded (4). The rate numerator and denominator populations are the same except that the NEISS-Work injury/illness estimates include volunteers. National injury/illness estimates are reported for all ages; rates are reported for workers aged ≥ 15 years.

The total number of injuries/illnesses reported for 2003 (3,402,200 [95% confidence interval (CI) = \pm 772,500] for all ages) and rate (2.5 [CI = \pm 0.6] per 100 FTE workers aged \geq 15 years) did not change significantly (p>0.05) from the 1998 estimates (3,600,000 [CI = \pm 600,000]; rate: 2.9 [CI = \pm 0.5])

^{*} Because of hospital closures and other nonparticipation/nonresponse factors, the number of reporting hospitals can vary.

(1). Similarly, the injury/illness rate distribution by age and sex demonstrated the same trends (i.e., generally decreasing with increasing age). Although young males had higher rates than young females, rates by sex converged with increasing age (Figure 1).

The distribution of injury/illness diagnoses also was similar in 2003, compared with 1998. In 2003, a total of 2,702,100 $(CI = \pm 609,100)$ injuries/illnesses (79%) occurred in five diagnostic categories: sprains and strains (27%); lacerations, punctures, amputations, and avulsions (24%); contusions, abrasions, and hematomas (18%); dislocations and fractures (7%); and burns (3%). The cases in these five diagnostic categories were primarily among workers aged 15–24 years (22%) and those aged 25-54 years (70%). Although workers aged 25-54 years had almost three fourths of the injuries/illnesses, the injury/illness rate of 3.7 (CI = ± 1.1) per 100 FTE workers for workers aged 15-24 years was twice that for workers aged 25–54 years (1.9 [CI = ± 0.4]) and three times that for workers aged \geq 55 years (1.2 [CI = ±0.2]). Age-specific rates in the diagnostic categories decreased with increasing age, with the exception of dislocations/fractures, for which rates were similar across age groups (aged 15-24 years: 0.23 per 100 FTE workers [CI = ± 0.05]; aged 25–54 years: 0.17 [CI = ± 0.04]; and aged \geq 55 years: 0.19 [CI = ±0.04]).

For NEISS, the injury/illness disposition (i.e., treated and released versus treated and hospitalized) is an indicator of severity. In 2003, nearly 97% of injured/ill workers were treated and released. Approximately 2% (81,600 [CI = ±18,100]) of the ED-treated cases resulted in the worker being hospitalized or transferred to another hospital (e.g., a higher-level trauma center or burn hospital) in which the injured/ill worker was

FIGURE 1. Estimated rates* of nonfatal occupational injuries and illnesses among workers treated in hospital emergency departments, by age group and sex of worker - United States, 1998 and 2003



* Per 100 full-time equivalent (FTE) workers; one FTE = 2,000 hours worked per year and includes hours for all jobs worked by a person. 95% confidence interval (CI). CIs not shown for 1998 but similar in

magnitude to CIs for 2003.

presumed to have been hospitalized. Among all hospitalized workers, fractures/dislocations were the most common diagnoses (35%). For patients requiring hospitalization, injury/ illness rates were similar for males with increasing age, except for male workers aged \geq 65 years (Figure 2). These oldest workers (6% of hospitalized males) had an apparent, although not statistically significant, hospitalization rate twice that of any younger male age group. Fractures were the predominant injury in hospitalized males aged ≥ 65 years (47%). The agespecific rates for ED-treated injuries/illnesses among females requiring hospitalization increased with age. Across age groups, males had hospitalization rates three to five times higher than females.

Reported by: SM Marsh, SJ Derk, LL Jackson, Div of Safety Research, National Institute for Occupational Safety and Health, CDC.

Editorial Note: The findings in this report describe workrelated nonfatal injuries and illnesses treated in U.S. hospital EDs. The findings from 2003 are comparable to earlier results from 1998 (1,2) and 1996 (5). These findings suggest that the ED-treated injury/illness numbers and rates, along with demographic and diagnosis trends, have remained nearly unchanged in recent years. Younger workers, particularly males, continue to have the highest overall rates of injury/illness. Hospitalization rates were more uniform across age groups (except for the oldest workers), and male workers had substantially higher hospitalization rates than females. Sprains/ strains and tissue damage resulting from lacerations, punctures, amputations, avulsions, contusions, abrasions, and hematomas continued to represent the majority of ED-treated





* Per 10,000 full-time equivalent (FTE) workers; one FTE = 2,000 hours worked per year and includes hours for all jobs worked by a person.

[†]Rate for women aged ≥65 years did not meet minimum reporting requirements.

§95% confidence interval.

injuries/illnesses, which often required immediate medical attention but might have varied in severity.

The annual Survey of Occupational Injuries and Illnesses, conducted by the U.S. Bureau of Labor Statistics (BLS), provides another estimate of injury/illness burden. BLS reports the number and rate of work-related, nonfatal injuries and illnesses that private industry employers record under U.S. Department of Labor reporting rules. Although NEISS-Work uses these reporting rules as guidelines for identifying workrelated injuries and illnesses, the two programs measure different aspects of the occupational injury/illness burden: the BLS survey is based on employer reports, and NEISS-Work is based on information provided by injured/ill workers at the time of ED treatment. Moreover, the BLS survey excludes self-employed persons, persons working for private households, government workers, and workers on farms with fewer than 11 employees. NEISS-Work includes all of these categories of workers. The BLS survey records injuries/illnesses treated in all medical venues, not only EDs. For each year during 2002-2004, BLS reported decreasing numbers and rates of nonfatal injuries and illnesses in private industry (4.7, 4.4, and 4.3 million cases [rates: 5.3, 5.0, and 4.8 cases per 100 FTE workers], respectively) (6). Similarly, during the years 1997–2001, before the Occupational Safety and Health Administration (OSHA) revised recordkeeping requirements in 2002 (resulting in a break in the series), general nonfatal injury and illness trends decreased among private industry employers (7). In contrast, findings from the NEISS-Work program indicate that ED-treated injuries/illnesses among all workers did not change significantly in 2003, compared with 1998.

The findings in this report are subject to at least four limitations. First, the small NEISS sample of 67 hospitals contributes to large standard errors (e.g., 10%-15%); thus, detecting statistically significant trends is difficult, compared with the BLS survey, which collects data from nearly 180,000 employers with mandatory reporting requirements (6). The percent relative standard errors for the BLS estimates were reported to be 1%, suggesting that some of the differences observed in the BLS data are statistically significant (8). Second, the large CIs in NEISS-Work estimates might obscure an actual decrease in ED-treated injuries/illnesses from 3.6 million in 1998 to 3.4 million in 2003. Third, NEISS captures only those injuries/illnesses among workers treated in hospital EDs. Data from 1988 suggest that only one third of all medically treated occupational injuries/illnesses among workers were treated in EDs (1). Recent trends in ED usage by workers are unknown and might have shifted, obscuring actual fluctuations in time-based trends. Finally, both the BLS survey and NEISS are subject to potential underreporting by

employers and injured/ill workers. The BLS survey is based on OSHA logs maintained by employers. Through NEISS, work relatedness is determined by chart review; neither a workers' compensation claim nor employer confirmation is required to indicate work relatedness. Thus, omission of work-related injury/illness details in the chart would result in underreporting that might or might not have varied during the 5-year period.

NEISS-Work is used to track progress toward *Healthy People* 2010 objectives, which target a 30% reduction in the rate of ED-treated injuries/illnesses among workers aged 15–17 years from a 1998 baseline of 4.9 per 100 FTE workers to a target of 3.5 by the end of the current decade (9). The findings in this report suggest that young workers continue to be at high risk for occupational injuries and illnesses. NEISS-Work data did not indicate overall downward trends in injuries/illnesses as reported to BLS by private industry employers. Strategies to address age-specific safety (e.g., among young workers) (10) and general workplace safety concerns must continue to be developed and improved to effectively reduce injuries and illnesses.

References

- CDC. Nonfatal occupational injuries and illnesses treated in hospital emergency departments—United States, 1998. MMWR 2001;50: 313–7.
- CDC. Work-related injury statistics query system (Work–RISQS). US Department of Health and Human Services, CDC, National Institute for Occupational Safety; 2002. Available at http://www2a.cdc.gov/risqs.
- Vyrostek SB, Annest JL, Ryan GW. Surveillance for fatal and nonfatal injuries—United States, 2001. MMWR 2004;53(No. SS-07).
- 4. Bureau of Labor Statistics. Current population survey, 2003 (microdata files) and labor force, employment, and unemployment from the current population survey. In: BLS handbook of methods. Washington, DC: US Department of Labor, Bureau of Labor Statistics; 1992. Available at http://www.bls.gov/cps/home.htm.
- CDC. Surveillance for nonfatal occupational injuries treated in hospital emergency departments—United States, 1996. MMWR 1998;47:302–6.
- Bureau of Labor Statistics. Workplace injuries and illnesses in 2002 (2003, 2004). Washington, DC: US Department of Labor, Bureau of Labor Statistics; 2003. Available at http://www.bls.gov/iif/oshsum.htm.
- Bureau of Labor Statistics. Workplace injuries and illnesses in 2001. Washington, DC: US Department of Labor, Bureau of Labor Statistics; 2002. Available at http://www.bls.gov/iif/oshwc/osh/os/ osnr0016.pdf.
- Bureau of Labor Statistics. Table A–1: Relative standard errors for rates of nonfatal occupational injuries and illnesses by industry, 2002 (2003, 2004) and Table A–2: Relative standard errors for numbers of nonfatal occupational injuries and illnesses by industry, 2002 (2003, 2004). Washington, DC: US Department of Labor, Bureau of Labor Statistics; 2005. Available at http://www.bls.gov/iif/oshsum.htm.
- 9. US Department of Health and Human Services. Healthy people 2010 (conference ed, 2 vols). Washington, DC: US Department of Health and Human Services; 2000.
- CDC. Young worker safety and health. Cincinnati, OH: US Department of Health and Human Services, CDC, National Institute for Occupational Safety and Health; 2006. Available at http://www.cdc.gov/niosh/topics/youth.

Fatalities Among Volunteer and Career Firefighters — United States, 1994–2004

Approximately 800,000 firefighters in the United States are volunteer firefighters and 300,000 are career firefighters (1). Volunteer firefighters primarily serve communities with fewer than 25,000 inhabitants, whereas most career firefighters serve communities of more than 25,000 persons (1). To characterize fatalities among volunteer and career firefighters, CDC analyzed data from the U.S. Fire Administration (USFA). This report summarizes the results of that analysis and, to illustrate the most common types of volunteer and career firefighter fatalities, describes two cases investigated by the National Institute for Occupational Safety and Health (NIOSH) Firefighter Fatality Investigation and Prevention Program.* Fifty-three percent (610 of $1,141^{\dagger}$) of U.S. firefighters who died while on duty during 1994-2004 were volunteers, and 32% (368) were career firefighters. The remaining 15% (163) of deaths were among other firefighters (e.g., wildland, paid on-call, and part-time paid firefighters). Among volunteer firefighters, sudden cardiac death (e.g., from myocardial infarction or arrhythmia) and motor vehicle (MV) crashes during emergency response were the leading causes of fatality. Among career firefighters, sudden cardiac death and asphyxiation were leading causes of death. Adoption and enforcement of existing fire-service recommendations regarding fitness standards, mandatory medical evaluations with appropriate work restrictions, and emergency vehicle response protocols are needed to prevent these fatalities among firefighters.

Case Reports

Case 1: volunteer fatality. On July 28, 2003, at approximately 5:30 p.m., two members (aged 19 and 23 years) of a volunteer fire department responded to a trailer fire. With emergency lights on, traveling in a privately owned vehicle on a two-lane asphalt state road at an estimated 80 mph in a 55-mph zone, the driver drifted off the pavement and lost control of the vehicle. The vehicle overturned several times, struck a wooden utility pole, and ejected both unrestrained firefighters. The driver was killed, and the passenger was seriously injured. No adverse weather or road conditions were reported. The fire department's written protocol required that firefighters obey state and local traffic laws when responding in privately owned vehicles, including using seat belts.

* Case reports are available from the NIOSH Firefighter Fatality Investigation and Prevention Program at http://www.cdc.gov/niosh/fire.

Case 2: career fatality. On December 5, 2002, a male career captain aged 51 years responded to a fire in the attic of a two-story dwelling. After assisting with fire suppression on the second floor for approximately 5 minutes, he collapsed suddenly, and resuscitation efforts were unsuccessful. The autopsy revealed atherosclerotic and hypertensive cardiovascular disease with more than 85% narrowing of three coronary arteries. Thirteen years before his death, the captain had a myocardial infarction and subsequent angioplasty of his right coronary artery. The captain also had the following risk factors for coronary artery disease (CAD): age \geq 45 years, male sex, family history of CAD, high cholesterol, high blood pressure, and overweight. Follow-up consisted of annual visits to his cardiologist, resting electrocardiograms, thallium-imaging exercise stress tests, and estimates of left ventricular function (e.g., left ventricular ejection fraction). These evaluations were consistently normal. However, 6 months before his death, new test results indicated new cardiac ischemia and a marked reduction of left ventricular function. No work restrictions were recommended by the cardiologist. Under these circumstances, the captain should have been issued work restrictions in accordance with National Fire Protection Association (NFPA) recommendations (2).

Firefighter Fatalities

USFA maintains a database of all on-duty firefighter deaths. On-duty death is defined as the death of any firefighter who died while on duty or after recently completing a call (within 24 hours) for an organized fire department.[§] Using death certificates and fire department interviews, USFA determines firefighter demographics and the circumstances and causes of each fatality and classifies them accordingly. Firefighters are classified as career, volunteer, paid on-call, part-time paid, or wildland firefighters. For this study, only deaths among firefighters classified as career or volunteer were included. Cases of sudden cardiac death (e.g., myocardial infarction or arrhythmia) were recorded in the database as "heart attacks." To determine which trauma cases were MV-related and to identify the type of vehicle involved, the narratives of the USFA database were reviewed. MV-related traumatic death was defined as a fatality associated with a vehicle (e.g., a vehicle collision, being struck or crushed by a vehicle, or a fall from a vehicle).

During 1994–2004, a total of 610 volunteer and 368 career firefighters died while on duty. Half of the deaths among volunteers were caused by heart attacks and 26% by MV-related trauma (Table). For career firefighters, 39% were caused

[†] Excludes the 343 career firefighters who died at the World Trade Center after the September 11, 2001, terrorist attack.

[§] Affiliated with a city, state, or territory, the federal government, or an industrial brigade.

	Car	eer	Volu	olunteer			
Cause/Contributing cause	No.	(%)	No.	(%)			
Heart attack*	142	(39)	306	(50)			
Stress/Overexertion	138	(97)	301	(98)			
Other	4	(3)	5	(2)			
Motor vehicle-related traum	na 44	(12)	160	(26)			
Vehicle collision/crash	30	(68)	116	(73)			
Struck by vehicle	12	(27)	33	(20)			
Other vehicle-related							
(e.g., crushed by or fell fron	1	(-)		<i>(</i>)			
a vehicle)	2	(5)	11	(7)			
Asphyxiation	74	(20)	45	(7)			
Caught/Trapped	56	(76)	31	(69)			
Other (e.g., lost inside a							
structure or exposed to							
smoke)	18	(24)	14	(31)			
All other [†]	108	(29)	99	(16)			
Caught/Trapped	32	(30)	19	(19)			
Fall	8	(7)	15	(15)			
Exposure (e.g., to smoke)	9	(8)	14	(14)			
Stress/Overexertion	16	(15)	14	(14)			
Structure collapse	8	(7)	3	(3)			
Other	35	(32)	34	(34)			
Total	368		610				

TABLE. Number and percentage of fatalities among career and volunteer firefighters, by cause/contributing cause — United States, 1994–2004

For example, myocardial infarction or arrhythmia.

Includes deaths caused by burns, cerebral vascular accidents, drownings, electrocution, heat exhaustion, and trauma.

by heart attacks, 29% by other causes (e.g., burns, cerebral vascular accident [CVA], or drowning), and 20% by asphyxiation (Table). For both volunteer and career firefighters, 97% of the decedents were male. The median age was 47 years (range: 15–81 years) for volunteers and 44 years (range: 20–67 years) for career firefighters. For both volunteer and career firefighters, most heart attack deaths occurred among persons aged 45–54 years (Figure 1). The majority of heart attack deaths were attributed to stress and overexertion in both volunteer (98%) and career (97%) firefighters (Table).

For career firefighters, being caught/trapped accounted for 76% of asphyxiation fatalities and 30% of other fatalities (e.g., burns, CVA, or drowning) (Table). MV-related trauma was the second most common type of fatality for volunteers. Seventy-three percent of MV-related traumatic deaths of volunteer firefighters were caused by vehicle collisions/crashes (Table). The greatest proportion of crashes (30%) involved privately owned vehicles (Figure 2). Tankers accounted for 26% of crashes. Eighty percent of the vehicle crashes occurred while firefighters were en route to calls, whereas 5% occurred during returns from calls.

Reported by: S Proudfoot, MS, T Hales, MD, TW Struttmann, MSPH, C Guglielmo, MS, Div of Safety Research, National Institute for Occupational Safety and Health; ML Ridenour, MPH, RS Noe, MPH, EIS officers, CDC. FIGURE 1. Number of fatalities caused by heart attacks* among career and volunteer firefighters, by age group — United States, 1994–2004



* For example, myocardial infarction or arrhythmia.

FIGURE 2. Number* of vehicles involved in volunteer firefighter fatal crashes, by vehicle type — United States, 1994–2004



Editorial Note: The findings in this report indicate that 610 volunteer and 368 career firefighters died while on duty during 1994–2004 and that heart attacks were the leading cause of fatality for both volunteer and career firefighters. Firefighting is physically demanding work requiring high levels of aerobic capacity (3). Therefore, fire departments are encouraged to require preplacement and annual medical evaluations in accordance with NFPA guidelines. NFPA 1582, *Standards on Comprehensive Occupational Medical Program for Fire Departments*, recommends exercise stress testing for asymptomatic firefighters who have two or more risk factors⁹ for CAD (2).

⁹ Risk factors are family history of a premature (age <60 years) myocardial infarction in a first degree relative, hypertension (defined as systolic blood pressure >140 mmHg or diastolic blood pressure >90 mmHg), diabetes mellitus, cigarette smoking, and hypercholesterolemia (defined as total cholesterol >240 mg/dL or high density lipoprotein <35 mg/dL).

Both volunteer and career firefighter organizations have developed fitness and wellness programs to prevent atherosclerotic heart disease (4,5). NFPA 1583, *Standard on Health-Related Fitness Programs for Firefighters*, outlines a complete health-related fitness program designed for fire departments (6).

The second leading cause of volunteer firefighter deaths was MV-related trauma, most often related to a crash in a privately owned vehicle en route to a call. Fire departments should enact and enforce policies requiring seat belt use, prohibiting speeding en route to calls, and requiring adherence to all traffic laws. Driver training should be provided to all drivers at least twice a year to meet the requirements of NFPA 1451, Standard for a Fire Service Vehicle Operations Training Program (7). USFA's Emergency Vehicle Safety Initiative provides bestpractice guidelines for MV operations for firefighters (8). Community officials should encourage local fire departments to comply with these guidelines. Information on proper operation of privately owned vehicles by emergency service workers is available at http://www.vfis.com/risk/risk_pov.htm. In addition, states should continue to work toward enacting primary seat belt laws,** which have been demonstrated to increase seat belt use (9).

NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, contains the minimum requirements for a fire-service-related occupational safety and health program (10). NFPA 1500 provides guidance to prevent firefighters from dying as a result of being caught/trapped during fire suppression in a structure (e.g., personnel accountability programs to ensure that incident commanders know where their crews are at all times while at the scene).

The findings in this report are subject to at least four limitations. First, because volunteer hours served are not reported to USFA consistently by volunteer fire departments, fatality rates could not be computed. Second, USFA might not capture data on all on-duty deaths; however, because benefits awards^{††} for firefighters depend on reporting to USFA, reporting rates are probably high. Third, the definition of on-duty heart attack death was not consistent throughout the study period. Before December 2003, a heart attack death was considered an on-duty death if the person became symptomatic at the fire scene and died within 24 hours; however, since December 2003, a death within 24 hours after a response to a call, whether symptoms began at the scene, has been considered an on-duty death. Finally, the definition of "heart attack" used in the USFA database is broad, describing all events instead of specific cardiac events; prevention recommendations are different for myocardial infarction and arrhythmia.

To reduce the risk factors for cardiovascular disease, fire departments should consider mandating that all firefighters have an annual fitness and medical examination and participate in a department-based fitness program. NFPA 1583 provides the minimum requirements for health-related programs for firefighters (6). Physicians performing fitness exams should be knowledgeable about NFPA 1582 (2) and the physical demands of firefighting. Moreover, seat belt use and safedriving practices or defensive-driving skills by firefighters are critical interventions to decrease MV fatalities. Fire departments should continue to promote a culture of safety for all as the foundation for effective response to the community.

References

- National Fire Protection Association. U.S. fire department profile through 2003. Quincy, MA: National Fire Protection Association; 2005.
- National Fire Protection Association. NFPA 1582: standard on comprehensive occupational medical program for fire departments. Quincy, MA: National Fire Protection Association; 2003.
- 3. Glenhill N, Jamnik VK. Characterization of the physical demands of firefighting. Can J Sport Sci 1992;17:207–50.
- 4. National Volunteer Fire Council. Healthy-heart firefighter program. Available at http://www.healthy-firefighter.org.
- International Association of Firefighters, International Association of Fire Chiefs. The fire service joint labor management wellness/fitness initiative. Washington, DC: International Association of Firefighters, International Association of Fire Chiefs; 1997.
- 6. National Fire Protection Association. NFPA 1583: standard on healthrelated fitness programs for firefighters. Quincy, MA: National Fire Protection Association; 2000.
- 7. National Fire Protection Association. NFPA 1451: standard for a fire service vehicle operations training program. Quincy, MA: National Fire Protection Association; 2002.
- United States Fire Administration. Emergency Vehicle Safety Initiative. Emmitsburg, MD: Federal Emergency Management Agency; 2004. Available at http://www.usfa.fema.gov/downloads/pdf/publications/fa-272.pdf.
- 9. CDC. Impact of primary laws on adult use of safety belts—United States, 2002. MMWR 2004;53:257–60.
- National Fire Protection Association. NFPA 1500: standard on fire department occupational safety and health program. Quincy, MA: National Fire Protection Association; 2002.

^{**} Laws that allow a law enforcement officer to stop a vehicle and issue a citation when the officer observes a driver or passenger not wearing a safety belt; no other traffic offense is required to stop the vehicle.

^{††} A benefit award is a one-time financial payment to the eligible survivors of public safety officers whose deaths are the direct and proximate result of a traumatic injury sustained in the line of duty.

Health Hazard Evaluation of Police Officers and Firefighters After Hurricane Katrina — New Orleans, Louisiana, October 17–28 and November 30–December 5, 2005

In the weeks after Hurricane Katrina struck the U.S. Gulf Coast on August 29, 2005, reports of increased injuries and symptoms of physical illness and psychological strain among New Orleans police officers and firefighters prompted CDC to conduct a health hazard evaluation of these two groups. Questionnaires were distributed to members of the New Orleans Police Department (NOPD) and New Orleans Fire Department (NOFD) 7-13 weeks after the hurricane. This report summarizes the results of that evaluation, which determined that upper respiratory and skin rash symptoms were the most common physical symptoms reported by police officers and firefighters and lacerations and sprains were the most common injuries. In addition, approximately one third of the respondents reported either depressive symptoms or symptoms of posttraumatic stress disorder (PTSD), or both. These results underscore the need to incorporate the safety and health of emergency responders into existing disaster preparedness plans and to provide periodic responder training and education in tasks unique to disaster situations. Clinical follow-up of the physical and psychological health of emergency responders should be conducted to better understand, monitor, and treat their health conditions.

Investigators distributed survey questionnaires to NOPD members during October 17–28 and to NOFD members during November 30–December 5. The survey included questions about exposures to floodwater or floodwater sediment, work duties, housing status, physical and mental health symptoms, injuries, and whether medical care was sought. Respiratory and gastrointestinal symptoms were considered hurricane related if the respondent reported having the symptom every day or almost every day during the preceding 4 weeks and reported not having the symptom before Hurricane Katrina. A score of greater than 22 on the Center for Epidemiologic Studies Depression Scale was used to define major depressive symptoms (1), and the Veterans Administration checklist was used to define symptoms consistent with PTSD (2).

NOPD officials estimated that 1,650 police officers were employed by the department before Hurricane Katrina, and 1,200–1,400 police officers were on duty at the time of the interviews; 912 police officers completed the questionnaire, resulting in an estimated overall participation rate of 65%– 76%. NOFD officials reported 683 firefighters on its most recent (prehurricane) roster; 525 (77%) completed the questionnaire. Median age of participants was 37 years (range: 19– 78 years) for police officers and 42 years (range: 20–64 years) for firefighters. Eighty percent of police officers and 96% of firefighters were male. Police officers had a median job tenure of 8 years (range: <1–41 years); median tenure for firefighters was 13 years (range: <1–40 years). Not all participants responded to all questions; the number of responses per question ranged from 845 to 912 for police officers and from 487 to 525 for firefighters.

Floodwater contact with the nose, mouth, or eye was reported by 51% of firefighters (254 of 500) and 30% of police officers (258 of 864); 52% of police officers (473 of 910) and 63% of firefighters (330 of 524) reported rescuing citizens from flooded areas. Sixty-nine percent of police officers (618 of 899) and 59% of firefighters (288 of 490) reported that they were not living with their families at the time of the survey (Table 1).

TABLE 1. Number and percentage of selected exposures, duties, and housing status of police officers and firefighters after Hurricane Katrina — New Orleans, Louisiana, October 17–28 and November 30–December 5, 2005

Exposure/Duty/	Police	officers	Firefig	hters
Housing status	No.	(%)*	No.	(%) †
Exposure				
Floodwater contact with skin	687	(76)	401	(79)
Floodwater contact with				
nose, mouth, or eye	258	(30)	254	(51)
Flood sediment contact				
with skin	497	(56)	394	(76)
Duty				
Patrol	709	(78)	§	_
Looting control	535	(59)	_	_
Crowd control	525	(58)	_	_
Floodwater rescue	473	(52)	330	(63)
Recovery of bodies	121	(13)	77	(15)
Evacuation	444	(49)	225	(43)
Gunfire incident response	364	(40)	69	(13)
Traffic control	257	(28)	_	_
Narcotics control	61	(7)	_	_
Special weapons and				
tactics (SWAT)	70	(8)	_	_
Fire suppression	—	_	423	(81)
Guard duty	—	—	110	(21)
Hostile community situation	—	_	217	(41)
Inspection	—	—	137	(26)
Equipment maintenance		_	168	(32)
Driving engine or ladder truck	_	_	244	(47)
Housing status				
Not currently living with family	618	(69)	288 [¶]	(59)
Home not habitable	501	(55)	314	(60)
Home had reparable damage	381	(42)	192	(37)
Home not damaged	41	(5)	14	(3)

* Denominators ranged from 845 to 912 because of missing data.

^TDenominators ranged from 487 to 517 because of missing data.

§ Not applicable.

¹ Includes persons who sometimes stayed with their families.

Police officers and firefighters reported similar prevalences of physical health symptoms. Approximately 28% of police officers (236 of 848) and 31% of firefighters (162 of 525) reported upper respiratory symptoms (i.e., head/sinus congestion or nose/throat irritation). Cough was reported by 21% of police officers (176 of 845) and 23% of firefighters (124 of 525). Skin rash was reported by 54% of police officers (493 of 909) and 49% of firefighters (258 of 525) (Table 2).

TABLE 2. Number and percentage of illness symptoms and injuries reported by police officers and firefighters after Hurricane Katrina — New Orleans, Louisiana, October 17–28 and November 30–December 5, 2005

Illness symptom*/	Police of	officers	Firefig	hters
Injury	No.	(%) †	No.	(%)§
Respiratory symptom				
Upper respiratory [¶]	236	(28)	162	(31)
Lower respiratory**	81	(9)	55	(11)
Cough ^{††}	176	(21)	124	(23)
Head/sinus congestion	186	(21)	145	(28)
Nose/throat irritation	153	(18)	92	(18)
Dry cough	115	(13)	89	(17)
Cough with phlegm	111	(13)	84	(16)
Shortness of breath with				
minimal activity	50	(6)	36	(7)
Wheezing/whistling				
in the chest	38	(4)	29	(6)
Chest tightness	33	(4)	17	(3)
Gastrointestinal symptom				
Diarrhea	40	(5)	9	(2)
Abdominal pain	25	(3)	9	(2)
Nausea or vomiting	19	(2)	7	(1)
Skin symptom				
Skin rash ^{§§}	493	(54)	258	(49)
Psychological symptom ^{¶¶}				
Posttraumatic stress				
disorder (PTSD)***	170	(19)	114	(22)
Major depressive				
symptoms ^{†††}	227	(26)	133	(27)
Injury				
Laceration	184	(20)	127	(24)
Sprain/Strain	120	(13)	130	(25)
Animal bite/sting	104	(11)	41	(8)
Fall	84	(9)	54	(10)
Burn	23	(3)	21	(4)
Eye injury	24	(3)	19	(4)
Vehicle crash	22	(2)	17	(3)
Assault	24	(3)	2	(<1)
Concussion	6	(1)	1	(<1)

* Respondents reported having the symptom every day or almost every day and reported not having the symptom before Katrina

[†] Denominators ranged from 845 to 912 because of missing data.

Denominator was 525 for all but depressive symptoms (n = 494).

[¶] Head/sinus congestion, nose/throat irritation, or both.

** Shortness of breath, wheezing, and/or chest tightness.

^{††} Dry cough or cough with phlegm.

§§ Bumps, blisters, boils, itching, swelling, or redness.

¹¹ Symptoms reported by some respondents applied to more than one psychological condition.

^{***} Defined using the Veterans Administration PTSD checklist (2).

**** Defined as a score of greater than 22 on the Center for Epidemiologic Studies Depression scale. Injuries most commonly reported by police officers and firefighters were lacerations (police officers: 20% [184 of 912] and firefighters: 24% [127 of 525]), sprains/strains (13% [120 of 912] and 25% [130 of 525]), falls (9% [84 of 912] and 10% [54 of 525]) and animal bites/stings (11% [104 of 911] and 8% [41 of 525]) (Table 2). Of 525 firefighters, 114 (22%) reported symptoms consistent with PTSD, and 133 of 494 (27) reported major depressive symptoms. Of 912 police officers, 19% (170) reported PTSD symptoms and 26% (227 of 888) reported major depressive symptoms. Among all police officers, 31% (279) reported seeing a health-care provider for post-hurricane illnesses and injuries; health-care utilization among firefighters was not assessed.

Reported by: *BP Bernard, MD, RJ Driscoll, PhD, Div of Surveillance, Hazard Evaluations, and Field Studies, M Kitt, MD, Div of Respiratory Disease Studies, National Institute for Occupational Safety and Health; CA West, MSN, MPH, SW Tak, ScD, EIS officers, CDC.*

Editorial Note: The findings from these surveys indicate that, 7–13 weeks after Hurricane Katrina, a substantial proportion of police officers and firefighters in New Orleans had injuries and symptoms of physical and mental illness. The prevalences of reported respiratory symptoms, skin rashes, and injuries were similar to those reported by Katrina relief workers through active CDC surveillance in the greater New Orleans area (3). The high prevalence of symptoms for PTSD and major depressive symptoms among police and firefighters is consistent with reports of increased risk for PTSD and depression after natural disasters (4,5). Police officers and firefighters also experienced stressors such as extended working hours, sleep deprivation, hostile communities, separation from their families, and destruction of their homes (6).

The relation between floodwater exposure and reported symptoms of illness is not clear. Hazards in floodwaters vary but can include varying amounts of sewage, household and industrial chemicals, petroleum products, pesticides, and flammable liquids. Floodwaters also can obscure physical hazards (e.g., storm debris or drainage openings); other threats are posed by displaced domestic animals (7,8).

The inherent dangers of the work of police officers and firefighters likely were compounded by the environmental hazards and personal stressors after Hurricane Katrina. In addition, certain police officers and firefighters were assigned to atypical activities (e.g., narcotic control officers who performed search and rescue operations) for which they might not have been adequately prepared. Full clinical diagnostic assessment of physical and psychological health is necessary to determine the breadth and scope of illness in persons with persistent symptoms. The National Institute for Occupational Safety and Health has prepared guidance for medical screening to assess the fitness of persons for deployment as recovery workers after a hurricane (9). These guidelines also can be used as a part of periodic medical evaluations to assess whether emergency responders meet minimal physical requirements to perform work duties.

The findings in this report are subject to at least three limitations. First, only police officers and firefighters working at the time of the surveys were included, introducing the possibility of participation bias. Second, responses to traumatic events can provoke a range of reactions, including intensifying preexisting symptoms; therefore, new symptoms alone are not adequate to fully document physical or mental illness. Finally, even psychological symptoms persisting for ≥ 1 month might be normal and reversible acute stress and grief reactions; responses to the questionnaire alone are not sufficient to diagnose PTSD or major depression (10).

Reducing risks for illness and injury to police officers, firefighters, and other emergency responders requires combining the capabilities of multiple government and private response agencies. Safety and health guidelines for emergency responders should be incorporated into existing disaster preparedness plans. These should include periodic disaster response training and education in tasks unique to disaster situations. Additional information regarding safety management strategies and guidance for emergency workers is available at http://www.cdc.gov/niosh/docs/2004-144, and comprehensive information regarding prevention of worker illness and injury after hurricanes and other natural disasters is available at http://www.cdc.gov/niosh/topics/flood.

Acknowledgments

This report is based, in part, on data contributed by E Page, MD, AL Tepper, PhD, B King, MPH, A Markey, MS, C Dowell, MS, C Mueller, MS, J Hurrell, PhD, K Mead, MS, A Warren, MPH, L Taylor-McKernan, MPH, T Hales, MD, L Ewers, PhD, Div of Surveillance, Hazard Evaluations, and Field Studies, and S Brown, MPH, National Institute for Occupational Safety and Health, CDC.

References

- Weissman MM, Sholomskas D, Pottenger M, Prusoff BA, Locke BZ. Assessing depressive symptoms in five psychiatric populations: a validation study. Am J Epidemiol 1977;106:203–14.
- Blanchard EB, Jones-Alexander J, Buckley TC, Forneris CA. Psychometric properties of the PTSD checklist (PCL). Behav Res Ther 1996;34:669–73.
- 3. CDC. Surveillance for illness and injury after Hurricane Katrina— New Orleans, Louisiana, September 8–25, 2005. MMWR 2005;54:1018–21.
- Fullerton CS, Ursano RJ, Wang L. Acute stress disorder, posttraumatic stress disorder, and depression in disaster or rescue workers. Am J Psychiatry 2004;161:1370–6.
- Ginexi EM, Weihs K, Simmens SJ, Hoyt DR. Natural disaster and depression: a prospective investigation of reactions to the 1993 midwest floods. Am J Community Psychol 2000;28:495–518.

- International Association of Fire Fighters. Reports from the hurricane frontlines: Katrina 2005. Washington, DC: International Association of Fire Fighters; 2005. Available at http://daily.iaff.org/katrina/ katrina.htm?c=report.
- 7. US Environmental Protection Agency. Environmental assessment summary for areas of Jefferson, Orleans, St. Bernard, and Plaquemines parishes flooded as a result of Hurricane Katrina. Washington, DC: US Environmental Protection Agency; 2005.
- National Institute of Environmental Health Sciences. Safety awareness for responders to Hurricane Katrina: protecting yourself while helping others. Washington, DC: US Department of Health and Human Services, National Institutes of Health, National Institute of Environmental Health Sciences; 2005.
- CDC. Interim guidance for pre-exposure medical screening of workers deployed for hurricane disaster work. Washington, DC: US Department of Health and Human Services, CDC, National Institute for Occupational Safety and Health; 2005. Available at http:// www.cdc.gov/niosh/topics/flood/preexposure.html.
- American Psychiatric Association. Diagnostic and statistical manual text revision (DSM-IV-TRTM, 2000). Arlington, VA: American Psychiatric Association; 2000.

Progress Toward Interruption of Wild Poliovirus Transmission — Worldwide, January 2005– March 2006

Progress toward global poliomyelitis eradication was made in 2005, despite the diversion of major financial and human resources to control outbreaks resulting from wild poliovirus (WPV) importations primarily from Nigeria. The number of countries with endemic polio has decreased to four,* compared with 125 in 1988, when the Polio Eradication Initiative was initiated by the World Health Assembly (1). In Africa and Asia, only eight of the 22 previously polio-free countries[†] that were reinfected since 2003 reported WPV transmission after July 2005, and transmission was curtailed substantially in all eight of these countries except Somalia (2,3). Of the three remaining polio-endemic countries in Asia (Afghanistan, India, and Pakistan), India and Pakistan also moved closer to eradication in 2005, reporting approximately half as many cases in 2005, compared with 2004.

Multiple innovations were implemented during 2005, including the relicensing and use of monovalent type 1

^{*} The four countries currently on the polio-endemic list are Afghanistan, India, Nigeria, and Pakistan. Egypt and Niger were removed from the list in February 2006 after 12 months without indigenous WPV transmission. However, recent genetic evidence suggests residual low-level transmission in Niger.

[†]The eight reinfected countries with transmission after July 2005 were Angola, Bangladesh, Chad, Ethiopia, Indonesia, Nepal, Somalia, and Yemen. The 14 countries reinfected since 2003 without transmission after July 2005 were Benin, Botswana, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Eritrea, Ghana, Guinea, Lebanon, Mali, Saudi Arabia, Sudan, and Togo.

(mOPV1) and type 3 (mOPV3) oral polio vaccines and, particularly in polio-endemic countries, increased numbers and improved quality of supplementary immunization activities (SIAs). New emphasis was placed on the systematic engagement of local leaders during SIAs and on development of SIA strategies for targeting mobile families at major train and bus transit sites. However, in certain hard-to-reach populations, SIA coverage remains inadequate to stop WPV circulation. By the end of 2005, northern Nigeria had emerged as the greatest risk for renewed international spread of WPVs; SIAs in certain areas continued to miss >40% of targeted children. This report describes global polio eradication strategies and WPV incidence during January 2005–March 2006 and outlines the greatest threats to achieving eradication.

Routine OPV Vaccination

Global routine vaccination coverage among infants with 3 doses of oral poliovirus vaccine (OPV3) was estimated at 80% in 2004,[§] the most recent year with fully reported data. OPV3 coverage in 2004 varied among World Health Organization (WHO) regions, from 69% in the African Region (up from 65% in 2003) to 94% in the European Region, with considerable variation between country-level estimates within each region. OPV3 coverage in 2004 in the four countries currently on the polio-endemic list was estimated at 39% in Nigeria, 65% in Pakistan, 66% in Afghanistan, and 70% in India. These are national estimates, and areas of lower coverage within each country have been reported, especially in regions with ongoing polio transmission (e.g., Bihar and Uttar Pradesh states in India and northern Nigeria).

Supplementary Immunization Activities (SIAs) with OPV

In 2005, a total of 234 SIAs with OPV (153 national immunization days [NIDs], 69 subnational immunization days [SNIDs], and 12 mop-up rounds[¶]) were conducted in 51 countries, administering 2.2 billion OPV doses to 371 million children aged <5 years. Of the total OPV doses used in SIAs, 473 million (22%) doses were mOPV1, and 8.4 million (4%) doses were mOPV3. Because of the substantial type-specific gains in immunity conferred by monovalent OPVs

compared with trivalent OPV (4,5), mOPV1 was rapidly relicensed and administered during SIAs in 12 countries.

Of the 234 SIAs, 59 were conducted in the six countries where polio was endemic during 2005: 17 SIAs in India (two NIDs and 15 SNIDs), 11 in Pakistan (eight NIDs and three SNIDs), 12 in Afghanistan (four NIDs, six SNIDs, and two mop-ups), seven in Egypt (six NIDs and one SNID), five NIDs in Niger, and seven in Nigeria (four NIDs and three SNIDs). Although use of mOPV has been effective in reducing typespecific WPV transmission in India, numerous rounds continue to ensure timely vaccination of new birth cohorts. Of the 22 previously polio-free countries reinfected since 2003, a total of 20 conducted 114 SIAs, of which 87 were NIDs, 19 were SNIDs, and eight were mop-ups. Many of these SIAs were conducted as synchronized SIAs across west and central African countries, including Sudan. Also in 2005, 25 poliofree countries conducted 61 SIAs, including 37 NIDs, to increase population immunity as a precaution to prevent the spread of possible virus importations.

Acute Flaccid Paralysis (AFP) Surveillance

In 2005, all WHO regions maintained the overall sensitivity of AFP surveillance to detect paralytic polio cases at certification-standard levels** (Table). AFP reporting continued to improve in the three regions with endemic poliovirus transmission (Africa, Eastern Mediterranean, and South-East Asia). A 43% increase in AFP reporting globally was observed, from 42,511 cases in 2004 to 61,606 cases in 2005, largely because of increased reporting from India (80% of the overall increase), Nigeria, and Pakistan. Although the certification target for AFP reporting (i.e., a nonpolio AFP rate of at least one case per 100,000 children aged <15 years) remains unchanged, in 2005 the Advisory Committee on Polio Eradication endorsed a new target of at least two cases per 100,000 children for all polio-endemic countries and countries at high risk for WPV importation (6). The intent of this recommendation was to accelerate the detection and response to circulating polioviruses.

The polio laboratory network is the foundation for AFP surveillance. During 2005, WHO fully accredited 97% of the 145 global poliovirus laboratory network laboratories, which analyzed more than 120,000 stool samples that year. Compared with 2004, the laboratory network workload increased by 50% in 2005. This increase was highest in the WHO South-East Asian Region (90%), followed by the Eastern Mediterranean Region (45%) and African Region (25%). Laboratory

[§]World Health Organization (WHO)/UNICEF estimates of OPV3 coverage, according to the 2005 summary of the WHO vaccine-preventable diseases monitoring system.

⁹Subnational immunization days can vary in size and location within a given country, but most commonly target a region consisting of several states. Mopup campaigns target children living in specific high-risk districts known to have experienced recent WPV circulation.

^{**} Criteria for certification are as follows: 1) a nonpolio AFP rate of at least one case per 100,000 children aged <15 years, 2) 80% of AFP cases with adequate stool specimens, and 3) 100% of stool specimens processed in a laboratory accredited by WHO.

TABLE. Acute flaccid paralysis (AFP) surveillance data, 2005, and confirmed cases of poliomyelitis, 2005 and January–March 2006, by World Health Organization (WHO) region and country*

	No. reported		% persons with AFP with	No virus-co cas	o. nfirmed es
Region/Country	AFP cases 2005	Nonpolio AFP rate [†] 2005	adequate specimens [§] 2005	J 2005	anuary– March 2006
African	11,705	3.3	85	848	69
Angola	187	2.1	92	10	0
Cameroon	261	3.1	82	1	0
Chad	164	3.5	89	2	0
Eritrea	66	5.4	86	1	0
Ethiopia	950	2.7	79	22	1
Mali	172	2.9	81	3	0
Niger [¶]	316	4.0	85	10	3
Nigeria [¶]	4,836	6.5	85	799	65
Eastern Mediterranean	8,838	3.7	88	727	20
Afghanistan [¶]	823	5.4	92	9	3
Pakistan [¶]	4,021	5.3	87	28	2
Somalia	364	4.8	82	185	14
Sudan	501	3.2	86	27	0
Yemen	941	4.6	78	478	1
South-East Asian	31,461	5.1	83	373	18
Bangladesh	1,458	2.6	92	0	1
India¶	26,997	6.3	82	66	16
Indonesia	1,929	2.4	81	303	1
Nepal	228	2.2	85	4	0
American	2,150	1.2	79	_	_
European	1,537	1.1	82	_	_
Western Pacific	5,915	1.5	87	_	
Worldwide	61,606	3.3	84	1,948	107

* Data reported to WHO as of March 31, 2006. Only countries with polio transmission in 2005 are included. When averaging global, regional, or national surveillance indicators, suboptimal performance-quality indicators in smaller areas might be masked.

^TPer 100,000 children aged <15 years.

[§]Two stool specimens collected at an interval of ≥24 hours within 14 days of paralysis

onset and adequately shipped to the laboratory.

¹¹Countries in which polio is endemic.

network strategies were adjusted to meet the increased demands. Overall, 95% of virus isolation results were reported within 28 days, and >95% of intratypic differentiation results were reported within 14 days.

WPV Incidence

As of March 31, 2006, a provisional total of 1,948 polio cases had been reported globally for 2005, compared with 1,255 cases in 2004 (Figure, Table). During both 2004 and 2005, Nigeria had the largest number of cases: 782 cases in 2004 (62% of all cases globally) and 799 cases in 2005 (41%). The 55% global increase in cases in 2005 resulted from three large outbreaks after importation of Nigeria polioviruses into previously polio-free countries: Yemen (478 cases), Indonesia (303), and Somalia (185). In 2005, for the first time, more

cases were reported from reinfected countries (53% of the total) than from polio-endemic countries; 94% of cases worldwide were caused by viruses that originated in northern Nigeria.

After completing 12 months without evidence of indigenous poliovirus transmission, Egypt and Niger were removed from the list of polio-endemic countries in February 2006. Interruption of WPV transmission in Egypt, where the natural risk factors for intense poliovirus transmission have been high, represents a major milestone for the Polio Eradication Initiative. Polio surveillance in Egypt has been highly sensitive, combining both AFP and environmental surveillance systems. The last indigenous poliovirus in Egypt was detected in a sewage sample collected in January 2005. All 10 cases reported from Niger during 2005 were caused by WPV directly imported from Nigeria. Recent genetic data from 2006, however, suggest residual low-level transmission in Niger, although this represents a substantial decrease from previous high levels of transmission.

Two large polio-endemic countries in Asia registered 50% declines in cases from 2004 to 2005. India reported 66 cases in 2005, down from 134 cases in 2004, and Pakistan reported 28 cases in 2005, down from 53 cases in 2004. Afghanistan reported nine cases in 2005, compared with four cases in 2004.

The 799 cases reported by Nigeria in 2005 were eight times the total number reported by the three polio-endemic Asian countries combined. Of these 799 cases, 746 (93%) were reported from

10 northern Nigerian states (of 37 total states), where both type 1 and type 3 poliovirus continued to circulate widely. Type 3 WPV was observed only in northern Nigeria, in two small foci in northern India, in southern Afghanistan, and in Pakistan near the southern Afghanistan border.

Also during 2005, the largest number of paralytic polio cases (46) known to be caused by circulating vaccine-derived poliovirus (cVDPV) occurred on a small island off East Java in Indonesia. As with other previously identified VDPV outbreaks, low OPV coverage enabled neurovirulent vaccine-derived poliovirus to emerge and circulate (6).

Reported by: Polio Eradication Group, World Health Organization, Geneva, Switzerland. Div of Viral Diseases and Global Immunization, National Center for Immunization and Respiratory Diseases, CDC.



FIGURE. Number of wild poliovirus (WPV) cases* — worldwide, 2005[†]

* Data reported to the World Health Organization as of March 31, 2006.

Excludes polioviruses detected by environmental surveillance and vaccine-derived polioviruses.

[§]Egypt and Niger were removed from the list of polio-endemic countries in 2006. However, recent genetic data suggest residual low-level indigenous transmission in Niger.

Editorial Note: Despite challenges during the past 2 years, the world has moved closer to eradicating polio. Although nationwide OPV vaccination was resumed in late 2004, wide-spread poliovirus circulation in northern Nigeria remains the greatest threat to global polio eradication. Data on OPV coverage of nonpolio AFP cases from the six northern states that contributed 65% of all polio cases in Nigeria indicate that >40% of children aged <5 years have never received OPV. Southern Nigeria was largely polio-free by the end of 2005; however, the continued epidemic in the north indicates that critical improvements in SIA coverage are needed in northern states.

On the basis of lessons learned from the 2003–2005 resurgence of polio in previously polio-free countries, and to limit the potential of further international spread of poliovirus, the Advisory Committee on Polio Eradication issued specific recommendations in October 2005 to guide the future response to any circulating poliovirus in a previously polio-free area (6), calling for rapid and large-scale responses and use of typespecific mOPV. The WHO executive board endorsed these recommendations in early 2006.

With six or more large-scale SIAs each year in the remaining polio-affected countries, vaccination refusals present an ongoing challenge to achieving the high rates of OPV coverage needed. To ensure community acceptance and compliance, social mobilization, communication activities, and other interventions (e.g., administration of other vaccines and distribution of mosquito bednets) have become critical to the success of SIAs and will be a key priority in 2006. The cVDPV outbreak in Indonesia illustrates the risk for emergence of cVDPV in areas with low levels of population immunity, reinforcing the importance of ensuring uniformly high SIA coverage and the necessity to eventually stop all routine use of OPV once WPV is eradicated (5, 7). Key to achievement of a polio-free world is the continued support of the international polio partnership, which is necessary to allow full implementation of the new strategic approach, including use of mOPV, to interrupt transmission in remaining polio-endemic areas. The greatest risk to global polio eradication and to the polio-free status of most countries of the world is the ongoing uncontrolled poliovirus transmission in several northern Nigerian states. Aggressive response to the challenges posed by importations and ongoing transmission characterized global polio eradication activities in 2005. Eradication efforts will ultimately require ongoing commitment by governments and health workers at all levels to ensure that all children are appropriately vaccinated.

References

- 1. World Health Assembly. Global eradication of poliomyelitis by the year 2000: resolution of the 41st World Health Assembly. Geneva, Switzerland: World Health Organization; 1988 (WHA resolution no. 41.28).
- CDC. Progress toward interruption of wild poliovirus transmission worldwide, January 2004–March 2005. MMWR 2005;54:408–12.
- CDC. Resurgence of wild poliovirus type 1 transmission and effect of importation into polio-free countries, 2002–2005. MMWR 2006;55:145–50.
- 4. Caceres VM, Sutter RW. Sabin monovalent oral polio vaccines: review of past experiences and their potential use after polio eradication. Clin Infect Dis 2001;33:531–41.
- 5. Aylward RB, Sutter RW, Heymann DV. OPV cessation: the final step to a "polio-free" world. Science 2005;310:625–6.
- 6. World Health Organization. Advisory committee on polio eradication standing recommendations for responding to circulating polioviruses in polio-free areas. Wkly Epidemiol Rec 2005;80:330–1.
- Kew OM, Sutter RW, de Gourville EM, Dowdle WR, Pallansch MA. Vaccine-derived polioviruses and the endgame strategy for global polio eradication. Annu Rev Microbiol 2005;59:587–639.

Notice to Readers

Introduction to Public Health Surveillance

CDC and Rollins School of Public Health at Emory University will cosponsor the course, "Introduction to Public Health Surveillance," May 8–12, 2006, at Emory University. The course is designed for practicing state and local public health professionals.

The course will provide the theoretical and practical tools necessary to design, implement, and evaluate effective surveillance programs. Topics include an overview and history of surveillance systems; planning considerations; sources and collection of data; analysis, interpretation, and communication of data; surveillance systems technology; ethics and legalities; state and local concerns; and future considerations. Tuition is charged.

Additional information and applications are available from Emory University, Hubert Department of Global Health, 1518 Clifton Road N.E., Room 746, Atlanta, GA 30322; telephone 404-727-3485; fax 404-727-4590; at http://www.sph.emory.edu/ epicourses; or by e-mail pvaleri@sph.emory.edu.

Notice to Readers

American Board of Disaster Medicine

Beginning in 2006, physicians can earn board certification in disaster medicine. The American Board of Physician Specialties (Atlanta, Georgia) has created the American Board of Disaster Medicine. This initiative is focused on various clinical specialties so that the collective board can provide a diverse knowledge base and advice to various organizations that engage in preparedness planning. The board will begin accepting applications from physicians on May 1, 2006, and plans to administer its first examination in the fall of 2006. Information regarding eligibility requirements for the American Board of Disaster Medicine is available at http:// www.abpsga.org.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Emergency Department Visits* with Waiting Time for a Physician of >1 Hour, by Race/Ethnicity and Triage Level — United States, 2003–2004



^{*} In metropolitan statistical areas only.

Timely emergency care can be critical for patients who visit an emergency department. At least 10% of emergent cases (those in which patients should be seen in less than 15 minutes) and 20% of urgent cases (should be seen in 15–60 minutes) had to wait longer than 1 hour to see a physician. Blacks and Hispanics were more likely to wait for more than 1 hour in all cases other than emergent.

SOURCE: National Hospital Ambulatory Medical Care Survey, 2003–2004. Available at http://www.cdc.gov/nchs/nhamcs.htm.

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending April 22, 2006 (16th Week)*

	-	-	5-year	Total		outed for			
Disease	Current	Cum	weekly	10tal 0	cases rep	ported to	r previou	s years	States reporting access during surrent weak (No.)
Disease	week	2006	average	2005	2004	2003	2002	2001	States reporting cases during current week (No.)
Anthrax	_	1	_	_			2	23	
Botulism:			•	10	10				
foodborne	_		0	18	16	20	28	39	
Infant	_	21	1	87	87	76	69	97	
other (wound & unspecified)	2	14	0	25	30	33	21	19	CA (2)
Brucellosis	1	21	2	118	114	104	125	136	CA (1)
Chancroid	1	12	1	17	30	54	67	38	SC (1)
Cholera	_		0	6	5	2	2	3	
	1	12	6	734	1/1	/5	156	147	IN (1)
Diprimeria	_	_	_	_	_	1	1	2	
Colifernia esterrour			0	70	110	100	104	100	
California serogroup	_	_	0	78	112	108	104	128	
Boweeeen				21	1	14	10	9 N	
St Louis			_	10	10	41	20	70	
St. Louis	_	_	_	10	12	41	20	19	
Eprilopiosis [§] :	_	_	_	_	_	_	_	_	
human granulocytic	1	12	З	734	537	362	511	261	NV (1)
human monocytic	_	12	1	/54	338	302	216	1/2	
human (other & unspecified)			0	123	50	11	210	6	
Haemonhilus influenzae **	_	2	0	125	59	44	20	0	
invasive disease (age <5 vrs);									
serotype b		2	0	10	10	30	34		
nonserotype b	3	31	4	128	135	117	144	_	NY (1) IN (1) EL (1)
unknown serotype	1	62	3	210	177	227	153	_	OH(1)
Hansen disease§	_	12	1	83	105	95	96	79	
Hantavirus pulmonary syndrome [§]		6	0	22	24	26	19	8	
Hemolytic uremic syndrome postdiarrheal§	3	21	2	207	200	178	216	202	OH (1) GA (1) CA (1)
Hepatitis C viral acute	7	216	35	803	713	1 102	1 835	3 976	NY (1) MI (1) AI (1) OK (1) WA (2) CA (1)
HIV infection pediatric (age <13 vrs) ^{§††}	_	52	4	380	436	504	420	543	
Influenza-associated pediatric mortality ^{\$,§§,¶¶}	3	23	1	49		N	N	N	PA (1), CA (2)
Listeriosis	10	146	10	867	753	696	665	613	NY (1), PA (1), OH (1), KS (1), GA (3), FL (1),
									AL (1), WA (1)
Measles	1	5**	* 1	65	37	56	44	116	NH (1)
Meningococcal disease, ^{†††} invasive:									
A, Č, Y, & W-135	1	75	5	308	_	_	_	_	FL (1)
serogroup B	1	51	2	183	—	—	_	—	WA (1)
other serogroup	1	8	1	27	—	—	_	—	NC (1)
Mumps	130	813	5	307	258	231	270	266	PA (5), OH (1), MO (12), KS (109), FL (1),
									CO (1), AZ (1)
Plague	—	1	_	7	3	1	2	2	
Poliomyelitis, paralytic	_	_	—	1	_	_	_	_	
Psittacosis§	_	4	0	23	12	12	18	25	
Q fever [§]	_	32	1	129	70	71	61	26	
Rabies, human			0	2	7	2	3	1	
Rubella		1	0	11	10	7	18	23	
Rubella, congenital syndrome	_	_		1	_	1	1	3	
SARS-CoV ^{9,99}	—	_	0	_	_	8	N	N	
Smallpox [®]	_								
Streptococcal toxic-shock syndrome ³	6	45	4	105	132	161	118	//	OH (2), IN (1), NC (3)
Streptococcus pneumoniae, ^s	0	004	10		4 4 9 9	0.45	540	400	
Invasive disease (age <5 yrs)	8	331	16	1,149	1,162	845	513	498	MA (1), NY (1), IN (1), MN (1), MO (1), AR (1), CO (2)
Syphilis, congenital (age <1 yr)	3	62	8	347	353	413	412	441	NC (1), TN (1), AZ (1)
Tevia shaek sundrame (athen there athen i	- 3/1	4	0	25	34	20	25	37	
Trishing logic	ai) ³ 2	36	2	92	95	133	109	127	
	1	3	U 4	21	5	100	14	22	
Turaler Illa ³	1	4		13/	134	129	201	129	
Vanaamvain intermedicte Ctanky/account	4	04	Э	315	322	300	J∠ I NI	308	FL (1), UA (3)
Vancomycin-intermetiate Staphylococcus autour	=u5° —	I	_	2	- 1	IN N	IN N	IN N	
Vellow fever	_	_	_	_	_		1	IN	

-: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2004, 2005, and 2006 are provisional, whereas data for 2001, 2002, and 2003 are finalized.

[†] Calculated by summing the incidence counts for the current week, the two weeks preceding the current week, and the two weeks following the current week, for a total of 5 preceding years. Additional information is available at http://www.cdc.gov/epo/dphsi/phs/files/5yearweeklyaverage.pdf.

§ Not notifiable in all states.

Includes both neuroinvasive and non-neuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNET Surveillance).

** 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, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Data for HIV/AIDS are available in Table IV quarterly.

§§ Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Infectious Diseases.

11 Of the 28 cases reported since October 2, 2005 (week 40), only 26 occurred during the current 2005–06 season.

*** One measles case was reported with unknown import status for the current week.

^{†††} Data for meningococcal disease (all serogroups and unknown serogroups) are available in Table II.

	Chlamydia [†]					Coccidioidomycosis					Cryptosporidiosis				
	Current	Pre 52 v	vious veeks	Cum	Cum	Current	Previo 52 we	ous eks	Cum	Cum	Current	Previ 52 we	ous eks	Cum	Cum
Reporting area	11.015	19.627	05.079	2006	2005	120	107	Max	2006	1 2005	week	Med	Max	2006	2005
New England Connecticut Maine Massachusetts New Hampshire Rhode Island Vermont [§]	11,215 678 270 35 276 2 69 26	635 165 41 292 34 64 18	25,278 1,533 1,197 74 432 64 99 43	9,086 1,861 635 4,655 507 1,031 397	8,194 1,145 691 4,397 587 1,050 324	N N N N N	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	2,577 N N 	N N N N N N		4 0 2 0 0 0 0	852 34 14 3 15 3 6 5	39 6 8 18 5 -	587 37 4 10 4 10 4 1
Mid. Atlantic New Jersey New York (Upstate) New York City Pennsylvania	1,630 184 650 319 477	2,256 352 502 691 715	3,695 526 1,728 1,616 1,069	33,278 3,830 6,687 11,191 11,570	34,886 5,513 6,339 11,434 11,600	N N N	0 0 0 0	0 0 0 0			5 5 —	10 0 3 2 4	598 8 562 15 21	99 1 31 10 57	84 7 19 25 33
E.N. Central Illinois Indiana Michigan Ohio Wisconsin	1,494 455 373 614 52 —	3,231 954 390 600 809 399	4,150 1,792 553 1,989 1,445 531	51,064 13,158 6,084 15,997 10,101 5,724	47,944 12,770 6,182 7,764 14,931 6,297	1 	0 0 0 0 0	3 0 3 1 0	11 	2 	2 1 1 	13 1 2 5 4	162 16 13 7 109 38	139 8 10 25 65 31	127 17 5 19 37 49
W.N. Central Iowa Kansas Minnesota Missouri Nebraska [§] North Dakota South Dakota	627 109 151 206 117 36	1,121 143 151 232 434 96 31 52	1,450 225 269 298 525 175 50 118	16,588 2,469 2,548 2,558 6,160 1,581 472 800	18,105 2,158 2,309 3,896 6,911 1,568 433 830	N N N N N N N N	0 0 0 0 0 0 0	12 0 12 1 1 0 0	N N N N N	3 N 3 N N N N N N	2 1 	9 1 3 2 0 0	51 11 5 22 37 3 1 4	100 7 17 43 22 3 1 7	77 16 8 18 28 1 6
S. Atlantic Delaware District of Columbia Florida Georgia Maryland [§] North Carolina South Carolina [§] Virginia [§] West Virginia	2,604 58 18 671 40 310 378 734 323 72	3,245 69 63 863 573 364 584 248 425 54	4,858 92 101 1,077 2,070 525 1,743 1,306 841 228	50,276 1,115 620 13,914 4,999 5,500 11,111 5,537 6,328 1,152	54,793 1,006 1,217 13,303 9,034 5,354 10,459 6,406 7,278 736	N N N N N N N N N N	0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 0 0 0 0	2 N N 2 N N N	N N N N N N	2 - - - - -	15 0 6 3 0 1 0 1 0	54 2 3 28 12 4 10 4 8 3	188 	111
E.S. Central Alabama [§] Kentucky Mississippi Tennessee [§]	1,042 177 336 529	1,377 351 153 380 472	2,188 1,048 303 801 624	21,360 6,154 3,122 4,573 7,511	21,187 3,483 3,788 6,848 7,068	N N N	0 0 0 0	0 0 0 0	N N N	N N N	 	3 0 1 0 1	21 3 20 1 4	17 7 5 1 4	10 4 3 1 2
W.S. Central Arkansas Louisiana Oklahoma Texas [§]	370 130 240 —	2,032 169 275 226 1,324	3,372 340 760 2,160 1,699	29,927 2,471 4,681 2,982 19,793	35,920 2,711 5,754 3,308 24,147	N N N	0 0 0 0	1 0 1 0 0	N N N	N N N	2 1 1 	3 0 0 1	30 2 21 10 19	49 5 12 27	20
Mountain Arizona Colorado Idaho [§] Montana Nevada [§] New Mexico [§] Utah Wyoming	686 392 204 14 55 21	1,072 313 268 41 43 132 159 82 24	1,718 536 482 235 181 448 337 138 43	12,941 5,165 2,211 450 590 1,249 2,533 305 438	19,299 6,724 4,679 730 727 2,309 2,407 1,370 353	109 109 N N 	77 76 0 0 1 0 0 0	452 448 0 0 4 2 2 2	2,078 2,060 N N 16 	707 670 N N 27 7 3 —	3 1 2 	2 0 1 0 0 0 0 0 0	9 1 3 2 3 1 3 3 1	18 3 7 2 5 1 —	39 3 11 3 4 5 7 4 2
Pacific Alaska California Hawaii Oregon [§] Washington	2,084 61 1,411 196 416	3,178 77 2,468 107 174 356	5,003 121 4,236 135 315 604	47,755 1,242 36,841 1,509 2,550 5,613	51,014 1,197 39,510 1,668 2,656 5,983	10 — 10 N N N	27 0 27 0 0 0	1,113 0 1,113 0 0 0	486 	496 496 N N N	 	4 0 2 0 1 0	50 2 14 1 20 36	18 — — 18 —	82
American Samoa C.N.M.I. Guam Puerto Rico U.S. Virgin Islands	U U 35	0 0 76 4	0 0 141 8	U U 1,343	U U 64 1,342 111	U U N	0 0 0 0	0 0 0 0	U U N	U U N	U U N	0 0 0 0	0 0 0 0	U U N	U U N

C.N.M.I.: Commonwealth of Northern Mariana Islands. U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. † Incidence data for reporting years 2005 and 2006 are provisional. † Chlamydia refers to genital infections caused by *Chlamydia trachomatis*. © Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, data from these states are not included this work included this week.

Giardiasis							G	onorrhe	a	Haemophilus influenzae, invasive All ages, all serotypes					
	Current	Prev 52 w	ious leeks	Cum	Cum	Current	Previ	ous	Cum	Cum	Current	Previ	ous	Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	162	319	946	3,811	4,789	3,688	6,466	8,250	94,088	97,417	21	37	115	604	819
New England	36	28	71	300	458	101	109	286	1,490	1,530	1	3	12	42	56
Connecticut	25	03	37	82 21	104 42	53	42	239	474 39	391 43	_	0	8	85	17
Massachusetts	1	12	34	131	175	33	48	76	740	877	_	2	5	21	20
New Hampshire	_	1	7	9	18	8	4	9	73	43		0	3	3	_
Rhode Island Vermont [†]	8	0	25 15	20 37	21 98		8	25 4	146 18	163 13	1	0	2	2	6 10
Mid. Atlantic	24	61	264	674	927	484	644	1 015	9 238	9 960	3	7	28	111	143
New Jersey	_	7	18	55	160	94	102	150	1,277	1,711	_	1	4	2	20
New York (Upstate)	19	22	237	277	258	147	123	455	1,815	1,940	2	2	25	40	44
Pennsvlvania	2	15	32 29	144	278	157	215	402 390	2,737	2,925 3.384	1	3	4 8	57	20 53
E.N. Central	11	56	114	552	800	548	1.374	1.984	22.172	18.548	7	6	14	84	133
Illinois		13	32	24	209	139	386	761	5,100	4,816	_	1	5	14	37
Indiana Michigan	N 2	0	20	N 10/	N 210	148 248	161 265	229 826	2,647	2,398	5	1	6	19 14	25
Ohio	9	14	34	226	173	13	380	681	4,669	6,717	2	2	6	27	48
Wisconsin	—	15	39	108	208	—	120	172	1,919	1,734	_	1	3	10	13
W.N. Central	3	34	229	350	564	183	361	461	5,080	5,651	—	1	12	27	35
Iowa Kansas	1	5 4	14 9	64 45	47	22 39	32 48	54 124	493	458 765	_	0	2	3	1
Minnesota	_	10	220	78	263	_	63	88	627	1,060	_	Ō	9	10	16
Missouri	2	10	32	121	121	92	181	240	2,737	2,859	—	0	7	12	13
North Dakota	_	2	о З	20 3	34	21	21	50 6	26	26	_	0	2		1
South Dakota	_	2	7	19	27	3	6	15	106	107	_	0	0	_	_
S. Atlantic	17	55	110	751	754	1,118	1,450	2,249	20,918	23,507	8	9	24	164	208
Delaware		1	3	19	17	39	20	44	451	239	_	0	1	1	
Florida	14	19	39	270	247	304	401	515	6,337	5,740	5	3	8	55	52
Georgia	_	15	70	270	218	13	262	918	2,190	3,950	3	2	5	38	57
Maryland [†]	N	4	11	46 N	47 N	117 170	134 274	242	2,146	2,026	_	1	5	17	32
South Carolina [†]		1	9	21	34	328	109	700	2,381	2,801	_	1	3	13	20
Virginiat	_	10	50	113	169	118	149	289	1,785	2,592	—	1	8	15	20
vvest virginia	1	0	6	6	9	15	16	39	285	202	_	0	4	9	13
E.S. Central	8	8	19	103	114	379 04	541 183	868 701	8,294	8,030	1	2	8	39	38
Kentucky	N	0	0	N	N	116	53	97	1,071	1,183	_	0	3	1	3
Mississippi	_	0	0		_		133	225	1,728	2,050	—	0	1	1	_
Tennessee	_	4	11	48	59	169	172	284	2,699	2,600		1	5	26	28
W.S. Central	4	6	23	65 22	66 25	242	815	1,307	12,416	14,015	1	2	6	33	50
Louisiana	_	1	6	18	9	153	168	461	2,802	3,069	_	0	3	6	25
Oklahoma	3	3	16	25	32	—	81	764	998	1,400	1	1	4	25	25
Iexas'	N	0	0	N	N	_	494	630	7,254	8,163	_	0	1	_	
Arizona	12	27	57 36	239	351	140 102	226 76	529 176	2,909	4,036 1 484	_	4	10 9	68 33	95 41
Colorado	7	9	33	125	117	27	60	90	579	953	_	Ó	5	22	23
Idaho [†]	_	2	12	26	47	—	1	9	25	32	—	0	1	1	2
Montana Nevada†	4	1	6	22 12	9 25	_	2 52	13 195	30 482	43 865	_	0	0	_	10
New Mexico [†]	_	1	6	9	14	_	29	64	440	428	_	õ	3	11	14
Utah	—	6	18	6	80	9	12	22	44	215	_	0	2	- 1	4
Pacifia		1	2	0	755	400	700	0	14 574	01		0	2	1	1
Alaska	47	59 1	181	9	755 20	493	792 10	942 23	11,571 169	12,140	_	3	20 19	36	61
California	31	40	87	577	573	338	652	807	9,491	10,128	_	1		7	16
Hawaii	1	1	6	15	22	41	19	36	276	304	_	0	2	4	3
Washington	10	6	≥ i 88	66	52	101	72	142	1,278	1,063	_	0	o 4	1	40
American Samoa	Ű	0	0	U	U	U	0	0	, L	U	U	0	0	U	U
C.N.M.I.	Ŭ	Ō	Ō	Ū	Ū	Ŭ	Ő	Õ	Ŭ	Ū	Ŭ	Ō	Ō	Ū	Ŭ
Guam Puerto Bico	_	0	0	- 2	<u></u>		0	0	101	1 125	_	0	0	_	_
U.S. Virgin Islands	_	0	0	_			0	4		35	_	ő	0	_	

Vo	l. 55	/ No.	16

	Hepatitis (viral, acute), by type															
		- D	Α					В				Le	gionello	sis		
	Current	Prev 52 w	ious	Cum	Cum	Current	52 wee	us	Cum	Cum	Current	Previ 52 we	ous	Cum	Cum	
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005	
United States	50	75	244	1,050	1,234	48	92	552	1,168	1,627	19	40	117	343	320	
New England	3	7	23	61	154	2	4	11	41	79	—	2	11	14	16	
Connecticut	1	1	3	10	20	_	0	5	2	1/	_	0	8	4	3	
Massachusetts	_	4	14	28	113	_	3	10	32	50	_	1	5	6	9	
New Hampshire	1	1	12	13	16	_	0	3	4	4	—	0	1	1	2	
Vermont [†]		0	4 2	2	5	2	0	2	3	4	_	0	3	1		
Mid. Atlantic	_	11	24	52	208	4	9	54	107	197	4	11	53	93	94	
New Jersey	_	2	11	13	40	_	2	7	29	46	_	1	13	6	13	
New York (Upstate)	_	4	10	14	28	4	1	42	21	22 51	2	3	30 20	35	25	
Pennsylvania	_	1	6	15	39	_	3	9	46	78	2	5	17	43	45	
E.N. Central	3	6	17	77	121	6	8	26	87	173	5	7	26	64	77	
Indiana	_	1	9 10	5	43	3	2	17	10	46 7	_	0	5	2	12	
Michigan	_	2	11	35	35	_	3	7	43	62	_	2	6	18	20	
Ohio	3	1	4	25	23	3	2	8	32	47	5	3	19	35	32	
WISCONSIN	- 1	2	20	37	15	2	5	14	2	70	2	1	12	∠ 11	10	
lowa	_	0	29	37	8		0	2	1	4		ò	1			
Kansas	_	0	5	15	6	_	0	3	3	8	1	0	1	1	1	
Minnesota Missouri	1	0	29	∠ 11	21	1	3	9	28	46	1	0	3	7	7	
Nebraska [†]	_	Õ	3	3	3	_	õ	2		11		Õ	2	2	_	
North Dakota South Dakota	_	0	0 1	3	_	_	0	0 1	_	1	_	0	1 6	1	1	
S. Atlantic	4	12	34	167	177	16	23	61	319	487	5	9	20	93	67	
Delaware	_	0	2	4	2	_	0	4	12	14	_	0	4	1	1	
District of Columbia	2	05	18	1	2 67		0	4 10	136	170		0	2	4	1	
Georgia		1	6	14	29	3	3	8	32	78		0	4	3	4	
Maryland [†]	_	2	7	23	15	—	2	8	39	58	—	2	9	18	19	
North Carolina South Carolina [†]	2	0	20	40	25 8	_	0	23	59 15	52 44	_	0	3	11	1	
Virginiat	_	1	11	15	27	_	1	18	9	61	_	1	8	8	5	
West Virginia	—	0	2	1	2	2	0	14	13	10	—	0	3	1	3	
E.S. Central	—	3	16	32	73	1	6	20	78	127	—	1	6	10	8	
Kentucky	_	0	4	14	5	_	1	5	24	25	_	0	4	1	5	
Mississippi	_	0	2	.1	12	_	1	4	5	25	_	0	1	_	_	
Tennessee		2	8	15	49	_	2	12	27	50	_	1	4	6	2	
W.S. Central	1	9	79	89	120	—	14	286	283	153	—	1	29	9	2	
Louisiana	_	1	5	22	25	_	1	6	9 7	24	_	0	2	4	_	
Oklahoma	—	07	2	4	2	—	0	5	1	15	—	0	3	1	-	
Mountain	-	6	10	01	105		12	202	200	150		1	21	10	1	
Arizona	1	3	18	61	50	9	5	39	61	97	2	0	3	9	20	
Colorado	—	1	4	15	10	—	1	5	9	11	—	0	3	1	6	
Idaho [†] Montana	_	0	3	3	13	_	0	2	4	5	_	0	2	_	1	
Nevada†	_	õ	2	3	6	_	ĩ	4	9	11	_	õ	2	3	5	
New Mexico [†]	_	0	3	5	7	_	0	3	1	9	_	0	1	—	2	
Wyoming	_	0	2 1	1	12	_	0	3 1	_	19	_	0	2	_	2	
Pacific	37	15	149	446	235	8	9	56	135	188	1	1	9	36	20	
Alaska	-	0	1		3	_	0	2	1	2		0	1			
California Hawaii	34	14	148 2	415	196 x	6	6	39 1	108	131	1	1	9 1	36	20	
Oregon [†]	_	1	5	12	13	2	2	6	17	39	N	ő	0	N	N	
Washington	3	1	11	14	15		0	13	8	15	—	0	0	—	_	
American Samoa	U	0	1	U		U	0	0	U	<u> </u>	U	0	0	U	U	
C.N.M.I. Guam	<u> </u>	0	0	<u> </u>	<u> </u>	<u> </u>	0	0	U	U	<u> </u>	0	0	0	<u> </u>	
Puerto Rico	_	õ	4	3	25	_	1	õ	3	7	_	õ	õ	_	_	
U.S. Virgin Islands	_	0	0	_	_	_	0	0	—	—	_	0	0	_	_	

	Lyme disease Previous							Malaria			
		Pre	evious				Prev	vious			
Poporting area	Current	52 v	weeks	Cum	Cum	Current	52 w	veeks	Cum	Cum	
Neporting area	week	one	1 000	2000	2005	- week		110	2000	2005	
United States	41	288	1,283	1,373	1,895	/	24	119	246	340	
Connecticut	_	51 9	232 154	74 47	178	_	1	12 10	8	14	
Maine	_	2	26	8	13	_	0	1	1		
Massachusetts New Hampshire	_	1/	164 17	1 15	140 16	_	0	4	5	11	
Rhode Island	_	Ő	12		1	_	Ő	8	_	1	
Vermont [†]	_	1	5	3	2	—	0	2	1	—	
Mid. Atlantic	38	160	928	972	1,175	1	5	15	34	90	
New York (Upstate)	35	25 73	900	515	420 210	1	1	11	8	16	
New York City		5	33	_	68	_	3	8	17	41	
Pennsylvania	3	45	388	303	477	_	1	2	9	11	
E.N. Central	_	14 0	155 6	38	90 1	_	2	6 2	33 7	27 9	
Indiana	_	Ő	4	_	2	_	Ő	3	5	3	
Michigan	—	1	7	8	1	_	0	2	5	8	
Wisconsin	_	11	5 145	23	71	_	0	3	5	4	
W.N. Central	1	12	99	33	47	_	0	30	6	14	
lowa	—	0	8	1	8	—	0	1	1	2	
Kansas Minnesota	1	0		30	36	_	0	1 29	2	1	
Missouri		0	2	1	1	_	õ	2	1	8	
Nebraska [†]	—	0	2	1	_	_	0	2	_	_	
South Dakota	_	0	1	_	_	_	0	1	1	_	
S. Atlantic	_	33	124	201	358	4	6	16	87	75	
Delaware	—	9	37	76	134	—	0	1	2	1	
Elorida	_	0	2	6 11	1	2	0	2	14	2 16	
Georgia	_	Ö	1	—	ĩ	2	1	6	24	13	
Maryland [†]	—	16	87	97	167	—	1	9	21	23	
South Carolina [†]	_	0	3	2	6	_	0	2	3	3	
Virginia [†]	—	3	22	1	25	—	0	9	12	7	
vvest virginia	—	0	42	_	_	_	0	2	1	1	
Alabama [†]	_	0	4	_	6	_	0	2	3	2	
Kentucky	_	0	1	_	1	_	0	2	1	2	
Mississippi Tennesseet	_	0	0 4	_	5	_	0	1	1	3	
WS Central	_	1	7	1	18	1	1	30	11	31	
Arkansas	_	ò	2	_		_	0	2		2	
Louisiana	—	0	1	—	2	_	0	1	_	1	
Texas [†]	_	0	0 7	1	16	_	1	29	2	26	
Mountain	_	0	4	2	2	_	0	9	6	16	
Arizona	—	0	4	2	—	_	0	9	1	2	
Colorado Idaho [†]	_	0	1	_	_	_	0	3 0	4	8	
Montana	_	0	Ó	_	_	_	Ö	1	1	_	
Nevada [†]	—	0	2	_	_	_	0	2	_	_	
Utah	_	0	1	_	1	_	0	2	_	4	
Wyoming	—	Õ	1	_	1	—	õ	1	_	1	
Pacific	2	3	18	52	21	1	4	12	54	66	
Alaska California		0	1 19	 50	1 19	1	0	1	4 30	2	
Hawaii	N	2	0	52 N	N		0	4		4	
Oregon [†]	—	0	3	—	2	—	0	2	4	2	
vvashington		0	3				0	5	7	3	
American Samoa C N M I	U	0	0	U	U	U	0	0	U	U	
Guam	_	Ő	0	_	_	_	Ő	0	_	_	
Puerto Rico	N	0	0	Ν	Ν	—	0	1	—	—	
U.S. VIIGIII ISIANOS		U	U		_		0	U		_	

			Pertussis												
		Prev		oups			Previo		IIKIIOWII			Prev	ious	515	
	Current	52 w	reeks	Cum	Cum	Current	52 wee	eks	Cum	Cum	Current	52 w	eeks	Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	12	22	81	415	497	9	14	56	281	280	83	436	2,633	3,044	5,895
New England	1	1	6	21 4	32 8	1	1	3	21 4	12	2	29 1	56 4	353	408
Maine		Ő	1	2	1	_	Ő	1	2	1	_	1	5	15	15
Massachusetts	_	0	3	13	13	_	0	3	13	3	2	22	44	291	279
Rhode Island	_	0	1		2	_	0 0	0		_		0	17		5
Vermont [†]	—	0	2	—	5	—	0	2	—	3	_	1	14	25	86
Mid. Atlantic	3	2	13	43	62	3	2	11	30	45	21	24	136	463	507
New York (Upstate)	1	0	27	12	15	1	0	2 5	2	5	16	10	122	167	171
New York City	_	0	3	4	9	_	0	3	4	9	_	2	6	21	32
Pennsylvania	2	1	5	26	21	2	1	5	23	16	5	10	23	228	234
E.N. Central Illinois	1	2	9 4	44 8	55 10	1	1	6 4	31	44 10	13	55 13	124 31	429 12	1,413
Indiana	—	0	5	8	6	—	Ō	2	2	2	4	5	75	53	97
Michigan Obio	1	1	3	10 18	14 17	1	0	3	6 15	9 15	1	5 16	23 30	116 220	98 570
Wisconsin	_	0	1		8	_	0	1		8	_	15	41	28	358
W.N. Central	_	1	4	19	30	_	0	3	10	13	3	62	516	389	809
lowa Kansas	_	0	2	4	11	_	0	2	4	3		11	55 29	82 138	264
Minnesota	_	0	2	2	5	_	0	1	1	1		0	485		100
Missouri	_	0	3	8	7	_	0	2	2	3	_	10	43	125	138
North Dakota	_	0	1	4 1		_	0	1	2		_	4	28	35	82 56
South Dakota	—	0	1	—	1	—	0	0	—	—	—	2	8	5	73
S. Atlantic	4	4	14	77	77	2	2	7	31	32	3	23	92	295	423
Delaware District of Columbia	_	0	0		2	_	0	0	2		_	0	3	3	12
Florida	3	1	6	32	32	2	0	5	12	12	3	4	14	73	50
Georgia Marvland†	_	0	2	6	8 7	_	0	2	6	8	_	1	3	6 56	13
North Carolina	1	0	11	14	7	—	Ō	3	3		—	0	21	63	21
South Carolina [†] Virginia†	_	0	2	7 9	9	_	0	1	2	6	_	5	22 73	37 52	163
West Virginia	_	Ő	1	1	3	_	Ő	1	_	1	_	Ő	5	4	23
E.S. Central	_	1	4	14	24	_	1	4	11	17	_	7	25	68	165
Alabama [†]	_	0	1	3	1	_	0	1	3	1	_	1	9 10	21	32 54
Mississippi	_	0	1	1	4	_	0	1	1	4	_	1	4	9	24
Tennessee [†]	—	0	2	6	10	—	0	2	3	3	—	3	17	32	55
W.S. Central	_	2	22	42	49	_	1	9	19	12	1	47	237	199	297
Louisiana	_	0	4	22	19	_	0	2	12	4	_	4	3	4	12
Oklahoma	—	0	3	6	6	—	0	3	_	1	—	0	1	3	
lexas'	_	1	10	9	16	_	0	4	3	0		39	215	170	223
Arizona	_	2	4	30 16	35 15	_	0	4	23 16	4	40	67 16	232	181	1,249
Colorado	_	0	2	11	10	_	0	1	4	—	23	24	41	392	539
Idaho⁺ Montana	_	0	2	1	1	_	0	2	1	1	5	2	13 29	19 40	102 247
Nevada†	_	Ő	2	_	3	_	Ő	1	—	_	_	Ő	6	9	18
New Mexico [†]	_	0	1	_	3	_	0	1	_	2	_	2	9	8	85 121
Wyoming	_	0	2	2		_	0	2	2	_	5	1	4	23	7
Pacific	3	5	30	125	133	2	4	22	105	98	_	70	1,293	176	624
Alaska	_	0	1	1	1	_	0	1	1	1	_	2	15	26	14
Hawaii		2	1	70	63 7	- -	2	1	70	63 2	_	41	101	22	46
Oregon [†]	1	2	8	32	44	1	1	6	23	24	—	4	33	47	265
vvasnington	1	0	25	19	18		0	11	8	8		10	189	80	126
American Samoa C.N.M.I.	U	0 0	1 0	_	_	U U	U 0	1 0	U	U	U	0 0	0	U	U
Guam	_	Õ	Õ			_	Õ	Õ	_		_	Õ	Õ	_	
Puerto Rico U.S. Virgin Islands	_	0	1 0	2	4	_	0	1 0	2	4	_	0	2	_	2

		R	abies, ani	mal	Ro	cky Mou	ntain spo	tted fever			S	almonello	onellosis					
		Prev	vious	•			Previo	ous				Prev	ious					
Reporting area	Current week	Med	Max	Cum 2006	Cum 2005	Current week	 Med	eks Max	2006	2005	Current week	Med	eeks Max	2006	2005			
United States	56	100	178	1,261	1,734	6	36	98	300	169	256	867	2,183	7,112	7,737			
New England Connecticut Maine	20 3	13 3 1	26 13 4	170 38 20	255 41 17	 N	0 0 0	2 0 0	 N	1 N	3	42 7 2	88 81 8	363 81 11	459 97 30			
Massachusetts New Hampshire Rhode Island Vermont [†]	17 — —	4 0 0 1	14 3 4 14	94 5 1 12	156 2 5 34		0 0 0 0	1 1 2 0		1	1 2 	20 2 0 1	41 12 17 11	230 23 14 4	241 25 15 51			
Mid. Atlantic New Jersey New York (Upstate) New York City Pennsylvania	12 N 12 —	18 0 11 0 7	40 0 24 3 22	213 N 120 93	245 N 112 10 123	 	1 0 0 1	8 3 2 2 6	5 — 2 3	12 3 9	23 — 15 1 7	91 16 22 21 31	273 41 234 44 60	738 72 198 176 292	950 190 214 270 276			
E.N. Central Illinois Indiana Michigan Ohio Wisconsin	3 2 1 N	2 0 0 0 0	69 4 3 4 66 2	7 - 5 2 N	16 5 2 5 4 N		0 0 0 0 0	6 3 1 3 1	2 1 1	3 1 1 1	37 — 13 1 22 1	97 28 11 17 23 15	206 126 69 35 52 45	938 170 125 172 302 169	1,036 343 74 198 217 204			
W.N. Central Iowa Kansas Minnesota Missouri Nebraska [†] North Dakota South Dakota	3 1 1 - -	6 1 1 1 0 0	23 10 5 7 0 4 5	61 14 22 6 5 	101 20 30 15 9 4 23		2 0 0 2 0 0 0 0	17 2 1 15 2 0 2	7 — 1 6 —	6 1 4 1	28 1 11 16 	44 7 10 15 3 0 3	92 18 17 31 40 10 5 11	500 73 75 128 164 32 4 24	510 96 58 135 137 41 12 31			
S. Atlantic Delaware District of Columbia Florida Georgia Maryland [†] North Carolina South Carolina [†] Virginia [†] West Virginia	8 - - - 6 - 2	28 0 0 4 6 8 4 0 0	57 0 17 27 16 19 11 26 13	475 — 48 43 59 93 33 175 24	618 — 201 88 86 142 57 36 8	4 1 3 	18 0 0 1 2 5 1 1 0	94 2 1 3 11 7 87 6 10 2	273 2 	117 1 7 8 9 82 6 3 1	74 	261 2 1 99 37 14 30 21 20 3	516 9 7 230 88 39 114 146 66 13	1,922 20 19 872 295 110 363 79 142 22	1,980 16 13 777 286 152 333 176 199 28			
E.S. Central Alabama [†] Kentucky Mississisppi Tennessee [†]	5 3 2	3 1 0 1	9 5 3 1 5	60 19 4 	35 19 3 — 13	1 1 —	5 0 0 3	24 9 1 3 18	7 4 — 3	8 2 — 6	8 8 — —	56 13 7 13 14	135 39 26 66 41	354 138 70 49 97	423 120 50 72 181			
W.S. Central Arkansas Louisiana Oklahoma Texas [†]	1 1 	13 0 1 12	30 3 0 7 26	202 8 13 181	347 10 34 303	1 1 —	2 0 0 0 0	34 32 2 23 8	5 4 — 1	5 2 3	10 3 	85 16 14 6 45	889 67 42 26 849	783 233 78 61 411	582 75 152 62 293			
Mountain Arizona Colorado Idaho [†] Montana Nevada [†] New Mexico [†] Utah Wyoming	3 2 — 1 —	4 2 0 0 0 0 0 0 0 0	16 11 3 12 3 2 1 5 2	32 29 — 3 — —	74 65 1 — 1 1 7		0 0 0 0 0 0 0 0 0	6 6 1 2 0 0 1 0 1	1 	16 12 1 - 2 - 1	32 15 11 	48 13 11 2 2 3 4 4 1	110 67 45 17 16 8 13 30 12	444 163 152 20 31 23 34 21	511 157 125 23 50 50 51 10			
Pacific Alaska California Hawaii Oregon [↑] Washington	1 U	4 0 3 0 0 0	15 4 15 0 1 0	41 7 34 — U	43 1 42 — U	 N	0 0 0 0 0	2 0 1 0 1 0	 N	1 1 — N	41 1 26 2 1 11	94 1 70 5 8 8	415 7 285 15 25 121	1,070 29 786 58 98 99	1,286 15 995 83 94 99			
American Samoa C.N.M.I. Guam Puerto Rico U.S. Virgin Islands	U U 	0 0 2 0	0 0 4 0	U U 28	U U 26	U U N	0 0 0 0	0 0 0 0	U U N	U U N	U U 	0 0 7 0	2 0 23 0	U U 15	1 U 1 102			

	Shig	a toxin-pr		;	Streptococcal disease, invasive, group A										
	Current	Prev 52 w	ious eeks	Cum	Cum	Current	Previo 52 wee	eks	Cum	Cum	Current	Previe 52 we	ous eks	Cum	Cum
Reporting area	week	Med	Max	2006	2005	week	Med	Max	2006	2005	week	Med	Max	2006	2005
United States	8	52	257	248	416	84	300	654	2,340	3,243	56	79	269	1,693	1,688
New England	_	3	13 4	15	41 14	_	5	17 10	68 10	62 14	1 U	3	9	63 U	70
Maine	_	Õ	5	_	7	_	Õ	3	_	3	_	Õ	2	5	2
Massachusetts	—	2	7	13	14	—	4	11	50	33		2	7	39	44
New Hampshire	_	0	2	2	3	_	0	4	4	4	1	0	3	13	4
Vermont [§]	_	0	4	1	2	_	0	4	1	6	_	0	4	3	14
Mid Atlantic	_	6	101	3	30	7	18	70	178	352	15	14	44	286	381
New Jersey	_	1	7	_	13		5	18	47	89		2	8	10	83
New York (Upstate)	3	2	98	17	15	6	4	58	69	89	11	4	33	126	122
New York City	_	0	2	3		_	6	14	34	153	_	2	8	28	73
Pennsylvania	_	2	8	_	11	1	2	48	28	21	4	5	13	122	103
E.N. Central	2	10	36	72	87	7	18	79	227	271	12	14	37	341	372
Indiana	_	1	0 7		23	6	1	20 56	38	29	6	2	11	50 49	42
Michigan	_	1	8	18	14	_	3	10	59	97	2	4	11	98	94
Ohio	2	2	14	24	25	1	3	11	49	18	4	4	19	114	86
Wisconsin	_	3	15	21	16	—	3	10	25	59	_	1	6	24	47
W.N. Central	1	8	37	46	56	6	39	65	218	208	5	5	57	145	110
lowa	_	1	10	10	11		1	7	8	39	N	0	0	N	17
Minnesota	1	3	4 21	35	8 9	_	4	20	23	9 17	4	0	52	32 67	41
Missouri	2	1	7	18	14	6	22	45	126	113	1	1	5	27	32
Nebraska§	_	1	4	4	11	_	2	10	18	20	_	0	4	12	8
North Dakota	_	0	2		1	_	0	2	4	2	_	0	3	5	3
South Dakota		0	Э	1	2		2	17	10	0		0	3	2	9
S. Atlantic	1	7	39	37	87	29	51	122	661	488	10	19	41	399	307
Delaware	_	0	2		_	_	0	2	3	5	_	0	2	3	2
Florida	1	1	29	17	49	12	22	66	277	213	4	5	12	95	85
Georgia	_	0	6	_	8	15	13	34	237	132	2	4	9	92	63
Maryland [§]	_	1	5	_	7	_	2	8	33	18		3	12	78	65
North Carolina	1	1	11	21	11	2	2	22	65 34	54 36	4	1	21	59 24	44
Virginia [§]	_	1	9		11	_	2	9	12	26	_	2	11	36	22
West Virginia	_	0	2	_	_	_	0	1	_	_	_	0	5	8	8
E.S. Central	_	2	12	11	21	4	16	50	146	420	_	4	10	76	73
Alabama§	_	0	3	_	6	3	3	20	37	89	N	0	0	Ν	N
Kentucky	_	1	9	8	4	1	6	31	63	34	_	0	6	20	20
Mississippi	_	0	2	10	11	_	1	/	22	263	_	0	0	56	53
			40	10	10	0	0		040	200	0	0	50	445	00
W.S. Central	_	2	43	2	10	9	66 1	250	242	726 14	0	6	50	115	94
Louisiana	_	0	2	_	7		2	11	35	40		0	2	5	5
Oklahoma	_	0	3	1	1	7	8	41	32	170	4	2	9	58	52
Texas§	—	1	43	12	5	—	52	243	150	502	_	3	43	39	30
Mountain	2	5	16	28	52	5	16	47	168	181	6	10	76	240	247
Arizona	2	0	4	12	5	4	9	29	98	80	4	4	56	144	100
Lolorado Idaho§	_	1	6	5	12		3	18	33	30	2	3	10	69	92
Montana	_	Ö	2	_	2	_	Ő	1	1	2	_	Ő	0	_	
Nevada§	—	0	3	—	9	—	1	6	12	25		0	6	_	_
New Mexico [§]	_	0	3	2	3	—	2	9	19	28	_	1	6	22	28
Utan	_	0	2	1	10	_	0	4	1	13	_	1	4	2	25
wyonning Desites		0	5	1	47		0	1 4 4 6	100	505		0	1	2	
Pacific Alaska	2	4	50	34	2	17	38	146	432	535		2	8	28	34
California	2	Ő	5	22	1	15	31	103	313	476	_	Ő	Ő	_	_
Hawaii	_	Ō	4	4	3	1	0	4	11	9	1	2	8	28	34
Oregon [§]	—	1	47	14	5		1	29	56	23	N	0	0	N	N
vvashington	_	2	41	8	6	1	2	41	46	20	N	0	0	N	N
American Samoa	U	0	0	U	U	U	0	2	U	2	U	0	0	U	U
C.N.M.I. Guam	U	0	0	U	U	U	0	0	U	U	U	0	0	U	U
Puerto Rico	_	0	1	_	1	_	0	1	1		N	0	0	N	N
U.S. Virgin Islands	_	ŏ	ò	_		_	õ	Ó	· ·			ŏ	ŏ		

U: Unavailable. —: No reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. * Incidence data for reporting years 2005 and 2006 are provisional. † Includes *E. coli* O157:H7; Shiga toxin positive, serogroup non-0157; and Shiga toxin positive, not serogrouped. § Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, data from these states are not included this week.

<u> </u>	Strepto	coccus pi Drug i	<i>neumonia</i> resistant,	<i>e</i> , invasive all ages	disease	Sypt	Varicella (chickenpox)								
	Previous			0	0	Previous		ous	JS Is		0	Previous		0	0
Reporting area	week	Med	Max	2006	2005	week	 Med	Max	2006	2005	week	Med	еекs Max	2006	2005
United States	40	49	325	988	1,062	62	171	314	2,238	2,346	455	659	3,079	15,269	8,592
New England	_	1	17	9	62	1	4	17	61	54	5	34	1,131	408	1,042
Connecticut Maine	UN	0	0	UN	UN	_	0	11	15	3	U	0	0 20	U 85	U 107
Massachusetts	_	1	6	_	50	1	2	5	35	43	_	11	86	2	911
New Hampshire Bhode Island	_	0	0	1	6	_	0	2	4	3	5	7	1,110	135	_
Vermont [†]	_	0	4	8	6	_	0	1	1	_	_	5	25	186	24
Mid. Atlantic	4	2	15	48	108	10	20	34	306	313	84	117	183	1,943	1,739
New Jersey New York (Unstate)	N 3	0	0 10	N 14	N 39	5	2	7 15	51 46	41 22	_	0	0	_	_
New York City	Ŭ	Ó	0	U	Ŭ	2	11	21	143	206		Ő	Ő		
Pennsylvania	1	2	9	34	69	1	4	9	66	44	84	117	183	1,943	1,739
E.N. Central	10	12 0	38	256 7	251 2	4	19 10	42 32	253 103	161 49	276	155 1	542 5	6,505 4	2,313 30
Indiana	3	3	21	57	75	_	1	5	24	18	Ν	Ó	347	Ň	N
Michigan Ohio	7	1	4 32	9 183	17 157	4	2	8 11	43 69	23 64	80 196	88 40	231 424	1,850 4,378	1,442
Wisconsin	Ň	0	0	N	N	_	1	3	14	7	_	9	41	273	208
W.N. Central		1	191	18	21	1	4	9	52	73	27	16	84	701	68
Kansas	N N	0	0	N	N	_	0	2	2	4	IN	0	0	IN	
Minnesota	—	0	191			_	1	4	7	18		0	0		
Nissouri Nebraska†	_	1	3	18	18	1	3	8	33	43	22	13	82 1	661	3
North Dakota	—	0	1	—	_	—	0	1	—	—	3	0	25	18	10
South Dakota		0	1		2		0	1			2	1	12	22	55
Delaware	26	22	2	528	442	25	44	184	556 8	553	15	54 1	843 5	1,531	/56
District of Columbia	1	0	3	19	11	1	2	9	34	31	—	0	6	14	6
Georgia	19 6	7	36 19	300 169	162	8	15	143	42	230	_	0	0	_	_
Maryland [†]		0	0			5	5	19	89	84	—	0	0	—	
South Carolina [†]		0	0	IN	IN	8	5	7	20	23	_	0 14	45	346	187
Virginia [†]	Ν	0	0	N	N	2	3	12	42	30		13	797	485	94
	_	2	10	40	39		10	20	169	100	15	21	70	000	459
Alabama [†]	N	4	0	N N	N N	o 4	3	12	84	57	_	0	0	_	_
Kentucky	_	0	5	11	13	1	1	8	20	8	N	0	0	N	N
Tennessee [†]	_	3	13	64	61	3	4	11	53	47	N	0	0	N	N
W.S. Central	_	1	7	36	75	4	24	37	381	378	20	168	1,705	3,367	1,423
Arkansas	_	0	3	6 30	6 69		1	6 17	27	15	20	1	99 17	283	
Oklahoma	Ν	0	Ő	N	N	_	1	6	22	12	_	0	0		
Texas [†]	N	0	0	N	N	_	16	31	293	288	_	157	1,606	3,004	1,326
Mountain Arizona	N	1	27 0	18 N	29 N	_	7	17 13	103 58	132 39	28	45 0	97 0	814	1,251
Colorado	N	Ő	õ	N	N	_	1	3	10	18	28	35	74	646	856
Idaho† Montana	N	0	0	N	N	_	0	3	1	9	_	0	0	_	_
Nevada†	_	Ő	27	1	2	_	2	6	22	38	_	Ő	2	_	
New Mexico [†]	_	0	0	_	12	_	1	4	12	18	_	3	27 38	159	108 246
Wyoming	—	Ő	3	17	15	—	õ	ō	_	_	_	0	3	9	41
Pacific	_	0	0	_	_	9	33	55	358	553	_	0	0	_	_
Alaska California	N	0	0	N	N	_	0 29	4 53	5 272	3 489	_	0	0	_	_
Hawaii		Ö	Ö	-		—	0	2	7	1	Ν	Ö	Ő	N	N
Oregon [™] Washington	N N	0	0	N N	N N	.9	0	6 11	4 70	10 50	N N	0	0	N N	N N
American Samoa		0 0	0 0	_	_	Ŭ	0	0	 U	U U	11	0 0	0	IJ	
C.N.M.I.	_	Õ	Õ	—	—	Ŭ	Õ	õ	Ŭ	Ŭ	Ŭ	Ő	Ő	Ŭ	Ŭ
Guam Puerto Rico	N	0	0	N	N	5	0 4	0 16	43	42	_	0 6	0 47		26 231
U.S. Virgin Islands	_	õ	õ			_	0	ŏ			_	ŏ	0		

					West Nile viru	us disease [†]						
			Neuroinvas	ive			Non-neuroinvasive					
		Prev	/ious				Prev	/ious				
Reporting area	Current	52 w	/eeks Max	Cum 2006	Cum 2005	Current	<u>52 w</u>	<u>/eeks</u> Max	Cum 2006	Cum 2005		
United States		1	154	1	1		2	203		4		
New England	_	0	3	_	_	_	0	200	_	_		
Connecticut	_	ŏ	2	_	_	_	ŏ	1	_	_		
Maine	_	0	0	_	_	_	0	0	_	_		
Massachusetts	_	0	3	_	_	_	0	1	_	_		
New Hampsnire Bhode Island	_	0	0	_	_	_	0	0	_	_		
Vermont§	_	0	0	_	_	_	0	0	_	_		
Mid Atlantia		0	0				0	0				
	_	0	9	_	_	_	0	3	_	_		
New York (Upstate)	_	õ	6	_	_	_	Ő	1	_	_		
New York City	_	Ō	2	_	_	_	Ō	2	_	_		
Pennsylvania	_	0	3	—	—	—	0	2	—	_		
E.N. Central	_	0	39	_	_	_	0	18	_			
Illinois	_	0	25	_	_	_	0	16	—	_		
Indiana	_	0	2	_	_	—	0	1	—	_		
Michigan	_	0	14	_	_	—	0	3	_	_		
Wisconsin	_	0	9	_	_	_	0	4	_	_		
	_	0	5	_	_		0	~	_			
W.N. Central	—	0	26	—	—	—	0	80	—	—		
Kansas	_	0	3	_	_	N	0	3	N	N		
Minnesota	_	ő	5	_	_		Ő	5				
Missouri	_	0	4	_	_	_	0	3	_	_		
Nebraska§	_	0	9	_	—	_	0	24	_	_		
North Dakota	—	0	4	—	—	—	0	15	—	—		
South Dakola	_	0	/			_	0	33				
S. Atlantic	—	0	6	—	—	—	0	4	—			
Delaware	_	0	1	_		—	0	0	_			
Florida	_	0	2	_	_	_	0	4	_	_		
Georgia	_	ŏ	3	_	_	_	Ő	3	_	_		
Maryland§	_	0	2	_	_	_	0	1	_	_		
North Carolina	_	0	1	—	—	_	0	1	—	—		
South Carolina [§]	—	0	1	—	—	—	0	0	—	—		
Virginia ^s West Virginia	_	0	0	_	_	N	0	1	N	N		
	_	0	0		_		0	-		IN IN		
E.S. Central	_	0	10	1	_	—	0	5	_	_		
Kentucky	_	0	1	_	_	_	0	2	_	_		
Mississippi	_	ŏ	9	1	_	_	Ő	5	_	_		
Tennessee§	_	0	3	_	_	_	0	1	_	_		
W.S. Central	_	0	32	_	_	_	0	22	_	2		
Arkansas	_	Õ	3	_	_	_	Õ	2	_	_		
Louisiana	_	0	20	_	_	_	0	9	_	2		
Oklahoma	—	0	6	—	—	—	0	3	—			
Iexas ³	_	0	16	_	_	_	0	13	_	_		
Mountain	_	0	16	_	1	—	0	39	—	_		
Arizona	_	0	8	_	1	—	0	8	_	_		
Idaho	_	0	2	_	_	_	0	13	_	_		
Montana	_	õ	3	_	_	_	Ő	9	_	_		
Nevada§	_	0	3	_	_	_	0	8	_	_		
New Mexico [§]	_	0	3	_	—	_	0	4	_	_		
Utah	_	0	6	_	_	—	0	8	_	_		
vvyonning	_	U	2	_	_	_	U	I	_	_		
Pacific	—	0	50	—	—	_	0	90	—	2		
Alaska	—	0	0	_	—	—	0	0	_	_		
California Hawaii	_	0	00	_	_	_	0	09	_	2		
Oregon [§]	_	Ő	1	_	_	_	õ	2	_	_		
Washington	_	Ō	0	_	_	_	Ō	0	_	_		
American Samoa	Ш	0	0	П	U	П	0	0	U	U		
C.N.M.I.	Ŭ	õ	õ	Ŭ	Ŭ	Ŭ	õ	õ	Ŭ	Ŭ		
Guam		Ō	0		—		0	0		_		
Puerto Rico	_	0	0	—	—	—	0	0	—	—		
U.S. Virgin Islands	_	0	0		_	_	0	0				

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

U. UTRAVAINABLE. —: NO reported cases. N: Not notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum. * Incidence data for reporting years 2005 and 2006 are provisional. [†] Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Infectious Diseases (ArboNet Surveillance). [§] Contains data reported through the National Electronic Disease Surveillance System (NEDSS). Because of a technical problem with hardware, data from these states are not included this week.

TABLE III. Deaths in 122 U.S. cities,* week ending April 22, 2006 (16th Week)

	All causes, by age (years)								All causes, by age (years)						
Reporting Area	All Ages	<u>≥</u> 65	45-64	25-44	1-24	<1	P&l⁺ Total	Reporting Area	All Ages	<u>≥</u> 65	45-64	25-44	1-24	<1	P&I [†] Total
New England	603	419	133	29	13	9	57	S. Atlantic	1,259	807	286	97	41	28	74
Boston, MA	143	97	29	9	4	4	12	Atlanta, GA	130	77	36	13	3	1	7
Bridgeport, CT	23	14	6	2	1	_	2	Baltimore, MD	184	107	44	18	8	7	16
Cambridge, MA	17	14	3	-	_	_	_	Charlotte, NC	129	120	29	8	3	3	13
Hartford CT	29	24	4 24	1	2	_	5	Jacksonville, FL Miami, FL	210	139	49	10	10	2	5
	30	21	6	4		_	3	Norfolk VA	12	20	0	3	2		1
Lynn MA	9	7	2	_	_	_	2	Bichmond VA	68	39	21	4	3	1	2
New Bedford, MA	25	18	6	1	_	_	_	Savannah. GA	39	26		4	_	1	3
New Haven, CT	47	35	6	1	4	1	9	St. Petersburg, FL	57	35	14	3	2	3	8
Providence, RI	65	44	15	4	1	1	5	Tampa, FL	193	142	30	11	5	5	10
Somerville, MA	4	3	1	—	—	—	_	Washington, D.C.	112	64	32	12	3	1	1
Springfield, MA	49	34	11	1	—	3	3	Wilmington, DE	18	17	1	_	_	_	4
Waterbury, CT	29	21	7	1	_	—	3	E S Central	964	637	212	72	21	22	68
Worcester, MA	55	39	13	2	1	_	4	Birmingham, AL	214	131	51	22	3	7	18
Mid. Atlantic	2,053	1,428	412	141	37	35	111	Chattanooga, TN	125	89	24	11	_	1	11
Albany, NY	48	37	6	2	_	3	1	Knoxville, TN	133	93	33	5	1	1	7
Allentown, PA	19	15	2	_	2	_	_	Lexington, KY	79	56	13	5	3	2	9
Buffalo, NY	81	53	21	1	3	3	2	Memphis, TN	133	81	30	13	5	4	10
Camden, NJ	32	20	9	2	1	_	2	Mobile, AL	82	58	16	3	1	4	3
Elizabeth, NJ	13	9	3	1	_	_	1	Montgomery, AL	62	48	10	2	2	_	5
Erie, PA	48	38	/	3	_	_	3	Nashville, IN	136	81	35	11	6	3	5
Jersey City, NJ	45	31	0	8	10			W.S. Central	1,347	814	351	107	43	32	59
New YOR City, NY	992 50	709	200	00 12	12		52 3	Austin, TX	90	49	23	13	4	1	5
Paterson N.I	59	3	2	12	1	_		Baton Rouge, LA	17	14	2	1	—	—	_
Philadelphia PA	377	232	85	36	9	15	20	Corpus Christi, TX	U	U	U	U	U	U	U
Pittsburgh, PA§	26	18	5	2	1		1	Dallas, TX	228	122	64	25	10	7	10
Reading, PA	37	30	4	3	_	_	6	El Paso, TX	55	40	10	3	_	2	3
Rochester, NY	133	101	25	4	2	1	15	Fort Worth, IX	85	55	22	2	3	3	2
Schenectady, NY	26	19	4	2	1	_	1	Houston, IX	372	215	101	31	12	13	10
Scranton, PA	27	21	4	2	_	_	—	New Orleans I A1	00	32	21	5	2		
Syracuse, NY	31	22	6	1	2	_	2	San Antonio TX	228	146	53	16	11	2	15
Trenton, NJ	24	13	7	2	_	2	_	Shreveport I A	54	34	14	5	1		8
Utica, NY	13	9	4	_	_	_	2	Tulsa, OK	158	107	41	6		4	3
YONKERS, NY	16	16	_	_	_	_	_	Mountain	1 1 5 0	754	250	01	40	00	102
E.N. Central	2,254	1,547	482	141	39	45	160		1,100	734	250	01	49	23	103
Akron, OH	65	39	17	5	4	_	2	Boise ID	52	20	30 Q	9 1	1	2	6
Canton, OH	46	31	13	1		1	4	Colorado Springs CO	75	56	14	1	3	1	3
Chicago, IL	323	202	73	29	9	10	39	Denver, CO	94	54	18	11	8	3	8
Cincinnati, OH	/4	49	20	1	2	2	9	Las Vegas, NV	269	169	65	20	10	5	21
	209	201	45	10	2	0	10	Ogden, UT	37	28	7	2	_	_	3
Davton OH	126	0/	26	5	1	5	10	Phoenix, AZ	207	123	50	18	13	2	17
Detroit MI	211	119	58	24	8	2	16	Pueblo, CO	29	21	6	1	1	_	4
Evansville IN	73	50	14	6	1	2	3	Salt Like City, UT	121	82	17	11	6	5	12
Fort Wayne, IN	85	67	12	4	_	2	3	Tucson, AZ	153	104	34	7	4	4	18
Gary, IN	14	8	4	1	1	_	_	Pacific	1,900	1,355	383	95	38	29	175
Grand Rapids, MI	61	50	10	1	—	—	9	Berkeley, CA	14	13	1	_	—	—	1
Indianapolis, IN	192	125	49	11	2	5	11	Fresno, CA	171	118	36	9	4	4	9
Lansing, MI	52	39	11	1	1	—	5	Glendale, CA	23	21	1	—	1	_	6
Milwaukee, WI	120	88	22	5	1	4	10	Honolulu, HI	31	22	5	4	_		
Peoria, IL	44	33	5	5	_	1	2	Long Beach, CA	75	50	15	7	2	1	14
ROCKTORD, IL	47	32	11	1	1	2	2	Los Angeles, CA	366	255	80	16	8	1	41
South Bend, IN	58 109	47	20	4	-		2	Pasadena, CA	25	18	5	2			2
Youngstown OH	57	53	29	1	_	1	4	Sacramento CA	278	207	50	9	2	-	20
ioungstown, orr	57	55	2				-	Sacramento, CA	169	119	34	9	4	3	14
W.N. Central	713	460	162	48	19	24	63	San Francisco. CA	111	73	26	7	4	1	4
Des Moines, IA	64	53	8	_	1	2	11	San Jose. CA	208	155	32	14	4	3	32
Duiuth, MN	30	22	8		_	_	2	Santa Cruz, CA	29	22	6	1	_	_	2
Kansas City, KS	31	18	8 04	3	2		2	Seattle, WA	135	95	26	6	3	5	9
Lincoln NE	93 22	22 25	24 5	3	4		2	Spokane, WA	62	43	13	4	1	1	5
Minneanolis MN	53 78	20 48	10	5 6	3	2	3	Tacoma, WA	105	79	22	2	2	_	3
Omaha NF	90	70	15	0 8	1	2	18	Total	12 251**	8 221	2 671	811	300	247	870
St. Louis. MO	158	85	48	13	6	6	8		12,201	0,221	2,071	511	000	241	070
St. Paul. MN	60	34	14	6	2	4	7								
Wichita KS	67	48	13	ő	_	_	1	1							

U: Unavailable. -: No reported cases.

U: Unavailable. —:No reported cases. * Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of ≥100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included. [†] Pneumonia and influenza. [§] Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks. [¶] Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted. ** Total includes unknown ages.





* No rubella cases were reported for the current 4-week period yielding a ratio for week 16 of zero (0).
† Ratio of current 4-week total to mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

The Morbidity and Mortality Weekly Report (MMWR) Series is prepared by the Centers for Disease Control and Prevention (CDC) and is available free of charge in electronic format and on a paid subscription basis for paper copy. To receive an electronic copy each week, send an e-mail message to *listserv@listserv.cdc.gov*. The body content should read *SUBscribe mmwr-toc*. Electronic copy also is available from CDC's World-Wide Web server at *http://www.cdc.gov/mmwr* or from CDC's file transfer protocol server at *ftp://ftp.cdc.gov/pub/publications/mmwr*. To subscribe for paper copy, contact Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone 202-512-1800.

Data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the following Friday. Address inquiries about the *MMWR* Series, including material to be considered for publication, to Editor, *MMWR* Series, Mailstop E-90, CDC, 1600 Clifton Rd., N.E., Atlanta, GA 30333; telephone 888-232-3228.

All material in the MMWR Series is in the public domain and may be used and reprinted without permission; citation as to source, however, is appreciated.

All MMWR references are available on the Internet at http://www.cdc.gov/mmwr. Use the search function to find specific articles.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

References to non-CDC sites on the Internet are provided as a service to *MMWR* readers and do not constitute or imply endorsement of these organizations or their programs by CDC or the U.S. Department of Health and Human Services. CDC is not responsible for the content of these sites. URL addresses listed in *MMWR* were current as of the date of publication.

☆U.S. Government Printing Office: 2006-523-056/40041 Region IV ISSN: 0149-2195