Centers for Disease Control and Prevention

MMWR

Morbidity and Mortality Weekly Report

Weekly / Vol. 59 / No. 20

May 28, 2010

World No Tobacco Day — May 31, 2010

Tobacco use is the leading cause of preventable death worldwide and is estimated to kill 5 million persons each year. According to the World Health Organization (WHO), if current trends continue, by 2030 tobacco use could cause 8 million deaths annually (*1*).

WHO created World No Tobacco Day in 1987 to draw global attention to tobacco use and the preventable death and disease it causes. The theme for this year's World No Tobacco Day, which will be held on May 31, is "gender and tobacco, with an emphasis on marketing to women."

Although women account for only about 20% of the world's 1 billion smokers, female smoking rates are on the rise (*2*), and tobacco advertising increasingly targets girls and women (*3*). World No Tobacco Day this year emphasizes the importance of controlling tobacco use among women and understanding the differences between males and females in tobacco use, awareness of tobacco advertising and marketing, and the health effects of tobacco use. Additional information regarding World No Tobacco Day is available on the Internet (*2*).

References

1. World Health Organization. WHO report on the global tobacco epidemic, 2009: implementing smoke-free environments. Geneva, Switzerland: World Health Organization; 2009. Available at http://www.who.int/tobacco/mpower/en.
2. World Health Organization. Tobacco free Initiative: World No Tobacco Day 2010. Theme: gender and tobacco with an emphasis on marketing to women. Available at http://www.who.int/tobacco/wntd/2010/announcement/en/index.html.
3. World Health Organization. Women and health: today's evidence, tomorrow's agenda. Geneva, Switzerland: World Health Organization; 2009. Available at http://www.who.int/gender/women_health_report/en.

Differences by Sex in Tobacco Use and Awareness of Tobacco Marketing — Bangladesh, Thailand, and Uruguay, 2009

The majority of the world's 1.3 billion tobacco users are men, but female use is increasing (*1,2*). To examine differences in tobacco use and awareness of tobacco marketing by sex, CDC and health officials in Bangladesh, Thailand, and Uruguay (among the first countries to report results) analyzed 2009 data from a newly instituted survey, the Global Adult Tobacco Survey (GATS). This report summarizes the results of that analysis, which indicated wide variation among the three countries in tobacco use, product types used, and marketing awareness among males and females. In Bangladesh and Thailand, use of smoked tobacco products was far greater among males (44.7% and 45.6%, respectively) than females (1.5% and 3.1%, respectively). In Uruguay, the difference was smaller (30.7% versus 19.8%). Use of smokeless tobacco products in Bangladesh was approximately the same among males (26.4%) and females (27.9%), but females were significantly more likely to use smokeless tobacco in Thailand (6.3% versus 1.3%), and use in

INSIDE

619 Attitudes Toward Mental Illness — 35 States, District of Columbia, and Puerto Rico, 2007
626 FDA Licensure of Bivalent Human Papillomavirus Vaccine (HPV2, Cervarix) for Use in Females and Updated HPV Vaccination Recommendations from the Advisory Committee on Immunization Practices (ACIP)
630 FDA Licensure of Quadrivalent Human Papillomavirus Vaccine (HPV4, Gardasil) for Use in Males and Guidance from the Advisory Committee on Immunization Practices (ACIP)
632 Announcement
632 Notice to Readers
633 QuickStats

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
www.cdc.gov/mmwr

Uruguay by either sex was nearly nonexistent. Males in Bangladesh were twice as likely as females to notice cigarette advertising (68.0% versus 29.3%), but the difference between males and females was smaller in Thailand (17.4% versus 14.5%) and Uruguay (49.0% versus 40.0%). In all three countries, awareness of tobacco marketing was more prevalent among females aged 15–24 years than older women. Comprehensive bans on advertising, sponsorship, and promotion of tobacco products, recommended by the World Health Organization (WHO) (*1*), can reduce per capita cigarette consumption if enforced (*3*).

GATS* is a new nationally representative household survey of persons aged ≥15 years, initially conducted during 2008–2009 in 14 countries: Bangladesh, Brazil, China, Egypt, India, Mexico, Philippines, Poland, Russian Federation, Thailand, Turkey, Ukraine, Uruguay and Vietnam. Bangladesh, Thailand, and Uruguay were among the first countries to report results. The GATS core questionnaire includes detailed questions regarding the demographic characteristics of respondents, their tobacco use, and a wide range of tobacco-related topics (e.g., cessation, secondhand smoke, economics, media, and knowledge, attitudes, and perceptions). In each country, a multistage cluster sample design is used, with the number of households selected proportionate to population size. Households are chosen randomly within a primary sampling unit or secondary sampling unit, and one respondent is selected at random from each selected household to participate in the survey. Interviewers administer the survey in the country's local language, using handheld electronic data collection devices. Interviews are conducted privately and same-sex interviewers are used in countries where culturally appropriate (e.g., Bangladesh). Response rates and number of participants for the three countries in 2009 were as follows: Bangladesh, 93.6% and 9,629; Thailand, 94.2% and 20,566; and Uruguay, 95.6% and 5,581.

To examine differences in tobacco use by sex, estimates of current tobacco use† in the three countries were analyzed for both smoked tobacco products§ and

* Additional information available at http://www.cdc.gov/tobacco/global/gats.

† Percentage of respondents who reported currently smoking tobacco or using smokeless tobacco on a "daily" or "less than daily" basis.

§ In Bangladesh, these included manufactured cigarettes, bidis, and other smoked products such as cigars, pipes, and water pipes. In Thailand and Uruguay, they included manufactured and hand-rolled cigarettes.

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

Suggested citation: Centers for Disease Control and Prevention. [Article title]. MMWR 2010;59:[inclusive page numbers].

Centers for Disease Control and Prevention

Thomas R. Frieden, MD, MPH, *Director*
Peter A. Briss, MD, MPH, *Acting Associate Director for Science*
James W. Stephens, PhD, *Office of the Associate Director for Science*
Stephen B. Thacker, MD, MSc, *Deputy Director for Surveillance, Epidemiology, and Laboratory Services*

MMWR Editorial and Production Staff

Frederic E. Shaw, MD, JD, *Editor,* MMWR *Series*
Christine G. Casey, MD, *Deputy Editor,* MMWR *Series*
Robert A. Gunn, MD, MPH, *Associate Editor,* MMWR *Series*
Teresa F. Rutledge, *Managing Editor,* MMWR *Series*
Douglas W. Weatherwax, *Lead Technical Writer-Editor*
Donald G. Meadows, MA, Jude C. Rutledge, *Writer-Editors*
Martha F. Boyd, *Lead Visual Information Specialist*
Malbea A. LaPete, Stephen R. Spriggs, Terraye M. Starr
Visual Information Specialists
Quang M. Doan, MBA, Phyllis H. King
Information Technology Specialists

MMWR Editorial Board

William L. Roper, MD, MPH, Chapel Hill, NC, *Chairman*
Virginia A. Caine, MD, Indianapolis, IN
Jonathan E. Fielding, MD, MPH, MBA, Los Angeles, CA
David W. Fleming, MD, Seattle, WA
William E. Halperin, MD, DrPH, MPH, Newark, NJ
King K. Holmes, MD, PhD, Seattle, WA
Deborah Holtzman, PhD, Atlanta, GA
John K. Iglehart, Bethesda, MD
Dennis G. Maki, MD, Madison, WI
Patricia Quinlisk, MD, MPH, Des Moines, IA
Patrick L. Remington, MD, MPH, Madison, WI
Barbara K. Rimer, DrPH, Chapel Hill, NC
John V. Rullan, MD, MPH, San Juan, PR
William Schaffner, MD, Nashville, TN
Anne Schuchat, MD, Atlanta, GA
Dixie E. Snider, MD, MPH, Atlanta, GA
John W. Ward, MD, Atlanta, GA

smokeless tobacco products.¶ To examine differences in tobacco marketing awareness by sex, "yes" responses were analyzed to questions regarding whether participants had noticed advertising, promotion, or sponsorship of cigarettes in the preceding 30 days. Estimates were reported for noticing any cigarette marketing, noticing marketing in stores where cigarettes are sold, and noticing marketing other than in stores where cigarettes are sold.** In Bangladesh, similar questions regarding bidi†† and smokeless tobacco marketing were included in the survey. All estimates were weighted to reflect the noninstitutionalized population aged ≥15 years in each country, accounting for clustered sampling in the variance estimation. Statistical significance of differences in values was determined using a chi-square test, with significance determined at $p<0.05$.

In all three countries, current tobacco use was higher among males than females, but use of tobacco varied substantially by sex. In Bangladesh, overall smoking prevalence among females (1.5%) was far lower than males (44.7%) (Table 1). However, the prevalence of smokeless tobacco use among females (27.9%) and males (26.4%) was approximately the same. In Thailand, smoking prevalence was much lower among females, compared with males (3.1% versus 45.6%), but smokeless tobacco use was higher among females than males (6.3% versus 1.3%, respectively). In Uruguay, 19.8% of females were current smokers, compared with 30.7% of males, but only one of the 5,581 participants reported using smokeless tobacco.

Regardless of age group or region type (urban or rural), males were more likely to smoke than females in all three countries. Among both males and females,

¶ In Bangladesh, these included betel quid with tobacco, sada pata, gul, khoinee zarda, and pan masala. In Thailand, they include betel quid with tobacco. In Uruguay, they included any smokeless or chew tobacco product; however, only one respondent in Uruguay indicated smokeless tobacco use.

** Noticing any cigarette marketing included noticing advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions in the preceding 30 days. Noticing cigarette marketing in stores where cigarettes are sold included noticing cigarettes at sale prices, free gifts, or discount offers on other products while buying cigarettes, or any advertisements or signs promoting cigarettes in stores where cigarettes are sold in the preceding 30 days. Noticing cigarette marketing in places other than in stores where cigarettes are sold included noticing any advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions in the preceding 30 days other than in stores where cigarettes are sold.

†† Hand-rolled cigarettes made of tobacco flakes wrapped in a temburini or tendu leaf and tied with a string.

TABLE 1. Current tobacco use among persons aged ≥15 years, by sex and selected characteristics — Global Adult Tobacco Survey, Bangladesh, Thailand, and Uruguay, 2009

	Bangladesh (N = 9,629)				Thailand (N = 20,566)				Uruguay (N = 5,581)			
	Males (n = 4,468)		Females (n = 5,161)		Males (n = 10,052)		Females (n = 10,514)		Males (n = 2,634)		Females (n = 2,947)	
Characteristic	%	(95% CI*)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Overall	**58.0**	**(55.9–60.1)**	**28.7**	**(26.7–30.8)†**	**46.4**	**(44.6–48.2)**	**9.1**	**(8.2–10.2)†**	**30.7**	**(28.2–33.4)**	**19.8**	**(18.1–21.6)†**
Smoked tobacco products§	**44.7**	**(42.5–47.0)**	**1.5**	**(1.1–2.1)†**	**45.6**	**(43.8–47.4)**	**3.1**	**(2.7–3.6)†**	**30.7**	**(28.2–33.4)**	**19.8**	**(18.1–21.6)†**
Age group (yrs)												
15–24	24.0	(20.4–28.0)	0.4	(0.1–1.0)†	37.4	(32.5–42.6)	1.4	(0.9–2.3)†	28.9	(23.4–35.0)	20.2	(15.6–25.8)†
25–44	53.1	(50.1–56.1)	1.1	(0.6–2.0)†	51.4	(49.1–53.7)	2.3	(1.8–3.0)†	35.0	(30.7–39.5)	26.0	(22.7–29.5)†
45–64	57.9	(53.6–62.2)	2.6	(1.7–4.0)†	45.2	(42.9–47.6)	4.4	(3.5–5.5)†	34.9	(30.4–39.7)	22.8	(19.1–27.1)†
≥65	39.1	(32.7–45.9)	6.6	(3.5–12.2)†	37.7	(34.2–41.4)	5.6	(4.2–7.4)†	13.2	(9.8–17.5)	5.2	(3.8–7.1)†
Region type												
Urban	42.1	(39.5–44.7)	0.8	(0.5–1.2)†	41.9	(40.1–43.7)	3.3	(2.8–3.8)†	30.9	(28.1–33.8)	20.0	(18.2–21.9)†
Rural	45.6	(42.8–48.5)	1.8	(1.2–2.6)†	47.1	(44.7–49.6)	3.0	(2.4–3.8)†	28.9	(25.0–33.1)	16.7	(12.7–21.7)†
Smokeless tobacco products¶	**26.4**	**(24.2–28.6)**	**27.9**	**(25.9–30.0)**	**1.3**	**(1.1–1.7)**	**6.3**	**(5.5,7.2)†**	**0.0**	**(0.0–0.1)**		**—****
Age group (yrs)												
15–24	9.3	(6.6–12.9)	4.0	(2.9–5.6)†	0.1	(0.0–0.5)		—		—		—
25–44	27.0	(24.3–29.9)	26.6	(23.9–29.5)	0.5	(0.3–1.0)	0.7	(0.4–1.1)		—		—
45–64	40.4	(36.0–44.9)	56.2	(52.1–60.3)†	1.6	(1.1–2.2)	8.5	(7.0–10.3)†	0.0	(0.0–0.3)		—
≥65	49.3	(42.8–55.8)	64.1	(56.3–71.2)†	7.5	(5.6–9.9)	32.9	(28.9–37.1)†		—		—
Region type												
Urban	21.6	(19.0–24.4)	23.4	(20.6–26.4)	0.8	(0.6–1.1)	2.2	(1.7–2.8)†		—		—
Rural	28.1	(25.3–31.0)	29.6	(27.1–32.1)	1.5	(1.2–2.0)	8.3	(7.1–9.6)†	0.1	(0.0–0.9)		—

* Confidence interval.

† Significant difference between females and males ($p<0.05$, chi-square test).

§ In Bangladesh, these include manufactured cigarettes, bidis, and other smoked products such as cigars, pipes, and water pipes. In Thailand and Uruguay, they include manufactured and hand-rolled cigarettes.

¶ In Bangladesh, these include betel quid with tobacco, sada pata, gul, khoinee zarda, and pan masala. In Thailand, they include betel quid with tobacco. In Uruguay, they include any smokeless or chew tobacco product; however, only one respondent in Uruguay indicated smokeless tobacco use.

** No respondent in category reported use.

What is already known on this topic?

Before the advent of the Global Adult Tobacco Survey (GATS), comparative data on tobacco prevalence and awareness of tobacco marketing among countries were not available.

What is added by this report?

GATS results for three of the first countries to have data available, Bangladesh, Thailand, and Uruguay, indicate wide variation in tobacco use, products used, and awareness of tobacco product marketing among males and females.

What are the implications for public health practice?

Implementation of the World Health Organization's MPOWER strategy can effectively reduce tobacco use and its associated illness and deaths.

smoking prevalence varied by age group but did not vary greatly by region type. In Bangladesh and Thailand, smokeless tobacco use among both males and females increased with age group, and smokeless tobacco use was higher in rural than urban areas. In each of these countries, the greatest prevalence of smokeless tobacco use was among women aged ≥65 years: 64.1% in Bangladesh and 32.9% in Thailand.

The percentage of females who noticed any cigarette advertising, sponsorship, or promotion in the preceding 30 days was 29.3% in Bangladesh, 14.5% in Thailand, and 40.0% in Uruguay (Table 2). Among males, the prevalence was 68.0% in Bangladesh, 17.4% in Thailand, and 49.0% in Uruguay. Among females, awareness of cigarette marketing in stores where cigarettes are sold was 22.0% in Bangladesh, 7.6% in Thailand, and 24.0% in Uruguay. In Thailand and Uruguay, little or no difference in awareness of in-store cigarette marketing was observed between males and females; however, in Bangladesh, the prevalence among males (54.8%) was more than double the prevalence among females. Similar patterns by sex were observed for awareness of cigarette marketing other than in stores where cigarettes are sold. The percentage of females who noticed tobacco advertising, sponsorship, or promotion other than in stores where cigarettes are sold was 16.5% in Bangladesh, 8.3% in Thailand, and 31.6% in Uruguay.

In all three countries, awareness of cigarette advertising was greater among females aged 15–24 years than women aged ≥25 years. Similar age differences were observed among males in all three countries. In Bangladesh, awareness of bidi (80.1%) and smokeless tobacco (69.9%) marketing was widespread among females and did not vary by age. In Thailand, for both males and females, those who lived in urban areas were more likely to report exposure to cigarette marketing than those in rural areas. This relationship also was observed among males in Uruguay. In contrast, awareness of both bidi and smokeless tobacco marketing in Bangladesh was more common among males in rural areas than in urban areas (Table 2).

Reported by

S Choudhury, PhD, National Heart Foundation Hospital & Research Institute, Dhaka, Bangladesh. M Kengganpanich, PhD, Thailand Mahidol Univ; S Benjakul, PhD, Thailand Ministry of Public Health. A Lorenzo, MD, W Abascal, MD, National Tobacco Control Program, Uruguay Ministry of Health. BJ Apelberg, PhD, Johns Hopkins Bloomberg School of Public Health. SA Mirza, L Zhao, J Hsia, KM Palipudi, L Andes, J Morton, S Asma. Global Tobacco Control Br, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note

This report is the first to compare results among countries that participated in GATS. The findings demonstrate the wide variation in prevalence of tobacco use and types of tobacco used by males and females in Bangladesh, Thailand, and Uruguay and also the widespread exposure to tobacco marketing in these three countries, particularly among persons aged 15–24 years. Although tobacco use surveys have been conducted previously in all three countries, the results from GATS are the first that allow comparison among countries using the same core questionnaire and survey method.

One finding from these surveys is the lower prevalence of current smoking among females in Bangladesh and Thailand compared with males, but the higher prevalence of smokeless tobacco use among females. This reflects the traditional social acceptance of smokeless tobacco use among females in Southeast Asian countries (*4*), where older women are more likely to be users. In contrast, in Uruguay, smokeless tobacco use by either sex is virtually nonexistent. Tobacco use in individual countries reflects a complex interaction of personal, familial, cultural, and social factors, including exposure to tobacco industry marketing (*5*). For example, in the United States, girls and young women have been shown to be particularly susceptible to beliefs about self-image

TABLE 2. Awareness of tobacco marketing in the past 30 days among persons aged ≥15 years, by sex, marketing type, and selected characteristics — Global Adult Tobacco Survey, Bangladesh, Thailand, and Uruguay, 2009

	Bangladesh (N = 9,629)				Thailand (N = 20,566)				Uruguay (N = 5,581)			
	Males (n = 4,468)		Females (n = 5,161)		Males (n = 10,052)		Females (n = 10,514)		Males (n = 2,634)		Females (n = 2,947)	
Marketing type/Characteristic	%	(95% CI*)	%	(95% CI)	%	(95% CI*)	%	(95% CI*)	%	(95% CI*)	%	(95% CI*)
Noticed any cigarette advertising, sponsorship, or promotion†	**68.0**	**(64.9–71.0)**	**29.3**	**(26.1–32.6)§**	**17.4**	**(15.8–19.0)**	**14.5**	**(13.0–16.0)§**	**49.0**	**(46.0–52.0)**	**40.0**	**(37.2–42.8)§**
Age group (yrs)												
15–24	73.1	(68.0–77.7)¶	37.9	(33.5–42.5)¶	25.1	(21.1–29.6)¶	28.1	(23.7–32.8)¶	60.1	(53.4–66.5)¶	62.5	(55.4–69.0)¶
≥25	65.9	(62.6–69.0)	25.6	(22.4–29.1)	15.3	(13.9–16.8)	11.2	(10.1–12.5)	45.8	(42.9–48.9)	34.9	(32.2–37.7)
Region type												
Urban	67.6	(63.3–71.7)	28.6	(23.3–34.6)	22.0	(20.3–23.8)**	17.4	(15.9–19.1)**	49.8	(46.6–53.0)**	40.2	(37.3–43.3)
Rural	68.1	(64.1–71.8)	29.5	(25.7–33.6)	15.3	(13.3–17.6)	13.1	(11.1–15.3)	40.7	(35.9–45.6)	35.6	(31.2–40.4)
In stores where cigarettes are sold††	**54.8**	**(51.7–57.9)**	**22.0**	**(19.1–25.3)§**	**8.3**	**(7.1–9.6)**	**7.6**	**(6.5–8.9)**	**29.9**	**(27.1–32.8)**	**24.0**	**(21.6–26.5)§**
Age group (yrs)												
15–24	58.9	(53.7–64.0)¶	28.2	(24.2–34.5)¶	12.1	(9.3–15.7)¶	15.2	(11.7–19.6)¶	40.1	(34.5–45.9)¶	41.8	(35.2–48.6)¶
≥25	53.1	(49.8–56.3)	19.4	(16.4–22.8)	7.3	(6.2–8.4)	5.8	(4.9–6.8)	27.0	(24.0–30.1)	20.0	(17.8–22.4)
Region type												
Urban	52.5	(48.1–56.9)	19.5	(15.2–24.6)	10.1	(8.9–11.5)**	8.9	(7.6–10.3)	30.6	(27.6–33.7)**	24.5	(22.0–27.2)**
Rural	55.6	(51.7–59.5)	22.9	(19.3–27.0)	7.5	(6.0–9.3)	7.0	(5.6–8.8)	22.3	(18.8–26.3)	16.2	(12.7–20.4)
Other than in stores where cigarettes are sold§§	**47.7**	**(44.4–51.0)**	**16.5**	**(14.2–19.1)§**	**11.1**	**(9.9–12.3)**	**8.3**	**(7.3–9.5)§**	**39.6**	**(36.6–42.6)**	**31.6**	**(29.0–34.4)§**
Age group (yrs)												
15–24	53.9	(48.4–59.4)¶	22.2	(18.7–26.1)¶	16.6	(13.3–20.5)¶	16.5	(13.2–20.4)¶	47.1	(40.3–54.1)¶	50.3	(43.4–57.1)¶
≥25	45.1	(41.9–48.4)	14.1	(11.9–16.6)	9.6	(8.5–10.7)	6.4	(5.6–7.3)	37.4	(34.3–40.5)	27.5	(25.0–30.1)
Region type												
Urban	50.5	(46.6–54.4)	17.6	(13.6–22.5)	14.7	(13.3–16.1)**	10.5	(9.4–11.7)**	40.1	(36.8–43.4)**	31.8	(29.0–34.7)
Rural	46.7	(42.5–50.9)	16.1	(13.4–19.3)	9.5	(7.9–11.3)	7.3	(5.9–9.0)	34.2	(29.9–38.7)	29.7	(25.5–34.2)
Noticed any bidi advertising, sponsorship, or promotion	**85.9**	**(81.8–89.2)**	**80.1**	**(73.7–85.4)**		**NA¶¶**		**NA**		**NA**		**NA**
Age group (yrs)												
15–24	88.5	(82.8–92.5)	83.0	(77.3–88.8)		NA		NA		NA		NA
≥25	84.8	(80.4–88.3)	78.2	(70.4–84.3)		NA		NA		NA		NA
Region type												
Urban	76.1	(69.9–81.3)**	74.2	(63.7–82.5)		NA		NA		NA		NA
Rural	89.2	(83.8–92.9)	81.9	(73.7–88.0)		NA		NA		NA		NA
Noticed any smokeless tobacco advertising, sponsorship, or promotion	**70.8**	**(64.1–76.7)**	**69.9**	**(61.4–77.2)**		**NA**		**NA**		**NA**		**NA**
Age group (yrs)												
15–24	74.1	(64.1–82.0)	69.3	(60.3–77.0)		NA		NA		NA		NA
≥25	69.4	(62.4–75.7)	70.2	(60.6–78.3)		NA		NA		NA		NA
Region type												
Urban	57.6	(49.3–65.5)**	67.0	(54.5–77.5)		NA		NA		NA		NA
Rural	76.0	(66.9–83.2)	71.0	(60.0–80.0)		NA		NA		NA		NA

* Confidence interval.
† Includes any advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions.
§ Significant difference between females and males (p<0.05, chi-square test).
¶ Significant difference between younger and older age group (p<0.05, chi-square test).
** Significant difference between urban and rural region type (p<0.05, chi-square test).
†† Includes cigarettes at sale prices, free gifts, or discount offers on other products while buying cigarettes, or any advertisements or signs promoting cigarettes in stores where cigarettes are sold.
§§ Includes any advertisements or signs promoting cigarettes, cigarette company sponsorship of sporting events, or cigarette promotions other than in stores where cigarettes are sold.
¶¶ Data not available.

and weight control, and might be influenced more by female friends and role models who smoke or use tobacco (*5*).

GATS survey results like these can be used to better understand comparative patterns of tobacco use among countries, which, in turn, can be used to create more effective control programs and monitor the impact of these programs. GATS was created to enable systematic monitoring of tobacco use by persons aged ≥15 years and key tobacco-control indicators in low- and middle-income countries. Over time, GATS will provide detailed information on a range of tobacco-control topics, including cessation, secondhand smoke, economics, media, and knowledge, attitudes, and perceptions.

The theme of WHO's World No Tobacco Day 2010 (May 31) is "gender and tobacco with an emphasis on marketing to women." Tobacco marketing is important to the initiation and maintenance of tobacco use (*6*). In all three countries in this report, greater awareness of cigarette marketing was found among females aged 15–24 years than older women,

suggesting that tobacco companies might be targeting this age group. Historically, the tobacco industry has taken advantage of increasingly liberalized social attitudes toward women and increased economic empowerment of women to aggressively market and sell its products (*7*). In the absence of effective tobacco control policies, this pattern might repeat itself in low- and middle-income countries, resulting in a rise in tobacco use and tobacco-related disease and death.

Globally, each year, the tobacco industry spends tens of billions of dollars on direct and indirect advertising of tobacco products (*8*). Comprehensive bans on tobacco advertising, sponsorship, and promotion have been shown to reduce per capita cigarette consumption (*3*) if adequately enforced. Enforcement of bans on tobacco advertising, sponsorship, and promotion, is a component of WHO's MPOWER strategy (*1*). According to WHO, only 26 countries have implemented comprehensive bans on direct and indirect tobacco advertising, and many do not have high levels of compliance (*8*). Bangladesh and Uruguay have a ban on all national television, radio, and print media, and on some, but not all, other forms of direct and/or indirect advertising of tobacco products. In these countries, enforcement is rated as high, but not complete (*8*). Thailand has a ban on all direct and indirect advertising, with the level of enforcement rated somewhat lower.[§§] The results presented in this report indicate that the lowest prevalence of awareness of cigarette marketing, among both males and females, was found in Thailand, where prohibition of the display of cigarettes packets or logos of tobacco brands at the points of sale was enforced beginning in 2005.

The findings in this report are subject to at least two limitations. First, the prevalence results are based on self-reports. In certain settings, social norms (i.e., unacceptability of women smoking) might result in underreporting. However, this tendency might have been mitigated by using same-sex interviewers and conducting interviews in private settings. Second, regarding the findings on awareness of tobacco marketing, slight variations in the number and type of specific response categories used in each country might limit comparability. For example, Thailand added a category of "pubs/bars" as a site for tobacco marketing to the core GATS questionnaire and removed "public walls." Uruguay added the category "e-mail" to promotions, and Thailand added a category for the "Internet." Aside from these differences, the response categories were similar among the three countries.

Continued monitoring will be needed to determine trends in tobacco use and awareness of tobacco marketing and the differences between males and females. Repeated GATS surveys in participating countries will allow the countries to compare results to other countries, track key tobacco control indicators, and monitor progress toward tobacco-control goals.

[§§] Enforcement ratings are measured on a 10-point scale and are based on an in-country qualitative assessment by national tobacco-control experts. Bangladesh received an enforcement rating of 9, Thailand 7, and Uruguay 9.

Acknowledgments

This report is based, in part, on contributions by R Caixeta, DDS, Pan American Health Organization, and D Sinha, MD, Southeast Asian Regional Office, World Health Organization.

References

1. World Health Organization. WHO report on the global tobacco epidemic, 2008: the MPOWER package. Geneva, Switzerland: World Health Organization; 2008. Available at http://www.who.int/tobacco/mpower/2008/en/index.html. Accessed May 25, 2010.
2. CDC. Global youth tobacco surveillance, 2000–2007. Surveillance Summaries. January 25, 2008. MMWR 2008; 57(No. SS-1).
3. Blecher E. The impact of tobacco advertising bans on consumption in developing countries. J Health Econ 2008; 27:930–42.
4. Gupta PC, Ray CS. Smokeless tobacco and health in India and South Asia. Respirology 2003;8:419–31.
5. World Health Organization. Gender, women, and the tobacco epidemic. Geneva, Switzerland: World Health Organization; 2010. In press.
6. National Cancer Institute. Monograph 19: the role of the media in promoting and reducing tobacco use. Rockville, MD: National Cancer Institute; 2008. Available at http://cancercontrol.cancer.gov/tcrb/monographs/19/index.html. Accessed May 25, 2010.
7. Shafey O, Fernandez E, Thun M, Schiaffino A, Dolwick S, Cokkinides V. Cigarette advertising and female smoking prevalence in Spain, 1982–1997: case studies in international tobacco surveillance. Cancer 2004;100:1744–9.
8. World Health Organization. WHO report on the global tobacco epidemic, 2009: implementing smoke-free environments. Geneva, Switzerland: World Health Organization; 2009. Available at http://www.who.int/tobacco/mpower/2009/en/index.html. Accessed May 25, 2010.

Attitudes Toward Mental Illness — 35 States, District of Columbia, and Puerto Rico, 2007

Negative attitudes about mental illness often underlie stigma, which can cause affected persons to deny symptoms; delay treatment; be excluded from employment, housing, or relationships; and interfere with recovery (*1*). Understanding attitudes toward mental illness at the state level could help target initiatives to reduce stigma, but state-level data are scant. To study such attitudes, CDC analyzed data from the District of Columbia (DC), Puerto Rico, and the 35 states participating in the 2007 Behavioral Risk Factor Surveillance System (BRFSS) (the most recent data available), which included two questions on attitudes toward mental illness. Most adults (88.6%) agreed with a statement that treatment can help persons with mental illness lead normal lives, but fewer (57.3%) agreed with a statement that people are generally caring and sympathetic to persons with mental illness. Responses to these questions differed by age, sex, race/ethnicity, and education level. Although most adults with mental health symptoms (77.6%) agreed that treatment can help persons with mental illness lead normal lives, fewer persons with symptoms (24.6%) believed that people are caring and sympathetic to persons with mental illness. This report provides the first state-specific estimates of these attitudes and provides a baseline for monitoring trends. Initiatives that can educate the public about how to support persons with mental illness and local programs and media support to decrease negative stereotypes of mental illness can reduce barriers for those seeking or receiving treatment for mental illness (*2,3*).

To measure attitudes about mental illness through BRFSS and other surveys, the Substance Abuse and Mental Health Services Administration (SAMHSA) and CDC collaborated in 2005 to develop brief questions suitable for surveillance (*4*). BRFSS is an ongoing, state-based, random-digit–dialed telephone survey of the noninstitutionalized civilian population aged ≥18 years.* With SAMHSA and CDC support, 35 states, DC, and Puerto Rico questioned survey respondents to the 2007 BRFSS about mental illness. Questions included the Kessler-6 scale of serious psychological distress (*5*), frequent mental distress, one question about current treatment for an emotional problem, and two attitudinal questions.

The Kessler 6-scale asks respondents how often in the past 30 days they felt six symptoms of mental illness (i.e., feeling nervous, depressed, hopeless, restless, like a failure, like everything was an effort). Each item is scored on a 5-point scale indicating frequency, ranging from 0 (none of the time) to 4 (all of the time), and summed (score range: 0–24). Respondents scoring 13 or more on this scale were classified as having serious psychological distress (*5*). Frequent mental distress was measured with the question, "For how many days in the past 30 days was your mental health (due to stress, depression, or problems with emotions) not good?" Respondents reporting 14 or more poor mental health days were identified as having frequent mental distress. To determine current treatment for an emotional problem, survey participants were asked, "Are you now taking medicine or receiving treatment from a doctor or other health professional for any type of mental health condition or emotional problem?"

Attitudes were assessed by asking respondents to indicate their level of agreement with two statements. The first statement assessed attitude on the effectiveness of treatment: "Treatment can help people with mental illness lead normal lives." The second statement assessed the respondent's perception of others' attitudes toward persons with mental illness: "People are generally caring and sympathetic to people with mental illness."† Before inclusion in BRFSS, cognitive testing in a sample of the general population confirmed that adults understood these questions as intended. For example, respondents suggested that "normal lives" meant "being able to do everyday things, like going to the grocery store, paying bills, things that you have to do to live." The question about attitudes toward treatment also demonstrated acceptable construct validity with expectations regarding mental illness recovery.

Data were weighted to estimate population parameters. CDC used statistical software to calculate unadjusted and adjusted proportions (adjusted for sex,

* Additional information available at http://www.cdc.gov/brfss.

† These questions were modified from the 2002 National Scottish Survey of Public Attitudes to Mental Health, Well Being and Mental Health Problems, included in more recent versions of the survey available at http://www.scotland.gov.uk/publications/2009/09/15120147/10.

What is already known on this subject?

Negative attitudes about mental illness pose barriers for persons needing mental health treatment or recovering from mental illness.

What is added by this report?

This report provides the first state-specific estimates of attitudes toward persons with mental illness and treatment of mental illness. Most adults agreed (89%) with the effectiveness of mental illness treatment but fewer agreed (57%) that other people are caring and sympathetic toward those with mental illness.

What are the implications for public health practice?

Initiatives that can educate the public about how to support persons with mental illness and local programs and media support to decrease negative stereotypes of mental illness can reduce barriers for those seeking or receiving treatment for mental illness.

age group, racial/ethnic group, education, and household income) of agreement by state and by serious psychological distress, frequent mental distress, and mental health treatment, and to account for the complex BRFSS survey design. After adjustment, CDC examined differences in proportions across agreement categories for both questions by serious psychological distress, frequent mental distress, and mental health treatment status. The analyses excluded persons who responded "did not know" or "refused" to answer the questions.[§] The sample size included 202,065 adults. Among the 35 states, DC, and Puerto Rico, the median Council of American Survey Research Organization (CASRO) response rate was 51% and the CASRO cooperation rate was 71.4%.[¶]

Most adults agreed, either strongly (62.8%) or slightly (25.8%), that treatment could help persons with mental illness lead normal lives, but responses varied by states (Table 1). The highest percentages of strongly agreeing with this statement were in Connecticut, DC, Louisiana, Oregon, Vermont, Virginia, and Washington; the lowest was in Puerto Rico (Figure). Proportions for neither agree nor disagree ranged from 0.6% (Iowa) to 9.2% (Puerto Rico). Younger adults, men, persons other than white non-Hispanics, and persons at lower education levels were less likely to agree strongly with this statement (Table 2).

In contrast with the statement about treatment, a lower proportion of adults agreed, either strongly (22.3%) or slightly (35.0%), with the statement that people are caring and sympathetic to persons with mental illness (Table 3). The highest percentages of strongly agreeing with this statement occurred in Hawaii, Louisiana, Mississippi, Oklahoma, Nevada, and New Mexico. The lowest was in Puerto Rico. Adults aged 25–54 years, women, white non-Hispanics and black non-Hispanics, and college graduates were less likely to agree with this statement (Table 2).

Approximately 4.0% of adults were classified with serious psychological distress, 10.0% were classified with frequent mental distress, and 10.8% reported receiving treatment for an emotional problem. Although most adults with mental health symptoms (77.6%) agreed strongly or slightly that treatment can help persons with mental illness lead normal lives, about 17.8% disagreed (Table 2). Fewer respondents with mental health symptoms (24.6%) agreed strongly or slightly that people are generally caring and sympathetic to persons with mental illness than those without such distress or treatment (Table 2).

Reported by

R Manderscheid, PhD, National Assoc of County Behavioral Health and Developmental Disability Directors. P Delvecchio, MSW, C Marshall, Center for Mental Health Svcs, Substance Abuse and Mental Health Svcs Admin. RG Palpant, MS, J Bigham, TH Bornemann, EdD, Carter Center Mental Health Program. R Kobau, MPH, MAPP, M Zack, MD, G Langmaid, W Thompson, PhD, D Lubar, MSW, Div of Adult and Community Health, National Center for Chronic Disease Prevention and Health Promotion, CDC.

Editorial Note

This is the first state-specific study of attitudes toward mental illness treatment and empathy toward persons with mental illness. The study sought to assess attitudes related to the course of mental illness (i.e., treatment prognosis and possibility of recovery; and perception of supportive behaviors) that might directly influence seeking treatment or recovery and might reflect stigmatizing attitudes amenable to public health intervention. In the 37 jurisdictions surveyed, most adults believed in the effectiveness of mental illness treatment, but fewer agreed that people are

[§] For each question, approximately 2% of respondents answered "did not know" and approximately 0.3% of respondents refused to answer each question.

[¶] The response rate is the percentage of persons who completed interviews among all eligible persons, including those who were not successfully contacted. The cooperation rate is the percentage of persons who completed interviews among all eligible persons who were contacted. Rates are available at http://ftp.cdc.gov/pub/data/brfss/2007summarydataqualityreport.pdf.

TABLE 1. Level of agreement* with the statement that treatment can help persons with mental illness lead normal lives,† by state and territory — Behavioral Risk Factor Surveillance System, 2007

	Unweighted sample size	Disagree strongly		Disagree slightly		Neither agree nor disagree		Agree slightly		Agree strongly	
State	N	%	(95% CI§)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alaska	2,365	1.2	(0.7–2.1)	3.7	(2.4–5.5)	1.4	(0.5–3.2)	25.9	(23.0–2 9.1)	63.3	(60.0–66.5)
Arkansas	5,299	1.9	(1.3–2.7)	3.5	(2.8–4.4)	0.7	(0.4–1.0)	23.9	(22.2–25.6)	67.2	(65.4–69.0)
California	5,052	1.8	(1.3–2.5)	4.3	(3.5–5.2)	1.5	(1.1–2.0)	29.6	(27.7–31.5)	61.6	(59.7–63.6)
Colorado	5,423	1.4	(1.0–1.9)	3.8	(3.0–4.8)	0.7	(0.4–1.1)	25.9	(24.3–27.6)	65.3	(63.5–67.0)
Connecticut	6,586	1.1	(0.7–1.6)	2.4	(1.9–3.1)	1.9	(1.4–2.6)	21.6	(20.1–23.1)	71.3	(69.7–72.9)
District of Columbia	3,419	1.5	(1.0–2.1)	2.9	(2.2–3.7)	1.3	(0.7–2.1)	18.3	(16.5–20.2)	74.0	(71.9–76.0)
Georgia	6,838	1.8	(1.3–2.5)	3.8	(3.1–4.6)	3.0	(2.4–3.8)	23.7	(22.1–25.4)	65.3	(63.5–67.1)
Hawaii	6,262	2.4	(1.9–3.0)	4.8	(4.0–5.8)	1.7	(1.3–2.2)	26.9	(25.2–28.6)	59.9	(58.1–61.7)
Illinois	5,030	1.5	(1.0–2.0)	4.0	(3.2–5.0)	0.9	(0.6–1.3)	27.2	(25.4–29.0)	65.0	(63.1–66.9)
Indiana	5,467	1.4	(0.9–2.0)	3.5	(2.8–4.4)	1.3	(0.9–1.7)	26.6	(24.8–28.4)	64.5	(62.6–66.4)
Iowa	4,921	1.3	(0.9–1.9)	3.3	(2.6–4.2)	0.6	(0.3–1.0)	26.0	(24.3–27.8)	66.5	(64.7–68.3)
Kansas	4,081	1.1	(0.7–1.4)	2.6	(1.9–3.3)	2.3	(1.6–2.9)	25.5	(23.8–27.3)	66.2	(64.3–68.1)
Kentucky	6,185	1.7	(1.0–2.8)	1.5	(1.1–2.0)	5.7	(4.7–6.9)	25.2	(23.4–27.0)	62.1	(60.1–64.1)
Louisiana	6,098	2.1	(1.6–2.8)	3.6	(2.8–4.6)	1.9	(1.4–2.6)	16.6	(15.3–18.1)	72.0	(70.3–73.7)
Maine	3,734	1.5	(0.8–2.4)	3.3	(2.5–4.2)	1.0	(0.7–1.6)	23.7	(21.9–25.6)	70.5	(68.5–72.5)
Massachusetts	4,162	2.1	(1.3–3.1)	3.6	(2.7–4.6)	1.8	(1.3–2.5)	23.4	(21.3–25.7)	66.9	(64.5–69.3)
Michigan	4,235	1.6	(1.0–2.6)	3.5	(2.7–4.5)	0.9	(0.5–1.4)	25.2	(23.4–27.1)	65.9	(63.8–67.8)
Minnesota	4,485	—¶	—	—	—	3.6	(2.9–4.3)	29.2	(27.3–31.2)	67.2	(65.2–69.2)
Mississippi	7,381	2.2	(1.5–3.1)	4.4	(3.6–5.4)	1.3	(1.0–1.7)	21.6	(20.2–23.1)	67.0	(65.3–68.7)
Missouri	4,738	1.5	(1.0–2.1)	3.2	(2.4–4.2)	1.7	(1.1–2.3)	25.1	(23.1–27.3)	68.6	(66.3–70.7)
Montana	5,415	1.6	(1.1–2.3)	3.5	(2.8–4.4)	3.3	(2.6–4.1)	25.9	(24.2–27.6)	62.7	(60.8–64.5)
Nebraska	4,890	1.1	(0.6–1.9)	3.2	(2.3–4.5)	1.7	(1.0–2.8)	24.9	(22.3–27.7)	66.9	(64.0–69.7)
Nevada	3,868	2.0	(1.3–2.8)	3.7	(2.9–4.8)	2.0	(1.3–3.0)	29.2	(26.8–31.7)	60.2	(57.7–62.7)
New Hampshire	5,453	0.9	(0.6–1.3)	3.1	(2.5–3.9)	2.1	(1.6–2.6)	24.3	(22.7–25.9)	67.7	(66.0–69.3)
New Mexico	5,961	1.8	(1.2–2.6)	3.8	(3.1–4.6)	2.4	(1.9–3.0)	24.4	(22.8–26.2)	63.3	(61.5–65.2)
Ohio	5,014	1.2	(0.7–1.7)	3.6	(2.9–4.5)	1.4	(1.0–2.0)	23.0	(21.3–24.7)	68.8	(66.9–70.6)
Oklahoma	6,885	1.2	(0.8–1.6)	3.1	(2.5–3.8)	0.8	(0.5–1.2)	24.1	(22.7–25.6)	66.5	(64.9–68.0)
Oregon	1,898	0.9	(0.4–1.6)	2.2	(1.4–3.5)	1.4	(0.7–2.5)	21.4	(19.0–24.1)	71.7	(68.8–74.4)
Puerto Rico	3,832	1.6	(1.1–2.2)	4.4	(3.6–5.3)	9.2	(8.0–10.6)	56.4	(54.3–58.4)	25.7	(23.9–27.6)
Rhode Island	3,915	1.3	(0.8–2.0)	3.5	(2.7–4.5)	2.9	(2.1–3.8)	28.3	(26.2–30.5)	61.9	(59.7–64.2)
South Carolina	9,889	1.4	(1.1–1.8)	4.4	(3.7–5.1)	1.1	(0.8–1.5)	26.8	(25.4–28.2)	61.6	(60.1–63.1)
Texas	7,386	2.2	(1.8–2.8)	4.9	(4.1–5.8)	4.4	(3.7–5.2)	24.9	(23.2–26.6)	57.9	(56.1–59.7)
Vermont	6,589	1.0	(0.7–1.5)	2.1	(1.6–2.6)	1.4	(1.0–1.9)	22.8	(21.4–24.3)	70.2	(68.6–71.7)
Virginia	5,305	2.1	(1.0–4.2)	2.8	(2.1–3.6)	1.8	(1.3–2.4)	20.8	(19.0–22.7)	70.8	(68.5–72.9)
Washington	13,325	1.5	(1.1–1.9)	3.0	(2.4–3.6)	1.9	(1.5–2.3)	20.8	(19.8–21.9)	70.0	(68.8–71.2)
Wisconsin	4,332	1.5	(1.0–2.1)	4.3	(3.2–5.5)	0.7	(0.4–1.1)	29.8	(27.7–31.9)	61.6	(59.4–63.8)
Wyoming	5,780	0.9	(0.5-1.4)	3.1	(2.4-3.9)	1.5	(1.0-2.0)	26.7	(25.0-28.5)	65.5	(63.7-67.3)
Total	**202,065**	**1.8**	**(1.6–2.0)**	**3.9**	**(3.6–4.1)**	**2.1**	**(1.9–2.3)**	**25.8**	**(25.3–26.3)**	**62.8**	**(62.3–63.4)**

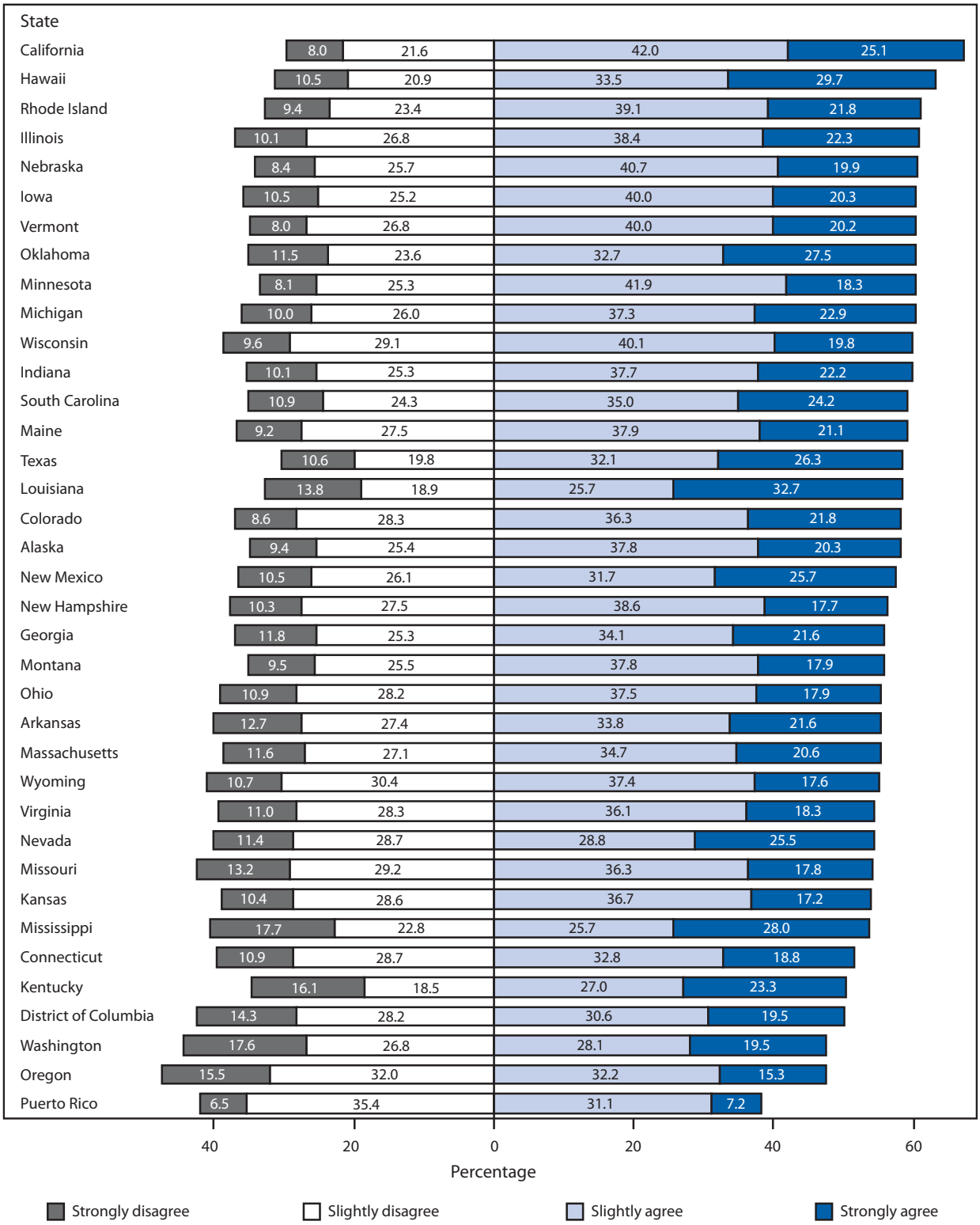
* Adjusted for sex, age group, racial/ethnic group, education and household income level. Estimates are weighted; sample size is unweighted.
† Attitudes were assessed by asking respondents to indicate their level of agreement with the statement, "Treatment can help people with mental illness lead normal lives."
§ Confidence intervals.
¶ Data suppressed because of unstable estimates; before adjustment, about 4% of Minnesota adults disagreed with this statement.

caring and sympathetic toward persons with mental illness. These results have public health implications because adverse attitudes about mental illness can lead to stigmatization of persons with mental illness. In addition, the results have implications for mental health treatment because adults who do not believe in the effectiveness of mental illness treatment might be less likely to seek treatment when needed. Also, persons with mental health symptoms who believe that others are not caring and sympathetic toward persons with mental illness might be less likely to disclose mental health problems to friends, family members, colleagues, or other persons who could help.

Some of the adverse attitudes indicated in this report might be caused by stigma experienced by some respondents (e.g., those with mental health problems who received less support at work or at home or who experienced exclusion from activities) (*6*). Respondents who perceived adverse attitudes about empathy in other persons also might have had less contact with persons with mental illness, or also might harbor misconceptions about the risks associated with mental illness symptoms (*7*).

Although the study did not include all 50 states and U.S. territories, state-to-state differences were noted, but no clear regional patterns emerged on the attitudes studied. Differences might have resulted from culture and the social environment (e.g., norms, customs, language, lifestyle, and degree of acculturation), differences in how mental health is portrayed

FIGURE. Level of agreement* with the statement that people are caring and sympathetic to persons with mental illness,† by state and territory — Behavioral Risk Factor Surveillance System, 2007



* Adjusted for sex, age group, racial/ethnic group, education and household income level. Estimates are weighted; sample size is omitted. Neither agree nor disagree responses are not shown.

† Attitudes were assessed by asking respondents to indicate their level of agreement with the statement, "People are generally caring and sympathetic to people with mental illness."

TABLE 2. Level of agreement with statements about mental illness* by demographic characteristics, serious psychological distress, and having received treatment— Behavioral Risk Factor Surveillance System, 2007

	Unweighted sample size	Disagree strongly		Disagree slightly		Neither agree nor disagree		Agree slightly		Agree stongly	
Statements/Characteristics	N	%†	(95% CI§)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Treatment can help persons with mental illness lead normal lives											
Total†	**202,065**	**1.8**	**(1.6–2.0)**	**3.9**	**(3.6–4.1)**	**2.1**	**(1.9–2.3)**	**25.8**	**(25.3–26.3)**	**62.8**	**(62.3–63.4)**
Age group (yrs)											
18–24	7,286	2.3	(1.7–3.1)	6.8	(5.7–8.0)	2.1	(1.6–2.7)	38.4	(36.2–40.6)	50.5	(48.2–52.7)
25–34	20,504	1.9	(1.5–2.5)	4.0	(3.5–4.6)	1.9	(1.6–2.3)	31.0	(29.7–32.3)	61.2	(59.8–62.5)
35–54	72,878	1.4	(1.2–1.7)	2.9	(2.7–3.2)	1.9	(1.6–2.1)	23.9	(23.2–24.6)	69.9	(69.2–70.6)
≥55	93,290	1.4	(1.2–1.6)	3.5	(3.2–3.8)	2.5	(2.3–2.7)	23.6	(23.0–24.2)	69.0	(68.4–69.6)
Sex											
Male	72,350	1.9	(1.7–2.2)	4.3	(4.0–4.7)	2.3	(2.1–2.6)	30.7	(29.9–31.5)	60.7	(59.9–61.6)
Female	122,671	1.3	(1.1–1.5)	3.2	(2.9–3.5)	1.9	(1.7–2.1)	23.0	(22.5–23.6)	70.6	(70.0–71.2)
Race/Ethnicity											
White, non-Hispanic	152,980	1.1	(1.0–1.3)	3.0	(2.8–3.3)	1.8	(1.6–2.0)	24.7	(24.2–25.2)	69.4	(68.9–69.9)
Black, non-Hispanic	13,772	2.8	(2.3–3.3)	6.6	(5.6–7.7)	2.4	(1.9–3.0)	26.9	(25.1–28.7)	61.4	(59.6–63.3)
Hispanic	14,689	3.0	(2.4–3.7)	5.1	(4.3–6.0)	3.4	(2.9–4.0)	34.7	(32.9–36.5)	53.8	(52.0–55.7)
Other	12,062	2.1	(1.4–3.0)	4.4	(3.6–5.4)	1.9	(1.4–2.6)	29.9	(27.7–32.2)	61.7	(59.3–64.0)
Educational level											
<High school	18,186	3.4	(2.8–4.1)	5.8	(5.0–6.7)	3.5	(2.9–4.2)	31.9	(30.2–33.7)	55.3	(53.4–57.1)
High school graduate	56,660	1.9	(1.6–2.2)	5.0	(4.5–5.4)	2.4	(2.1–2.7)	30.2	(29.3–31.1)	60.6	(59.7–61.6)
Some college	51,772	1.4	(1.1–1.7)	3.8	(3.4–4.2)	2.0	(1.8–2.3)	27.6	(26.6–28.5)	65.2	(64.2–66.2)
College graduate	68,130	1.0	(0.7–1.3)	2.1	(1.8–2.4)	1.5	(1.3–1.7)	21.7	(21.0–22.4)	73.8	(73.0–74.5)
Mental health symptoms†											
Frequent mental distress	20,176	3.1	(2.5–3.6)	5.3	(4.6–5.9)	2.1	(1.7–2.6)	24.8	(23.4–26.1)	61.5	(59.9–63.0)
Serious psychological distress	8,010	5.7	(4.8–6.7)	9.6	(8.3–10.9)	2.3	(1.6–3.1)	24.6	(22.4–26.8)	54.6	(52.0–57.2)
Receiving medicine/treatment from a health professional for an emotional problem	26,279	1.8	(1.4–2.1)	3.9	(3.4–4.5)	1.4	(1.2–1.7)	20.3	(19.2–21.4)	70.2	(69.0–71.3)
None of the above	157,176	1.6	(1.4–1.8)	3.8	(3.5–4.1)	2.2	(2.0–2.4)	26.8	(26.3–27.4)	62.4	(61.9–63.0)
All of the above	3,293	6.8	(5.4–8.2)	11.0	(8.8–13.2)	2.3	(1.4–3.2)	25.6	(22.6–28.6)	52.0	(48.5–55.5)
People are generally caring and sympathetic to persons with mental illness											
Total†	**202,065**	**10.6**	**(10.3–10.9)**	**24.7**	**(24.3–25.2)**	**3.2**	**(3.0–3.4)**	**35.0**	**(34.5–35.5)**	**22.3**	**(21.9–22.8)**
Age group (yrs)											
18–24	7,339	7.7	(6.8–8.8)	23.0	(21.2–24.9)	2.9	(2.3–3.6)	43.5	(41.3–45.7)	22.8	(20.9–24.8)
25–34	20,579	10.3	(9.6–11.2)	28.3	(27.2–29.5)	3.0	(2.6–3.5)	37.9	(36.6–39.2)	20.4	(19.3–21.7)
35–54	72,928	12.0	(11.6–12.5)	27.1	(26.5–27.8)	3.3	(3.0–3.6)	37.0	(36.2–37.7)	20.5	(19.9–21.2)
≥55	92,814	11.1	(10.7–11.5)	23.5	(22.9–24.0)	3.7	(3.5–4.0)	34.5	(33.9–35.2)	27.2	(26.6–27.8)
Sex											
Male	72,578	8.9	(8.4–9.3)	22.9	(22.2–23.6)	3.5	(3.2–3.8)	40.6	(39.8–41.4)	24.1	(23.4–24.9)
Female	122,140	12.9	(12.5–13.3)	28.5	(27.9–29.0)	3.2	(3.0–3.4)	33.9	(33.3–34.5)	21.5	(20.9–22.0)
Race/Ethnicity											
White, non-Hispanic	152,612	11.2	(10.8–11.5)	28.0	(27.5–28.5)	3.2	(3.0–3.4)	38.4	(37.9–38.9)	19.3	(18.9–19.7)
Black, non-Hispanic	13,772	15.1	(13.9–16.4)	23.0	(21.5–24.6)	3.0	(2.5–3.7)	31.7	(29.9–33.6)	27.2	(25.6–28.8)
Hispanic	14,672	7.8	(6.9–8.7)	20.3	(18.9–21.8)	4.5	(4.0–5.1)	35.7	(33.9–37.6)	31.7	(29.9–33.5)
Other	12,154	10.7	(9.6–12.0)	19.2	(17.5–20.9)	2.9	(2.2–3.7)	35.0	(32.7–37.4)	32.2	(30.0–34.5)
Educational level											
<High school	18,096	9.3	(8.4–10.3)	16.3	(15.0–17.5)	3.4	(2.9–3.9)	32.4	(30.7–34.2)	38.6	(36.8–40.5)
High school graduate	56,843	10.5	(10.0–11.0)	22.3	(21.6–23.1)	3.3	(3.0–3.7)	36.2	(35.2–37.1)	27.7	(26.9–28.6)
Some college	51,687	12.1	(11.5–12.7)	27.3	(26.4–28.2)	3.5	(3.1–3.8)	36.8	(35.9–37.8)	20.4	(19.6–21.2)
College graduate	67,814	11.0	(10.5–11.5)	30.4	(29.7–31.2)	3.3	(3.0–3.6)	39.8	(39.0–40.5)	15.6	(15.0–16.2)
Mental health symptoms†											
Frequent mental distress	20,176	22.2	(21.1–23.4)	26.6	(25.2–28.0)	2.9	(2.3–3.4)	28.1	(26.6–29.6)	17.3	(16.0–18.6)
Serious psychological distress	8,010	31.4	(29.2–33.6)	26.4	(23.7–29.0)	2.3	(1.6–3.0)	22.9	(20.6–25.3)	14.4	(12.3–16.4)
Receiving medicine/treatment from a health professional for an emotional problem	26,279	19.3	(18.3–20.3)	27.2	(26.0–28.3)	3.2	(2.7–3.6)	29.3	(28.1–30.6)	17.6	(16.7–18.6)
None of the above	157,176	9.2	(8.9–9.5)	24.3	(23.8–24.8)	3.2	(3.0–3.5)	36.4	(35.8–36.9)	23.4	(22.9–23.9)
All of the above	3,293	51.1	(47.4–54.8)	20.7	(17.3–24.2)	2.0	(0.6–3.4)	15.6	(12.7–18.5)	9.0	(6.7–11.4)

* Attitudes were assessed by asking respondents to indicate their level of agreement with the statements "Treatment can help people with mental illness lead normal lives" and "People are generally caring and sympathetic to people with mental illness."

† Adjusted for sex, age group, racial/ethnic group, education and household income level. Row totals do not equal 100% because "don't know" and refusals were omitted. Estimates are weighted; sample size is unweighted.

§ Confidence intervals.

TABLE 3. Level of agreement* with the statement that people are caring and sympathetic to persons with mental illness,† by state and territory — Behavioral Risk Factor Surveillance System, 2007

	Unweighted sample size	Disagree strongly		Disagree slightly		Neither agree nor disagree		Agree slightly		Agree strongly	
State	N	%	(95% CI§)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Alaska	2,365	9.4	(7.7–11.3)	25.4	(22.7–28.4)	2.3	(1.2–4.5)	37.8	(34.7–40.9)	20.3	(17.7–23.2)
Arkansas	5,299	12.7	(11.6–13.9)	27.4	(25.8–29.1)	1.4	(1.0–1.9)	33.8	(32.0–35.6)	21.6	(20.2–23.2)
California	5,052	8.0	(7.0–9.0)	21.6	(20.0–23.2)	2.1	(1.6–2.6)	42.0	(40.1–43.9)	25.1	(23.4–26.9)
Colorado	5,422	8.6	(7.7–9.6)	28.3	(26.7–29.9)	1.3	(1.0–1.6)	36.3	(34.6–38.0)	21.8	(20.2–23.4)
Connecticut	6,623	10.9	(9.8–12.0)	28.7	(27.1–30.3)	4.0	(3.3–4.7)	32.8	(31.2–34.5)	18.8	(17.5–20.1)
District of Columbia	3,419	14.3	(12.8–15.9)	28.2	(26.3–30.2)	3.0	(2.3–3.7)	30.6	(28.5–32.7)	19.5	(17.7–21.4)
Georgia	6,838	11.8	(10.7–13.0)	25.3	(23.7–26.9)	4.8	(4.1–5.7)	34.1	(32.3–35.9)	21.6	(20.1–23.1)
Hawaii	6,270	10.5	(9.4–11.7)	20.9	(19.5–22.4)	2.4	(1.9–3.0)	33.5	(31.8–35.2)	29.7	(28.0–31.4)
Illinois	5,030	10.1	(9.0–11.3)	26.8	(25.2–28.5)	1.1	(0.8–1.6)	38.4	(36.5–40.2)	22.3	(20.7–23.9)
Indiana	5,467	10.1	(9.1–11.2)	25.3	(23.7–26.9)	2.0	(1.5–2.6)	37.7	(35.8–39.6)	22.2	(20.6–23.9)
Iowa	4,921	10.5	(9.5–11.6)	25.2	(23.7–26.8)	1.5	(1.1–2.0)	40.0	(38.2–41.9)	20.3	(18.9–21.9)
Kansas	4,081	10.4	(9.3–11.6)	28.6	(26.9–30.4)	4.5	(3.7–5.3)	36.7	(34.7–38.6)	17.2	(15.7–18.8)
Kentucky	6,185	16.1	(14.6–17.7)	18.5	(17.0–20.2)	11.1	(9.8–12.7)	27.0	(25.2–28.8)	23.3	(21.6–25.1)
Louisiana	6,099	13.8	(12.6–15.1)	18.9	(17.5–20.4)	3.7	(3.1–4.4)	25.7	(24.2–27.4)	32.7	(31.1–34.4)
Maine	3,851	9.2	(8.1–10.4)	27.5	(25.7–29.5)	2.1	(1.6–2.7)	37.9	(35.9–40.0)	21.1	(19.4–22.8)
Massachusetts	4,162	11.6	(10.1–13.3)	27.1	(25.0–29.3)	3.4	(2.6–4.4)	34.7	(32.3–37.1)	20.6	(18.7–22.8)
Michigan	4,235	10.0	(8.9–11.2)	26.0	(24.2–27.8)	1.5	(0.9–2.4)	37.3	(35.3–39.3)	22.9	(21.3–24.6)
Minnesota	4,729	8.1	(7.1–9.1)	25.3	(23.6–27.0)	5.0	(4.2–6.0)	41.9	(39.9–43.9)	18.3	(16.7–20.0)
Mississippi	7,381	17.7	(16.4–19.1)	22.8	(21.5–24.2)	2.6	(2.1–3.1)	25.7	(24.2–27.2)	28.0	(26.4–29.6)
Missouri	4,850	13.2	(11.7–14.7)	29.2	(27.2–31.4)	1.5	(1.1–2.1)	36.3	(34.1–38.5)	17.8	(16.2–19.5)
Montana	5,415	9.5	(8.5–10.5)	25.5	(23.9–27.2)	4.7	(4.0–5.5)	37.8	(35.9–39.7)	17.9	(16.5–19.5)
Nebraska	4,890	8.4	(7.0–10.1)	25.7	(23.2–28.4)	2.0	(1.3–3.0)	40.7	(37.8–43.7)	19.9	(17.7–22.3)
Nevada	3,868	11.4	(10.1–12.9)	28.7	(26.4–31.0)	2.3	(1.7–3.0)	28.8	(26.6–31.1)	25.5	(23.2–27.9)
New Hampshire	5,453	10.3	(9.3–11.4)	27.5	(26.0–29.1)	3.7	(3.1–4.4)	38.6	(36.9–40.4)	17.7	(16.5–19.1)
New Mexico	5,961	10.5	(9.5–11.7)	26.1	(24.5–27.7)	2.3	(1.8–3.0)	31.7	(29.9–33.5)	25.7	(24.0–27.4)
Ohio	5,014	10.9	(9.7–12.1)	28.2	(26.5–30.0)	3.3	(2.6–4.1)	37.5	(35.6–39.4)	17.9	(16.5–19.5)
Oklahoma	6,885	11.5	(10.5–12.5)	23.6	(22.3–24.9)	1.1	(0.8–1.6)	32.7	(31.2–34.3)	27.5	(26.1–29.0)
Oregon	1,898	15.5	(13.5–17.7)	32.0	(29.2–34.8)	2.1	(1.3–3.2)	32.2	(29.5–35.0)	15.3	(13.3–17.6)
Puerto Rico	3,832	6.5	(5.5–7.6)	35.4	(33.4–37.4)	17.3	(15.7–18.9)	31.1	(29.2–33.1)	7.2	(6.2–8.3)
Rhode Island	3,923	9.4	(8.3–10.7)	23.4	(21.5–25.3)	4.5	(3.7–5.5)	39.1	(36.9–41.3)	21.8	(20.0–23.8)
South Carolina	9,889	10.9	(10.0–11.9)	24.3	(23.1–25.7)	1.2	(0.9–1.6)	35.0	(33.6–36.5)	24.2	(23.0–25.5)
Texas	7,386	10.6	(9.5–11.7)	19.8	(18.4–21.2)	5.2	(4.5–6.1)	32.1	(30.4–33.9)	26.3	(24.6–28.0)
Vermont	6,589	8.0	(7.2–8.8)	26.8	(25.4–28.3)	2.1	(1.7–2.6)	40.0	(38.4–41.6)	20.2	(18.9–21.5)
Virginia	5,305	11.0	(9.8–12.4)	28.3	(26.0–30.6)	4.2	(3.4–5.1)	36.1	(33.8–38.4)	18.3	(16.4–20.3)
Washington	13,366	17.6	(16.7–18.6)	26.8	(25.7–27.9)	3.1	(2.7–3.6)	28.1	(27.0–29.3)	19.5	(18.5–20.6)
Wisconsin	4,332	9.6	(8.3–11.0)	29.1	(27.1–31.2)	0.5	(0.3–0.9)	40.1	(37.9–42.4)	19.8	(18.1–21.6)
Wyoming	5,780	10.7	(9.7–11.8)	30.4	(28.7–32.0)	1.6	(1.2–2.0)	37.4	(35.7–39.2)	17.6	(16.3–19.0)
Total	**202,065**	**10.6**	**(10.3–10.9)**	**24.7**	**(24.3–25.2)**	**3.2**	**(3.0–3.4)**	**35.0**	**(34.5.35.5)**	**22.3**	**(21.9–22.8)**

* Adjusted for sex, age group, racial/ethnic group, education and household income level. Estimates are weighted; sample size is unweighted.
† Attitudes were assessed by asking respondents to indicate their level of agreement with the statement, "People are generally caring and sympathetic to people with mental illness."
§ Confidence intervals.

in various media, and differences in awareness of and access to mental health treatment. Geographic variability in attitudes toward mental illness and its causes should be a topic of further study.

Attitudes toward persons with mental illness appear to be improving in the United States. One study determined that in 2006, compared with previous decades since the 1950s, more U.S. adults believed that mental health problems could improve with treatment (*8*). The large proportion of adults with positive attitudes toward mental illness treatment in the United States (and in the 37 jurisdictions studied for this report) might result from antistigma campaigns, and greater attention, awareness, and understanding of mental health (*9*).

One result from the analysis presented in this report was the varying attitudes by education level. For example, adults with greater education were more likely to agree strongly that mental health treatment can help persons with mental illness lead normal lives but were less likely to agree strongly that people can be caring and sympathetic to persons with mental illness. In one study, among some professionals, more knowledge and contact with persons with mental illness was associated with more stigmatizing attitudes (*10*). Another possibility is that these adults might have experienced less supportive behaviors associated with mental illness (i.e., feel stigmatized) and thus were more likely to report negative attitudes compared with other groups.

The findings in this report are subject to at least four limitations. First, BRFSS surveys include only noninstitutionalized adults with telephones. Persons in institutions and in households without telephones are excluded, and this population might include a higher proportion of persons with mental health symptoms. Second, because states commonly use only English- or Spanish-language surveys, persons who speak other primary languages are excluded, which could affect race- and ethnicity-specific results. Third, because these data are not nationally representative, no conclusions can be drawn about the entire U.S. population. Finally, the question on caring and sympathy requires further validation in terms of understanding its association with other mental health attitudinal measures (*4*).

Persons with mental illness generally are able to live successful, full lives, particularly if they receive proper treatment and support. To reduce the effects of stigma, public health and mental health agencies can implement local activities to reduce negative attitudes about mental illness (*3*). Because the media can frame public opinion, they can be important partners in this and in promoting accounts of mental illness recovery (*2*). Public educational resources, such as those available on SAMHSA's "What a difference a friend makes" Internet site,** also can reduce negative attitudes toward mental illness by providing information about mental illness and its treatment, and help persons learn how to reassure, be friends with, and accept persons who seek or receive treatment for mental illness.

** Available at http://www.whatadifference.samhsa.gov.

Acknowledgments

This report is based, in part, on data contributed by BRFSS state coordinators and state mental health services data infrastructure coordinators.

References

1. Weiss MG, Ramakrishna J, Somma D. Health-related stigma: rethinking concepts and interventions. Psychol Health Med 2006;11:277–87.
2. Wahl OF. News media portrayal of mental illness: implications for public policy. Am Behav Scientist. 2003;46:1594-1600
3. Substance Abuse and Mental Health Services Administration. Developing a stigma reduction initiative. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration; 2006. Available at http://download.ncadi.samhsa.gov/ken/pdf/sma06-4176/developing_a_stigma_reduction.pdf.
4. Kobau R, DiIorio C, Chapman D, Delvecchio P, Substance Abuse and Mental Health Services Administration/CDC Mental Illness Stigma Panel Members. Attitudes about mental illness and its treatment: validation of a generic scale for public health surveillance of mental illness associated stigma. Community Ment Health J 2010;46:164–76.
5. Kessler RC, Barker PR, Colpe LJ, et al. Screening for serious mental illness in the general population Arch Gen Psychiatry 2003;60:184–9.
6. Baldwin ML, Marcus SC. Perceived and measured stigma among workers with serious mental illness. Psych Serv 2006;57:288–392.
7. Angermeyer MC, Matschinger H, Corrigan PW. Familiarity with mental illness and social distance from people with schizophrenia and major depression: testing a model using data from a representative population survey. Schizophr Res 2004;69:175–82.
8. Pescosolido B, Martin J K, Link BG, et al. Americans' views of mental health and illness at century's end: continuity and change. Public report on the MacArthur Mental Health Module, 1996 General Social Survey. Bloomington, IN: Indiana Consortium of Mental Health Services Research, Indiana University, and the Joseph P. Mailman School of Public Health, Columbia University; 2000. Available at http://www.indiana.edu/~icmhsr/docs/Americans'%20Views%20of%20Mental%20Health.pdf.
9. US Department of Health and Human Services. Mental health: a report of the Surgeon General. Rockville, MD: US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health, 1999.
10. Jorm AF, Korten AE, Jacomb PA, Christensen H, Henderson S. Attitudes towards people with a mental disorder: a survey of the Australian public and health professionals. Aust N Z J Psychiatry 1999;33:77–83.

FDA Licensure of Bivalent Human Papillomavirus Vaccine (HPV2, Cervarix) for Use in Females and Updated HPV Vaccination Recommendations from the Advisory Committee on Immunization Practices (ACIP)

On October 16, 2009, the Food and Drug Administration (FDA) licensed bivalent human papillomavirus vaccine (HPV2; Cervarix, GlaxoSmithKline) for use in females aged 10 through 25 years. Cervarix is the second human papillomavirus (HPV) vaccine licensed for use in females in the United States. Quadrivalent HPV vaccine (HPV4; Gardasil, Merck & Co, Inc.) was licensed in 2006 for use in females aged 9 through 26 years, and the Advisory Committee on Immunization Practices (ACIP) recommended routine HPV4 vaccination of females aged 11 or 12 years, and catch-up vaccination for females aged 13 through 26 years (*1*). This report provides updated recommendations for routine and catch-up vaccination of females with either HPV2 or HPV4.

Both HPV2 and HPV4 are composed of virus-like particles (VLPs) prepared from recombinant L1 capsid protein of HPV; the two vaccines are not live vaccines (Table 1). HPV2 is directed against two oncogenic types (HPV 16 and 18). HPV4 is directed against two oncogenic types (HPV 16 and 18) and two nononcogenic types (HPV 6 and 11). Both vaccines have high efficacy against HPV 16 and 18-related cervical precancer lesions. HPV4 also has high efficacy against HPV 6 and HPV 11-related genital warts and HPV 16 and 18-related vaginal and vulvar precancer lesions (Table 2) (*2–5*).

HPV 16 and 18 cause about 70% of cervical cancers; each of the other oncogenic HPV types accounts for a small percentage of all cervical cancers. Other HPV-associated cancers in females include a subset of vulvar, vaginal, anal, and oropharyngeal and oral cavity cancers, caused primarily by HPV 16. HPV 6 and 11 cause approximately 90% of genital warts and most cases of recurrent respiratory papillomatosis.

In anticipation of FDA licensure of HPV2, ACIP reviewed data on the immunogenicity, efficacy, and safety of HPV2, as well as information on HPV4. At its October 21, 2009, meeting, ACIP approved updated recommendations for use of HPV vaccines in females.

TABLE 1. Selected characteristics of quadrivalent human papillomavirus vaccine (HPV4) and bivalent human papillomavirus vaccine (HPV2)*

Characteristic	HPV4	HPV2
Manufacturer	Merck & Co, Inc.	GlaxoSmithKline
Vaccine composition (L1 protein)	20 μg HPV 6 40 μg HPV 11 40 μg HPV 16 20 μg HPV 18	20 μg HPV 16 20 μg HPV 18
Manufacturing	*Saccharomyces cerevisiae* (bread yeast), expressing L1	*Trichoplusia ni* insect cell line infected with L1 encoding recombinant baculovirus
Adjuvant	AAHS: 225 μg amorphous aluminum hydroxyphosphate sulfate	AS04: 500 μg aluminum hydroxide 50 μg 3-O-desacyl-4′ monophosphoryl lipid A
Preservatives	None	None
Other content	Sodium chloride, L-histidine, polysorbate 80, sodium borate, and water for injection	Sodium chloride and sodium dihydrogen phosphate dehydrate, and water for injection
Temperature storage	Store refrigerated at 36°–46°F (2°–8°C). Do not freeze.	Store refrigerated at 36°–46°F (2°–8°C). Do not freeze.
Volume per dose	0.5 mL	0.5 mL
Administration	Intramuscular	Intramuscular
Schedule/Intervals	3 doses Second and third doses 1 to 2 months and 6 months after first dose	3 doses Second and third doses 1 to 2 months and 6 months after first dose

* Both vaccines are composed of virus-like particles (VLPs) prepared from recombinant L1 capsid protein of human papillomavirus (HPV); the vaccines are not live vaccines.

TABLE 2. Efficacy of bivalent human papillomavirus vaccine (HPV2) and quadrivalent human papillomavirus vaccine (HPV4) in females

	Vaccine		Control		Vaccine efficacy	
Vaccine/Endpoint/HPV type	No.	Cases	No.	Cases	%	(CI*)
Bivalent vaccine (HPV2)†						(96.1% CI)
CIN2/3 or AIS§						
HPV 16 and/or 18	7,344	4	7,312	56	92.9	(79.9–98.3)
HPV 16	6,303	2	6,165	46	95.7	(82.9–99.6)
HPV 18	6,794	2	6,746	15	86.7	(39.7–98.7)
Quadrivalent vaccine (HPV4)¶						(95% CI)
CIN2/3 or AIS**						
HPV 6, 11, 16, and/or 18	7,864	2	7,865	110	98.2	(93.3–99.8)
HPV 16	6,647	2	6,455	81	97.6	(91.1–99.7)
HPV 18	7,382	0	7,316	29	100.0	(86.6–100.0)
VIN2/3 or VaIN2/3 **						
HPV 6, 11, 16, and/or 18	7,900	0	7,902	23	100.0	(82.6–100.0)
HPV 16	6,654	0	6,467	17	100.0	(76.5–100.0)
HPV 18	7,414	0	7,343	2	100.0	(<0–100.0)
Genital warts††						
HPV 6 and/or 11	6,932	2	6,856	189	99.0	(96.2–99.9)

Abbreviations: CIN2/3 = cervical intraepithelial neoplasia grade 2 or 3, AIS = adenocarcinoma in situ, VIN2/3 = vulvar intraepithelial neoplasia grade 2 or 3, VaIN2/3 = vaginal intraepithelial neoplasia grade 2 or 3, HPV = human papillomavirus.

* Confidence interval.

† Phase III trial. According to protocol efficacy analysis included females aged 15 through 25 years who received all 3 vaccine doses, were seronegative at day 1 and HPV DNA negative at day 1 through month 6 for the respective HPV type, and had normal or low grade cytology at day 1, with case counting beginning 1 day after third vaccine dose; mean duration of follow-up post first vaccine dose: 34.9 months.

§ **Source:** Paavonen J, Naud P, Salmeron J, et al. Efficacy of human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine against cervical infection and precancer caused by oncogenic HPV types (PATRICIA): final analysis of a double-blind, randomised study in young women. Lancet 2009;374:301–14.

¶ Combined analysis of one phase II and two phase III trials. Per protocol efficacy analysis included females aged 16 through 26 years who received all 3 vaccine doses, were seronegative at day 1 and HPV DNA negative at day 1 through month 7 for the respective HPV type, with case counting beginning 1 month after third vaccine dose; mean duration of follow-up post first vaccine dose: 42 months.

** **Source:** Kjaer SK, Sigurdsson K, Iversen OE, et al. A pooled analysis of continued prophylactic efficacy of quadrivalent human papillomavirus (Types 6/11/16/18) vaccine against high-grade cervical and external genital lesions. Cancer Prev Res 2009;2:868–78.

†† **Source:** Food and Drug Administration. Product approval-prescribing information [package insert]. Gardasil [human papillomavirus quadrivalent (types 6, 11, 16, and 18) vaccine, recombinant], Merck & Co, Inc: Food and Drug Administration 2009. Available at http://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm094042.htm. Accessed May 25, 2010.

HPV2 Clinical Trial Data

HPV2 efficacy was evaluated in two randomized, double-blind, controlled clinical trials in females aged 15 through 25 years, including a phase IIb study (*6,7*) and a phase III study (*4*). The phase III trial included 18,644 females, followed for a mean of 34.9 months. Efficacy against HPV 16 or 18-related cervical intraepithelial neoplasia grade 2 or 3 or adenocarcinoma in situ (CIN2+) was 92.9% in the according to protocol analysis (Table 2) (*4*). Among women who were HPV 16 or 18 DNA positive at study enrollment, the vaccine had no efficacy against CIN2+ due to that type. A subset of participants in the phase IIb study has been followed for up to 6.4 years (mean: 5.9 years) after dose one with high efficacy against HPV 16 or 18-related CIN2+ demonstrated throughout the follow-up period (*7*).

Protection against cervical lesions due to nonvaccine HPV types was evaluated. In an analysis limited to lesions without HPV 16 or 18 coinfection, efficacy against CIN2+ due to any of 12 nonvaccine oncogenic types (HPV 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68) was 37.4% (96.1% confidence interval [CI] = 7.4–58.2). In a post hoc analysis, efficacy against HPV 31-related CIN2+ in the according to protocol population was 89.4% (99.7% CI = 29.0–99.7) (*5*).

In all studies, ≥99% of participants developed an HPV 16 and 18 antibody response 1 month after completing the 3-dose series. Bridging immunogenicity studies were conducted among 1,193 females aged 10 through 14 years; geometric mean titers (GMTs) 1 month after the third dose were noninferior to those in females aged 15 through 25 years (*5*). The antibody responses for all vaccine antigens were noninferior after concomitant administration of HPV2 with tetanus toxoid, diphtheria toxoid, and acellular pertussis vaccine and/or with meningococcal conjugate vaccine in females aged 11 through 18 years compared with those after administration at separate visits. Rates of solicited and unsolicited symptoms and events were similar in all study groups (*8*).

HPV2 vaccinees were evaluated for injection-site and systemic symptoms, medically significant conditions, new onset autoimmune disorders, new onset

chronic diseases, deaths, serious adverse events, and pregnancy outcomes. Safety was evaluated by pooling data from 11 clinical trials of bivalent vaccine in females aged 10 through 25 years (*9*), and by a meta-analysis of safety databases of bivalent vaccine as well as other vaccines with the same adjuvant (*10*). The pooled safety analysis included 23,713 females aged 10 through 25 years; approximately 12,000 females received at least 1 dose of HPV2. In an analysis of local and general adverse events, a larger proportion of persons reported at least one injection-site symptom in the HPV2 group compared with controls (*5*). In the HPV2 group, 92% reported injection-site pain, 48% redness, and 44% swelling compared with 64%–87%, 24%–28%, and 17%–21% in the control groups. Fatigue, headache, and myalgia were the most common general symptoms. No differences were observed in unsolicited symptoms within 30 days of vaccination between the vaccine group and control groups.

Serious adverse events and deaths were evaluated in a pooled safety analysis that included 29,953 females aged 10 through 72 years (16,142 received HPV2). Proportions of persons reporting a serious adverse event were similar in vaccine and control groups (5.3% and 5.9%, respectively), as were the types of serious adverse events reported (*5*). In the pooled safety analysis, including 12,533 women who received HPV2 and over 10,730 in the control groups, incidence of potential new autoimmune disorders did not differ (0.8% in both groups).

Clinical protocols excluded women who were pregnant, and participants were instructed to avoid pregnancy until 2 months after the last vaccination. However, 3,696 pregnancies occurred in the vaccine group and 3,580 in the pooled control groups. Overall, no differences were observed in rates of any specific pregnancy outcomes between groups (*5*). Among 761 pregnancies around the time of vaccination (defined as last menstrual period 30 days before to 45 days after vaccination), 13.6% of pregnancies ended in spontaneous abortion in the vaccine group compared with 9.6% in the control group. HPV2 has been classified as Category B on the basis of animal studies that revealed no evidence of impaired fertility or harm to the fetus. No data are available on use of HPV2 in lactating women.

Vaccine Recommendations for HPV2 and HPV4

ACIP recommends routine vaccination of females aged 11 or 12 years with 3 doses of either HPV2 or HPV4. The vaccination series can be started beginning at age 9 years.

Vaccination is recommended for females aged 13 through 26 years who have not been vaccinated previously or who have not completed the 3-dose series. If a female reaches age 26 years before the vaccination series is complete, remaining doses can be administered after age 26 years. Ideally, vaccine should be administered before potential exposure to HPV through sexual contact.

ACIP recommends vaccination with HPV2 or HPV4 for prevention of cervical cancers and precancers. Both vaccines might provide protection against some other HPV-related cancers in addition to cervical cancer, although there are currently only data sufficient to recommend HPV4 for protection against vulvar and vaginal cancers and precancers. HPV4 is recommended also for prevention of genital warts.

Dosage, Administration, and Schedules

The dosing and administration schedules are the same for HPV4 and HPV2. Each dose is 0.5 mL, administered intramuscularly, preferably in a deltoid muscle. The vaccines are administered in a 3-dose schedule. The second dose is administered 1 to 2 months after the first dose, and the third dose is administered 6 months after the first dose.

The minimum interval between the first and second dose of vaccine is 4 weeks and between the second and third dose is 12 weeks. The minimum interval between the first and third dose is 24 weeks. Doses received after a shorter-than-recommended dosing interval should be readministered. If the HPV vaccine schedule is interrupted, the vaccine series does not need to be restarted. Coadministration of a different inactivated or live vaccine, either simultaneously or at any time before or after HPV vaccine, is permitted because neither HPV vaccine is a live vaccine.

Whenever feasible, the same HPV vaccine should be used for the entire vaccination series. No studies address interchangeability of HPV vaccines. However, if the vaccine provider does not know or have available the HPV vaccine product previously administered, either HPV vaccine can be used to complete the series to provide protection against HPV 16 and 18. For protection against HPV 6 or 11-related genital warts, a vaccination series with less than 3 doses of HPV4 might provide less protection against genital warts than a complete 3-dose HPV4 series.

Special Situations

Females who have abnormalities on their cervical cancer screening results are likely to be infected with one or more genital HPV types. With increasing severity of Papanicolau (Pap) findings, the likelihood of infection with HPV 16 or 18 increases, and benefits of vaccination decrease. Vaccination is still recommended for such females, because vaccination can provide protection against infection with HPV vaccine types not already acquired. Females should be advised that vaccination will have no therapeutic effect on an existing HPV infection or abnormal Pap test.

Prevaccination assessments (e.g., Pap testing or screening for high-risk HPV DNA, type-specific HPV tests, or HPV antibody) to establish the appropriateness of HPV vaccination are not recommended at any age.

A history of genital warts or clinically evident genital warts indicates infection with HPV, most often HPV 6 or 11. Vaccination is still recommended for such females because vaccination can provide protection against infection with HPV vaccine types not already acquired. Females should be advised that vaccination will have no therapeutic effect on an existing HPV infection or genital warts.

Lactating women can receive HPV vaccine.

HPV2 and HPV4 are not live vaccines, and can be administered to females who are immunosuppressed (from disease or medications). However, the immune response and vaccine efficacy might be less than that in immunocompetent persons.

Precautions and Contraindications

HPV vaccines are not recommended for use in pregnant women. If a woman is found to be pregnant after initiating the vaccination series, the remainder of the 3-dose series should be delayed until completion of pregnancy. Pregnancy testing is not needed before vaccination. If a vaccine dose has been administered during pregnancy, no intervention is needed.

Patients and health-care providers should report any exposure to HPV4 during pregnancy to Merck at telephone, 800-986-8999, and any exposure to HPV2 during pregnancy to GlaxoSmithKline at telephone, 888-452-9622.

HPV vaccines can be administered to persons with minor acute illnesses. Vaccination of persons with moderate or severe acute illnesses should be deferred until after the patient improves.

Syncope can occur after vaccination and has been observed among adolescents and young adults. To avoid serious injury related to a syncopal episode, vaccine providers should consider observing patients for 15 minutes after they are vaccinated.

HPV vaccines are contraindicated for persons with a history of immediate hypersensitivity to any vaccine component. HPV4 is produced in *Saccharomyces cerevisiae* (baker's yeast) and is contraindicated for persons with a history of immediate hypersensitivity to yeast. Prefilled syringes of HPV2 have latex in the rubber stopper and should not be used in persons with anaphylactic latex allergy. HPV2 single dose vials contain no latex.

References

1. CDC. Quadrivalent human papillomavirus vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 2007;56(No. RR-2).
2. Kjaer SK, Sigurdsson K, Iversen OE, et al. A pooled analysis of continued prophylactic efficacy of quadrivalent human papillomavirus (types 6/11/16/18) vaccine against high-grade cervical and external genital lesions. Cancer Prev Res 2009;2:868–78.
3. Food and Drug Administration. Product approval-prescribing information [package insert]. Gardasil [human papillomavirus quadrivalent (types 6, 11, 16, and 18) vaccine, recombinant], Merck & Co, Inc: Food and Drug Administration 2009. Available at http://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm094042.htm. Accessed May 25, 2010.
4. Paavonen J, Naud P, Salmeron J, et al. Efficacy of human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine against cervical infection and precancer caused by oncogenic HPV types (PATRICIA): final analysis of a double-blind, randomised study in young women. Lancet 2009;374:301–14.
5. Food and Drug Administration. Product approval-prescribing information [package insert]. Cervarix [human papillomavirus bivalent (types 16 and 18) vaccine, recombinant], GlaxoSmithKline Biologicals: Food and Drug Administration 2009. Available at http://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm186957.htm. Accessed May 25, 2010.
6. Harper DM, Franco EL, Wheeler C, et al. Efficacy of a bivalent L1 virus-like particle vaccine in prevention of infection with human papillomavirus types 16 and 18 in young women: a randomised controlled trial. Lancet 2004;364:1757–65.
7. Romanowski B, de Borba PC, Naud PS, et al. Sustained efficacy and immunogenicity of the human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine: analysis of a randomised placebo-controlled trial up to 6.4 years. Lancet 2009;374:1975–85.
8. Wheeler CM. Human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine co-administered with other vaccines in female adolescents [Abstract]. Presented at the 47th annual meeting of the Infectious Diseases Society of America, Philadelphia, PA, October 29–November 1, 2009.
9. Descamps D, Hardt K, Spiessens B, et al. Safety of human papillomavirus (HPV)-16/18 AS04-adjuvanted vaccine for cervical cancer prevention: a pooled analysis of 11 clinical trials. Hum Vaccin 2009;5:332–40.
10. Verstraeten T, Descamps D, David MP, et al. Analysis of adverse events of potential autoimmune aetiology in a large integrated safety database of AS04 adjuvanted vaccines. Vaccine 2008;26:6630–8.

FDA Licensure of Quadrivalent Human Papillomavirus Vaccine (HPV4, Gardasil) for Use in Males and Guidance from the Advisory Committee on Immunization Practices (ACIP)

On October 16, 2009, the Food and Drug Administration licensed quadrivalent human papillomavirus vaccine (HPV4; Gardasil, Merck & Co. Inc.) for use in males aged 9 through 26 years for prevention of genital warts caused by human papillomavirus (HPV) types 6 and 11. HPV4 had been licensed previously for use in females aged 9 through 26 years for prevention of HPV 6, 11, 16, and 18-related outcomes (i.e., vaginal, vulvar, and cervical precancers and cancers and genital warts). The Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination of females at age 11 or 12 years and catch-up vaccination for females aged 13 through 26 years (*1*). On October 21, 2009, ACIP provided guidance that HPV4 may be given to males aged 9 through 26 years to reduce their likelihood of acquiring genital warts; ACIP does not recommend HPV4 for routine use among males. This report presents the ACIP policy statement and summarizes background data. Issues reviewed by ACIP included efficacy, immunogenicity, and safety of the HPV4 vaccine in males, epidemiology of HPV and burden of HPV-associated diseases and cancers in males, cost-effectiveness of male vaccination, and programmatic considerations.

HPV types 6 and 11 cause approximately 90% of genital warts and most cases of recurrent respiratory papillomatosis. Approximately 500,000 cases of genital warts are estimated to occur each year in the United States among sexually active men and women (*2,3*). Direct medical costs related to genital warts are estimated at $200 million per year (*2,3*); in addition, genital warts can have an adverse impact on quality of life (*4*). HPV-associated cancers in males include certain anal, penile, and oropharyngeal and oral cavity cancers caused primarily by HPV 16.

HPV4 has high efficacy for prevention of genital warts. The phase III efficacy study enrolled 4,065 males aged 16 through 26 years. Participants were enrolled from North America, South America, Europe, Australia, and Asia. The efficacy for prevention of genital warts related to HPV types 6, 11, 16, or 18 among males who received all 3 vaccine doses and were seronegative at day 1, and DNA negative day 1 through month 7 to the respective HPV type (per protocol population) was 89.4%; the efficacy for HPV 6 or 11-related genital warts alone was approximately the same (Table) (*5*). The efficacy for prevention of HPV 6, 11, 16, or 18-related genital warts among males who received at least 1 vaccine dose and regardless of baseline DNA or serology (intent to treat population), was 67.2%, and the efficacy for prevention of genital warts related to any HPV type was 62.1% (Table) (*5*). No evidence of efficacy was observed among males who were infected with the respective HPV type at baseline. The median duration of follow-up at the time of the study's interim analysis was approximately 2.3 years.

Data on immunogenicity in males are available from the phase III trial conducted among males aged 16 through 26 years, and from bridging immunogenicity studies conducted among males aged 9 through 15 years (*5*). Seroconversion rates were high for all four HPV types (HPV 6, 11, 16, or 18) targeted by HPV4, and postvaccination antibody titers were significantly higher in males aged 9 through 15 years compared with males aged 16 through 26 years (*5*).

As observed previously with females, in the clinical trials for males, the most common adverse events were injection-site reactions, most of which were mild or moderate in intensity (*5*). Headache and fever were the most commonly reported systemic adverse reactions in both treatment groups (*5*). Postlicensure data in females indicate that HPV4 adverse events are similar to adverse events reported following administration of other vaccines to adolescents (*6*).

Mathematical modeling suggests that adding male HPV vaccination to a female-only HPV vaccination program is not the most cost-effective vaccination strategy for reducing the overall burden of HPV-associated conditions in males and females when vaccination coverage of females is high (>80%) (*7*). When coverage of females is less than 80%, male vaccination might be cost-effective, although results vary substantially across models (*7*). Because the health burden is greater in females than males, and numerous models have shown vaccination of adolescent girls to be a cost-effective use of public health resources,

TABLE. Efficacy of quadrivalent human papillomavirus vaccine (HPV4) for prevention of genital warts in males aged 16 through 26 years

	Vaccine		Control		Vaccine efficacy	
Endpoint	No.	Cases	No.	Cases	%	(95% CI*)
Per protocol efficacy[†,§]						
HPV 6, 11, 16, and/or 18-related	1,397	3	1,408	28	89.4	(65.5–97.9)
Intent to treat efficacy[¶]						
HPV 6, 11, 16, and/or 18-related	1,943	24	1,937	72	67.2	(47.3–80.3)
Any type-related	1,943	32	1,937	83	62.1	(42.4–75.6)

Source: Food and Drug Administration. Product approval-prescribing information [package insert]. Gardasil [human papillomavirus quadrivalent (types 6, 11, 16, and 18) vaccine, recombinant], Merck & Co, Inc: Food and Drug Administration 2009. Available at http://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm094042.htm. Accessed May 25, 2010.

* Confidence interval.

† Population included males who received all 3 vaccine doses, were seronegative at day 1, and DNA negative at day 1 through month 7 to the respective human papillomavirus (HPV) type, with case counting beginning after month 7.

§ Efficacy for genital warts (HPV 6 and/or 11-related) was 89% (95% CI = 66–98). **Source:** Food and Drug Administration. Vaccine and Related Biological Products Advisory Committee meeting presentations. September 9, 2009. Available at http://www.fda.gov/advisorycommittees/committeesmeetingmaterials/bloodvaccinesandotherbiologics/vaccinesandrelatedbiologicalproductsadvisorycommittee/ucm183835.htm.

¶ Population included all males who received at least 1 vaccine dose, regardless of baseline DNA or serology, with case counting beginning after day 1.

improving coverage in females aged 11 and 12 years could potentially be a more effective and cost-effective strategy than adding male vaccination.

Men who have sex with men (MSM) are particularly at risk for conditions associated with HPV types 6, 11, 16, and 18; diseases and cancers that have a higher incidence among MSM include anal intraepithelial neoplasias, anal cancers, and genital warts (*8,9*). HPV4 has high efficacy for prevention of anal intraepithelial neoplasias in MSM (*10*); however, this information was not available before the October 2009 ACIP meeting and has not yet been reviewed by FDA.

Vaccine Guidance

The 3-dose series of HPV4 may be given to males aged 9 through 26 years to reduce their likelihood of acquiring genital warts. HPV4 would be most effective when given before exposure to HPV through sexual contact.

Administration, Special Situations, Precautions, and Contraindications

HPV4 is administered in a 3-dose schedule. The second dose is administered 1 to 2 months after the first dose, and the third dose is administered 6 months after the first dose. The minimum interval between the first and second dose of vaccine is 4 weeks, and the minimum interval between the second and third dose is 12 weeks. The minimum interval between the first and third dose is 24 weeks. Doses received after a dosing interval that is shorter than recommended should be readministered.

If the HPV vaccine schedule is interrupted, the vaccine series does not need to be restarted. Coadministration of a different inactivated or live vaccine, either simultaneously or at any time before or after HPV4 is permitted because HPV4 is not a live vaccine.

HPV4 can be administered to persons who are immunosuppressed (from disease or medications). However, the immune response and vaccine efficacy might be less than that in immunocompetent persons.

HPV4 can be administered to persons with minor acute illnesses. Vaccination of persons with moderate or severe acute illnesses should be deferred until after the patient improves.

Syncope can occur after vaccination and has been observed among adolescents and young adults. To avoid serious injury related to a syncopal episode, vaccine providers should consider observing patients for 15 minutes after they are vaccinated.

HPV4 is contraindicated for persons with a history of immediate hypersensitivity to any vaccine component. HPV4 is a recombinant vaccine produced in *Saccharomyces cerevisiae* (baker's yeast) and is contraindicated for persons with a history of immediate hypersensitivity to yeast.

References

1. CDC. Quadrivalent human papillomavirus vaccine: recommendations of the Advisory Committee for Immunization Practices (ACIP). MMWR 2007;56(No. RR-2).

2. Hu D, Goldie S. The economic burden of noncervical human papillomavirus disease in the United States. Am J Obstet Gynecol 2008;198:500–7.
3. Hoy T, Singhal PK, Willey VJ, Insinga RP. Assessing incidence and economic burden of genital warts with data from a US commercially insured population. Curr Med Res Opin 2009;25:2343–51.
4. Woodhall SC, Jit M, Cai C, et al. Cost of treatment and QALYs lost due to genital warts: data for the economic evaluation of HPV vaccines in the United Kingdom. Sex Transm Dis 2009;36:515–21.
5. Food and Drug Administration. Product approval-prescribing information [package insert]. Gardasil [human papillomavirus quadrivalent (types 6, 11, 16, and 18) vaccine, recombinant], Merck & Co, Inc: Food and Drug Administration 2009. Available at http://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm094042.htm. Accessed May 25, 2010.
6. Slade BA, Leidel L, Vellozzi C, et al. Postlicensure safety surveillance for quadrivalent human papillomavirus recombinant vaccine. JAMA 2009;302:750–7.
7. Brisson M, Van de Velde N, Boily MC. Economic evaluation of human papillomavirus vaccination in developed countries. Public Health Genomics 2009;12:343–51.
8. Joseph DA, Miller JW, Wu X, et al. Understanding the burden of human papillomavirus-associated anal cancers in the U.S. Cancer 2008;113(10 Suppl):2892–900.
9. Jin F, Prestage GP, Kippax SC, et al. Risk factors for genital and anal warts in a prospective cohort of HIV-negative homosexual men: the HIM study. Sex Transm Dis 2007; 34:488–93.
10. Palefsky J, Male Quadrivalent HPV Vaccine Efficacy Trial Team. Quadrivalent HPV vaccine efficacy against anal intraepithelial neoplasia in men having sex with men [Abstract]. Eurogin 9th International Multidisciplinary Congress, Monte Carlo, Monaco. February 17–20, 2010.

Announcement

State-Specific Health-Care–Associated Infections Summary Data Report

CDC's Division of Healthcare Quality Promotion has published the first state-specific health-care–associated infections (HAIs) summary data report. This report includes data reported by health-care facilities to CDC's National Healthcare Safety Network (NHSN), a public health surveillance system that serves as a mainstay of HAI monitoring and prevention programs.

This initial report presents state-specific data for central line–associated bloodstream infections (CLABSIs) in states requiring facilities to report CLABSIs through NHSN, and overall national data. The standardized infection ratio is used to compare data reported to NHSN from January–June 2009 with the national NHSN data from 2006–2008. This report provides baseline measurements that can guide state prevention activities. In addition, this report represents a first step in monitoring national progress toward the CLABSI prevention goals in the U.S. Department of Health and Human Services *Action Plan to Prevent Healthcare-Associated Infections*. The full CDC report is available at http://www.cdc.gov/hai/statesummary.html.

Notice to Readers

NNDSS Tables Have Updated "N" Indicators for the Year 2009

The 2009 Council of State and Territorial Epidemiologists (CSTE) State Reportable Conditions Assessment (2009 SRCA) has collected data from 55 reporting jurisdictions (50 U.S. states, the District of Columbia, New York City, and three U.S. territories) to determine which of the nationally notifiable conditions (NNC) were reportable in each reporting jurisdiction during 2009. The 2009 SRCA gathered information regarding whether the condition is explicitly reportable (i.e., listed as a specific disease or as a category of diseases on reportable disease lists), whether a condition is implicitly reportable (i.e., included in a general category of the reportable disease list, such as "rare diseases of public health importance"), or not reportable within each jurisdiction. Only conditions that were explicitly reportable were considered reportable under 2009 SRCA methodology.

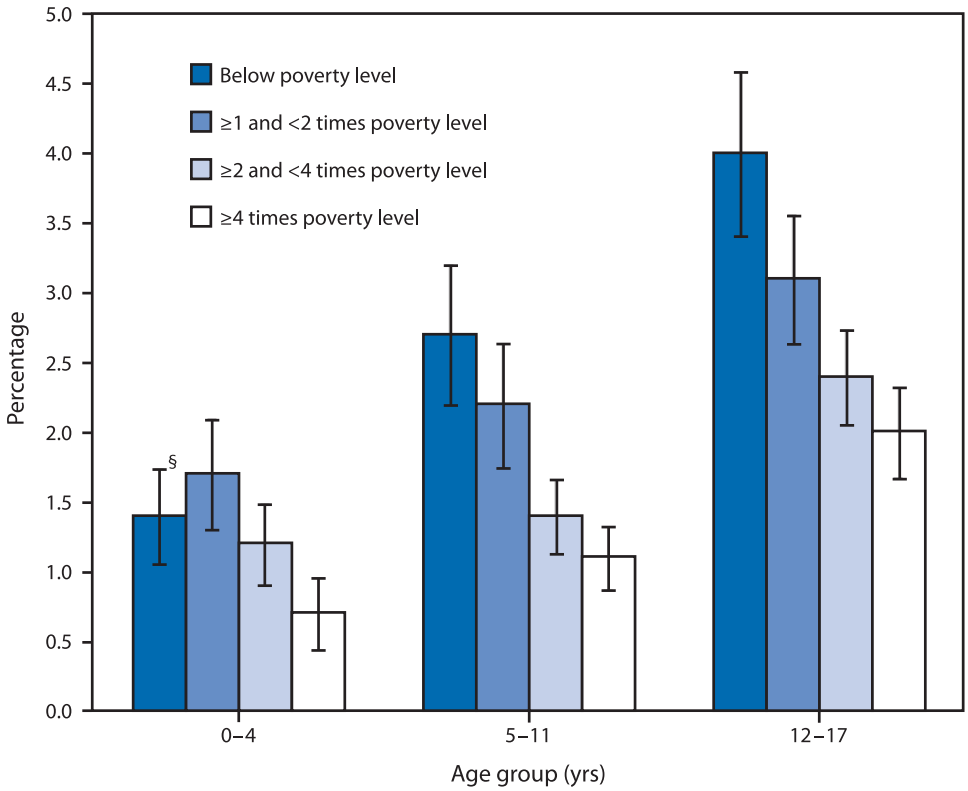
Results of the 2009 SRCA will be used to indicate whether each NNC is or is not reportable for the specified period and reporting jurisdiction. NNC that are not reportable are noted with an "N" indicator (for "not reportable") in the *MMWR* Table II weekly update (Provisional cases of selected notifiable diseases, United States) and in the *MMWR* Summary of Notifiable Diseases — United States, 2009. This notation will allow readers to distinguish whether 1) no cases were reported even though the condition is reportable or 2) no cases were reported because the condition is not reportable.

The 2009 SRCA data collection and validation concluded in May 2010; results will be used to populate the "N" indicators for NNDSS data in both 2009 and 2010 *MMWR* data tables. The 2009 NNDSS data displayed in the *MMWR* weekly provisional tables will reflect reporting requirements gathered from the 2009 SRCA until 2010 SRCA official results are available.

QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

Percentage of Children Aged <18 Years with an Impairment or Health Problem That Limits Crawling, Walking, Running, or Playing, by Age Group and Poverty Status* — National Health Interview Survey (NHIS), United States, 2001–2007†



* For each survey year, poverty status is based on the ratio of the family's income to federal poverty levels, as calculated by the U.S. Census Bureau. In addition to family income, federal poverty levels take into account family size and the number of children in the family. A larger ratio of income relative to poverty level indicates increasing family income and thus decreasing poverty status. Because of high levels of missing income data in NHIS, poverty status was determined from the 2001–2007 NHIS multiple imputed income and earnings data files.

† Estimates are based on household interviews of a sample of the civilian, noninstitutionalized U.S. population. One child aged <18 years was randomly selected per family; a knowledgeable adult provided information for each child. Prevalence of impairments or health problems resulting in activity limitations is based on a question that asked, "Does [the sample child] have an impairment or health problem that limits [his/her] ability to crawl, walk, run, or play?" Unknowns with respect to impairments are excluded from the denominators.

§ 95% confidence interval.

During 2001–2007, children aged 12–17 years were more likely than younger children to have an impairment or health problem that limited crawling, walking, running, or playing. The prevalence of such impairments or problems generally declined as poverty status decreased.

Source: National Health Interview Survey, 2001–2007, sample child core component. Available at http://www.cdc.gov/nchs/nhis/quest_data_related_1997_forward.htm.

Notifiable Diseases and Mortality Tables

TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending May 22, 2010 (20th week)*

Disease	Current week	Cum 2010	5-year weekly average†	Total cases reported for previous years 2009	2008	2007	2006	2005	States reporting cases during current week (No.)
Anthrax	—	—	—	1	—	1	1	—	
Botulism, total	1	23	3	116	145	144	165	135	
foodborne	—	3	0	11	17	32	20	19	
infant	1	18	2	80	109	85	97	85	OK (1)
other (wound and unspecified)	—	2	0	25	19	27	48	31	
Brucellosis	—	31	3	115	80	131	121	120	
Chancroid	—	21	0	33	25	23	33	17	
Cholera	—	2	0	10	5	7	9	8	
Cyclosporiasis§	1	27	17	141	139	93	137	543	TX (1)
Diphtheria	—	—	—	—	—	—	—	—	
Domestic arboviral diseases§,¶:									
California serogroup virus disease	—	—	0	55	62	55	67	80	
Eastern equine encephalitis virus disease	—	—	—	4	4	4	8	21	
Powassan virus disease	—	—	0	6	2	7	1	1	
St. Louis encephalitis virus disease	—	—	0	12	13	9	10	13	
Western equine encephalitis virus disease	—	—	—	—	—	—	—	—	
Haemophilus influenzae,** invasive disease (age <5 yrs):									
serotype b	—	7	0	35	30	22	29	9	
nonserotype b	—	67	4	236	244	199	175	135	
unknown serotype	2	89	4	180	163	180	179	217	NY (1), SC (1)
Hansen disease§	—	15	1	81	80	101	66	87	
Hantavirus pulmonary syndrome§	—	2	1	14	18	32	40	26	
Hemolytic uremic syndrome, postdiarrheal§	—	40	4	240	330	292	288	221	
HIV infection, pediatric (age <13 yrs)††	—	—	1	—	—	—	—	380	
Influenza-associated pediatric mortality§,§§	3	51	2	360	90	77	43	45	GA (1), TX (2)
Listeriosis	10	186	10	858	759	808	884	896	NY (1), PA (1), OH (1), FL (2), WA (1), CA (4)
Measles¶¶	3	22	3	67	140	43	55	66	NE (3)
Meningococcal disease, invasive***:									
A, C, Y, and W-135	2	101	6	287	330	325	318	297	TX (1), WA (1)
serogroup B	—	42	3	164	188	167	193	156	
other serogroup	—	5	1	23	38	35	32	27	
unknown serogroup	3	162	12	502	616	550	651	765	MO (1), FL (1), KY (1)
Mumps	85	1,457	81	2,069	454	800	6,584	314	NY (3), NYC (71), OH (1), IA (2), NE (1), TX (3), WA (2), CA (2)
Novel influenza A virus infections†††	—	—	0	43,771	2	4	NN	NN	
Plague	—	—	0	8	3	7	17	8	
Poliomyelitis, paralytic	—	—	—	1	—	—	—	1	
Polio virus Infection, nonparalytic§	—	—	—	—	—	—	NN	NN	
Psittacosis§	—	4	0	9	8	12	21	16	
Q fever, total§,§§§	3	26	3	110	120	171	169	136	
acute	3	19	2	90	106	—	—	—	NY (1), CA (2)
chronic	—	7	0	20	14	—	—	—	
Rabies, human	—	—	—	3	2	1	3	2	
Rubella¶¶¶	1	2	0	3	16	12	11	11	WA (1)
Rubella, congenital syndrome	—	—	0	1	—	—	1	1	
SARS-CoV§,****	—	—	—	—	—	—	—	—	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	2	66	3	161	157	132	125	129	NY (1), KY (1)
Syphilis, congenital (age <1 yr)††††	—	59	7	422	431	430	349	329	
Tetanus	—	—	0	18	19	28	41	27	
Toxic-shock syndrome (staphylococcal)§	2	32	1	78	71	92	101	90	CA (2)
Trichinellosis	—	1	0	12	39	5	15	16	
Tularemia	2	8	3	93	123	137	95	154	MO (1), OK (1)
Typhoid fever	7	129	7	401	449	434	353	324	PA (1), VA (1), WA (1), CA (4)
Vancomycin-intermediate *Staphylococcus aureus*§	—	22	1	78	63	37	6	2	
Vancomycin-resistant *Staphylococcus aureus*§	—	1	—	—	—	2	1	3	
Vibriosis (noncholera *Vibrio* species infections)§	11	78	5	798	588	549	NN	NN	MD (1), VA (1), FL (5), OK (1), AZ (1), CA (2)
Viral hemorrhagic fever§§§§	—	1	—	NN	NN	NN	NN	NN	
Yellow fever	—	—	—	—	—	—	—	—	

See Table I footnotes on next page.

TABLE I. (*Continued*) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending May 22, 2010 (20th week)*

—: No reported cases. N: Not reportable. NN: Not Nationally Notifiable Cum: Cumulative year-to-date counts.

* Incidence data for reporting years 2009 and 2010 are provisional, whereas data for 2005 through 2008 are finalized.

† Calculated by summing the incidence counts for the current week, the 2 weeks preceding the current week, and the 2 weeks following the current week, for a total of 5 preceding years. Additional information is available at http://www.cdc.gov/ncphi/disss/nndss/phs/files/5yearweeklyaverage.pdf.

§ Not reportable in all states. Data from states where the condition is not reportable are excluded from this table, except starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/ncphi/disss/nndss/phs/infdis.htm.

¶ Includes both neuroinvasive and nonneuroinvasive. Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for West Nile virus are available in Table II.

** Data for *H. influenzae* (all ages, all serotypes) are available in Table II.

†† Updated monthly from reports to the Division of HIV/AIDS Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Implementation of HIV reporting influences the number of cases reported. Updates of pediatric HIV data have been temporarily suspended until upgrading of the national HIV/AIDS surveillance data management system is completed. Data for HIV/AIDS, when available, are displayed in Table IV, which appears quarterly.

§§ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Since April 26, 2009, a total of 285 influenza-associated pediatric deaths associated with 2009 influenza A (H1N1) virus infection have been reported. Since August 30, 2009, a total of 276 influenza-associated pediatric deaths occurring during the 2009–10 influenza season have been reported. A total of 134 influenza-associated pediatric deaths occurring during the 2008-09 influenza season have been reported.

¶¶ The three measles cases reported for the current week were indigenous.

*** Data for meningococcal disease (all serogroups) are available in Table II.

††† CDC discontinued reporting of individual confirmed and probable cases of 2009 pandemic influenza A (H1N1) virus infections on July 24, 2009. CDC will report the total number of 2009 pandemic influenza A (H1N1) hospitalizations and deaths weekly on the CDC H1N1 influenza website (http://www.cdc.gov/h1n1flu). In addition, three cases of novel influenza A virus infections, unrelated to the 2009 pandemic influenza A (H1N1) virus, were reported to CDC during 2009.

§§§ In 2009, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.

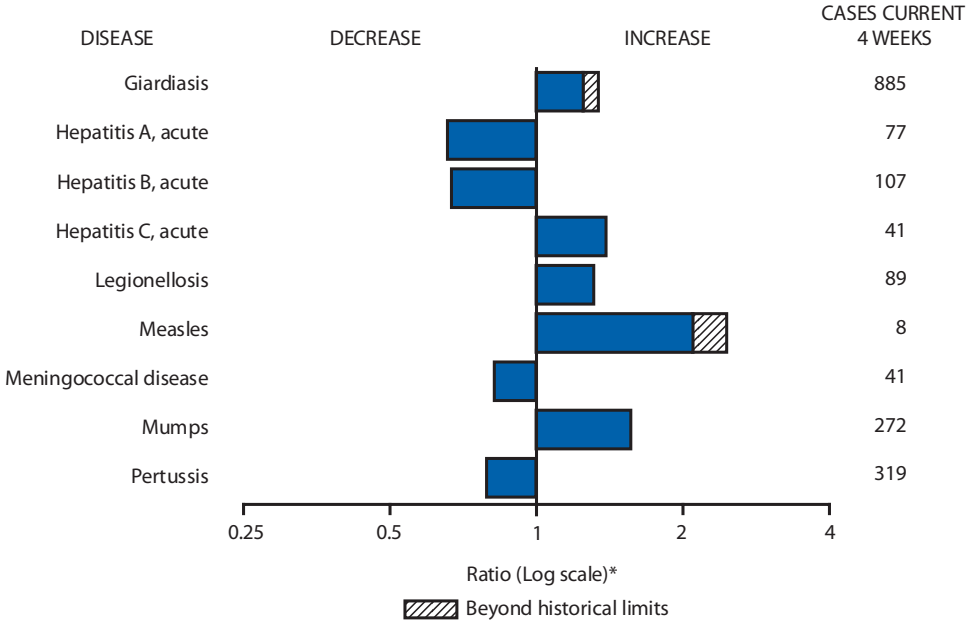
¶¶¶ The one rubella case reported for the current week was indigenous.

**** Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

†††† Updated weekly from reports to the Division of STD Prevention, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention.

§§§§ There was one case of viral hemorrhagic fever reported during week 12. The one case report was confirmed as lassa fever. See Table II for dengue hemorrhagic fever.

FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals May 22, 2010, with historical data



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

Notifiable Disease Data Team and 122 Cities Mortality Data Team

Patsy A. Hall-Baker

Deborah A. Adams
Willie J. Anderson
Jose Aponte
Lenee Blanton
Rosaline Dhara
Pearl C. Sharp
Michael S. Wodajo

TABLE II. Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	*Chlamydia trachomatis* infection					Cryptosporidiosis				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max		
United States	10,705	23,120	27,343	372,635	485,348	59	122	284	1,765	1,868
New England	972	739	1,396	14,151	15,445	4	5	30	95	138
Connecticut	238	213	736	3,393	4,457	—	0	26	26	38
Maine†	37	49	75	953	1,004	1	1	4	21	13
Massachusetts	510	383	767	7,664	7,321	—	1	15	—	39
New Hampshire	94	35	60	356	819	—	2	6	21	20
Rhode Island†	67	70	130	1,346	1,370	—	0	8	8	2
Vermont†	26	23	63	439	474	3	1	9	19	26
Mid. Atlantic	3,072	3,105	4,619	64,160	61,741	5	14	38	210	225
New Jersey	427	441	624	8,438	9,859	—	0	5	—	13
New York (Upstate)	739	632	2,530	12,723	11,392	2	3	16	48	50
New York City	1,326	1,182	2,283	25,521	23,353	—	1	5	17	35
Pennsylvania	580	850	1,056	17,478	17,137	3	9	19	145	127
E.N. Central	865	3,462	4,413	41,037	80,275	6	29	73	364	457
Illinois	—	1,061	1,322	146	24,549	—	3	8	54	44
Indiana	—	324	602	4,511	9,210	—	4	11	40	101
Michigan	729	885	1,412	19,306	18,749	—	6	11	102	84
Ohio	136	920	1,039	14,280	19,212	6	7	16	126	115
Wisconsin	—	370	466	2,794	8,555	—	8	39	42	113
W.N. Central	60	1,308	1,711	22,309	27,952	11	19	59	275	246
Iowa	11	180	252	3,825	3,907	2	4	13	65	62
Kansas	—	172	571	2,745	4,067	1	2	6	29	25
Minnesota	—	263	337	4,661	5,776	4	5	31	94	47
Missouri	—	492	638	8,613	10,310	2	3	12	44	47
Nebraska†	49	93	237	1,835	2,047	2	2	9	34	25
North Dakota	—	31	93	630	658	—	0	18	3	1
South Dakota	—	49	82	—	1,187	—	1	10	6	39
S. Atlantic	2,010	4,428	6,098	63,585	99,415	14	20	50	335	316
Delaware	68	88	145	1,657	1,878	—	0	2	1	—
District of Columbia	—	112	178	1,610	2,773	—	0	1	2	3
Florida	630	1,399	1,669	27,198	29,145	5	8	24	133	100
Georgia	9	508	1,323	2,065	16,562	5	6	31	132	124
Maryland†	—	444	1,031	7,387	8,618	1	1	3	11	18
North Carolina	—	678	1,291	—	16,496	—	1	11	11	27
South Carolina†	628	521	1,331	10,543	10,738	—	1	7	15	18
Virginia†	606	600	924	11,689	11,639	2	1	7	24	21
West Virginia	69	65	137	1,436	1,566	1	0	2	6	5
E.S. Central	979	1,654	2,264	29,822	35,570	1	4	13	66	60
Alabama†	398	465	606	9,083	10,152	—	1	5	21	18
Kentucky	—	290	642	5,032	4,108	—	2	4	22	14
Mississippi	—	429	640	5,966	9,572	—	0	6	4	9
Tennessee†	581	557	734	9,741	11,738	1	1	5	19	19
W.S. Central	585	2,949	5,784	52,993	61,884	6	8	40	97	90
Arkansas†	322	271	402	5,815	5,780	—	1	5	12	10
Louisiana	—	390	1,055	2,922	11,678	1	1	6	14	9
Oklahoma	263	247	2,727	5,904	2,776	3	2	9	17	25
Texas†	—	2,041	3,229	38,352	41,650	2	5	30	54	46
Mountain	511	1,451	2,118	22,713	27,336	3	10	25	156	138
Arizona	141	467	713	4,827	9,946	—	0	3	10	13
Colorado	—	433	709	6,699	4,104	—	2	10	47	32
Idaho†	108	61	185	1,046	1,387	—	2	7	27	17
Montana†	13	56	74	1,148	1,283	2	1	4	20	13
Nevada†	158	173	478	3,662	4,122	—	0	2	5	7
New Mexico†	—	169	453	2,213	3,173	—	2	8	23	38
Utah	76	115	174	2,378	2,532	—	1	4	17	6
Wyoming†	15	36	70	740	789	1	0	2	7	12
Pacific	1,651	3,454	5,313	61,865	75,730	9	13	27	167	198
Alaska	—	103	144	2,247	2,157	—	0	1	1	2
California	1,404	2,651	4,406	48,460	57,937	8	8	20	100	102
Hawaii	—	113	137	1,779	2,443	—	0	0	—	1
Oregon	—	180	468	1,367	4,270	1	3	10	44	71
Washington	247	397	638	8,012	8,923	—	1	8	22	22
American Samoa	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	1	27	78	—	—	0	0	—	—
Puerto Rico	—	118	329	2,125	2,873	N	0	0	N	N
U.S. Virgin Islands	—	9	21	52	201	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Dengue Virus Infection									
	Dengue Fever					Dengue Hemorrhagic Fever†				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max		
United States	—	0	1	3	NN	—	0	0	—	NN
New England	—	0	1	2	NN	—	0	0	—	NN
Connecticut	—	0	0	—	NN	—	0	0	—	NN
Maine§	—	0	1	2	NN	—	0	0	—	NN
Massachusetts	—	0	0	—	NN	—	0	0	—	NN
New Hampshire	—	0	0	—	NN	—	0	0	—	NN
Rhode Island§	—	0	0	—	NN	—	0	0	—	NN
Vermont§	—	0	0	—	NN	—	0	0	—	NN
Mid. Atlantic	—	0	1	1	NN	—	0	0	—	NN
New Jersey	—	0	0	—	NN	—	0	0	—	NN
New York (Upstate)	—	0	0	—	NN	—	0	0	—	NN
New York City	—	0	0	—	NN	—	0	0	—	NN
Pennsylvania	—	0	1	1	NN	—	0	0	—	NN
E.N. Central	—	0	0	—	NN	—	0	0	—	NN
Illinois	—	0	0	—	NN	—	0	0	—	NN
Indiana	—	0	0	—	NN	—	0	0	—	NN
Michigan	—	0	0	—	NN	—	0	0	—	NN
Ohio	—	0	0	—	NN	—	0	0	—	NN
Wisconsin	—	0	0	—	NN	—	0	0	—	NN
W.N. Central	—	0	0	—	NN	—	0	0	—	NN
Iowa	—	0	0	—	NN	—	0	0	—	NN
Kansas	—	0	0	—	NN	—	0	0	—	NN
Minnesota	—	0	0	—	NN	—	0	0	—	NN
Missouri	—	0	0	—	NN	—	0	0	—	NN
Nebraska§	—	0	0	—	NN	—	0	0	—	NN
North Dakota	—	0	0	—	NN	—	0	0	—	NN
South Dakota	—	0	0	—	NN	—	0	0	—	NN
S. Atlantic	—	0	0	—	NN	—	0	0	—	NN
Delaware	—	0	0	—	NN	—	0	0	—	NN
District of Columbia	—	0	0	—	NN	—	0	0	—	NN
Florida	—	0	0	—	NN	—	0	0	—	NN
Georgia	—	0	0	—	NN	—	0	0	—	NN
Maryland§	—	0	0	—	NN	—	0	0	—	NN
North Carolina	—	0	0	—	NN	—	0	0	—	NN
South Carolina§	—	0	0	—	NN	—	0	0	—	NN
Virginia§	—	0	0	—	NN	—	0	0	—	NN
West Virginia	—	0	0	—	NN	—	0	0	—	NN
E.S. Central	—	0	0	—	NN	—	0	0	—	NN
Alabama§	—	0	0	—	NN	—	0	0	—	NN
Kentucky	—	0	0	—	NN	—	0	0	—	NN
Mississippi	—	0	0	—	NN	—	0	0	—	NN
Tennessee§	—	0	0	—	NN	—	0	0	—	NN
W.S. Central	—	0	0	—	NN	—	0	0	—	NN
Arkansas§	—	0	0	—	NN	—	0	0	—	NN
Louisiana	—	0	0	—	NN	—	0	0	—	NN
Oklahoma	—	0	0	—	NN	—	0	0	—	NN
Texas§	—	0	0	—	NN	—	0	0	—	NN
Mountain	—	0	0	—	NN	—	0	0	—	NN
Arizona	—	0	0	—	NN	—	0	0	—	NN
Colorado	—	0	0	—	NN	—	0	0	—	NN
Idaho§	—	0	0	—	NN	—	0	0	—	NN
Montana§	—	0	0	—	NN	—	0	0	—	NN
Nevada§	—	0	0	—	NN	—	0	0	—	NN
New Mexico§	—	0	0	—	NN	—	0	0	—	NN
Utah	—	0	0	—	NN	—	0	0	—	NN
Wyoming§	—	0	0	—	NN	—	0	0	—	NN
Pacific	—	0	0	—	NN	—	0	0	—	NN
Alaska	—	0	0	—	NN	—	0	0	—	NN
California	—	0	0	—	NN	—	0	0	—	NN
Hawaii	—	0	0	—	NN	—	0	0	—	NN
Oregon	—	0	0	—	NN	—	0	0	—	NN
Washington	—	0	0	—	NN	—	0	0	—	NN
American Samoa	—	0	0	—	NN	—	0	0	—	NN
C.N.M.I.	—	—	—	—	NN	—	—	—	—	NN
Guam	—	0	0	—	NN	—	0	0	—	NN
Puerto Rico	—	0	0	—	NN	—	0	0	—	NN
U.S. Virgin Islands	—	0	0	—	NN	—	0	0	—	NN

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† DHF includes cases that meet criteria for dengue shock syndrome (DSS), a more severe form of DHF.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Ehrlichiosis/Anaplasmosis†														
	Ehrlichia chaffeensis					*Anaplasma phagocytophilum*					Undetermined				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	9	10	153	52	99	6	13	302	19	96	—	2	37	5	39
New England	—	0	4	2	4	—	2	21	5	23	—	0	1	—	1
Connecticut	—	0	0	—	—	—	0	13	—	—	—	0	0	—	—
Maine§	—	0	1	2	—	—	0	3	2	3	—	0	0	—	—
Massachusetts	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	0	1	—	—	—	0	3	1	6	—	0	1	—	—
Rhode Island§	—	0	4	—	4	—	0	20	2	14	—	0	1	—	1
Vermont§	—	0	1	—	—	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	—	3	15	8	24	5	3	27	7	27	—	0	4	1	10
New Jersey	—	1	8	—	14	—	0	7	—	11	—	0	0	—	—
New York (Upstate)	—	1	15	4	5	5	2	20	7	15	—	0	2	1	1
New York City	—	0	2	3	1	—	0	1	—	1	—	0	1	—	—
Pennsylvania	—	0	5	1	4	—	0	1	—	—	—	0	3	—	9
E.N. Central	—	0	8	—	19	—	2	23	1	43	—	1	7	1	15
Illinois	—	0	4	—	8	—	0	1	—	1	—	0	1	—	1
Indiana	—	0	0	—	—	—	0	0	—	—	—	0	6	1	10
Michigan	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Ohio	—	0	2	—	2	—	0	1	—	1	—	0	1	—	—
Wisconsin	—	0	3	—	9	—	2	22	1	41	—	0	4	—	4
W.N. Central	3	2	23	8	13	—	0	261	—	—	—	0	30	2	4
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	2	—	—	—	0	1	—	—	—	0	0	—	—
Minnesota	—	0	6	—	—	—	0	261	—	—	—	0	30	—	2
Missouri	3	1	22	8	13	—	0	2	—	—	—	0	4	2	2
Nebraska§	—	0	1	—	—	—	0	1	—	—	—	0	0	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
S. Atlantic	1	3	14	22	25	1	0	2	6	2	—	0	2	—	—
Delaware	—	0	2	3	3	—	0	1	1	—	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Florida	—	0	1	2	2	—	0	1	—	—	—	0	0	—	—
Georgia	—	0	2	3	6	—	0	1	1	—	—	0	0	—	—
Maryland§	—	1	4	4	9	1	0	1	2	2	—	0	0	—	—
North Carolina	—	0	3	7	—	—	0	1	1	—	—	0	0	—	—
South Carolina§	—	0	1	—	2	—	0	0	—	—	—	0	0	—	—
Virginia§	1	1	13	3	3	—	0	1	1	—	—	0	2	—	—
West Virginia	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
E.S. Central	—	1	11	6	11	—	0	1	—	1	—	0	5	1	9
Alabama§	—	0	3	1	—	—	0	1	—	—	—	0	0	—	—
Kentucky	—	0	2	—	—	—	0	0	—	—	—	0	0	—	—
Mississippi	—	0	2	—	—	—	0	0	—	—	—	0	0	—	—
Tennessee§	—	1	10	5	11	—	0	1	—	1	—	0	5	1	9
W.S. Central	5	0	118	6	1	—	0	17	—	—	—	0	3	—	—
Arkansas§	—	0	11	—	—	—	0	0	—	—	—	0	3	—	—
Louisiana	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oklahoma	5	0	105	5	1	—	0	16	—	—	—	0	0	—	—
Texas§	—	0	2	1	—	—	0	1	—	—	—	0	0	—	—
Mountain	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Arizona	—	0	0	—	—	—	0	0	—	—	—	0	1	—	—
Colorado	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Idaho§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Montana§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Nevada§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
New Mexico§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Utah	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Wyoming§	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Pacific	—	0	1	—	2	—	0	1	—	—	—	0	1	—	—
Alaska	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
California	—	0	1	—	2	—	0	1	—	—	—	0	1	—	—
Hawaii	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Oregon	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Cumulative total *E. ewingii* cases reported as of this week = 0.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (***Continued***) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Giardiasis					Gonorrhea					*Haemophilus influenzae*, invasive† All ages, all serotypes				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	193	339	660	5,626	6,072	2,305	5,502	6,929	83,382	116,217	19	55	171	1,078	1,252
New England	5	27	65	287	492	132	92	197	1,919	1,844	2	3	21	29	79
Connecticut	—	6	15	94	95	34	45	170	893	849	1	0	15	12	23
Maine§	3	4	13	72	71	4	3	11	80	58	—	0	2	3	12
Massachusetts	—	10	36	—	211	77	39	81	767	750	—	0	8	—	38
New Hampshire	—	3	11	44	42	7	2	7	61	41	—	0	2	7	3
Rhode Island§	—	1	7	19	23	10	6	19	108	123	—	0	2	4	1
Vermont§	2	4	14	58	50	—	0	5	10	23	1	0	1	3	2
Mid. Atlantic	31	61	112	914	1,161	516	626	941	12,359	11,818	7	12	34	240	219
New Jersey	—	6	15	1	169	87	90	132	1,713	1,807	—	2	7	31	35
New York (Upstate)	25	24	84	392	401	106	99	422	1,981	2,072	5	3	20	67	52
New York City	—	16	25	271	330	215	215	396	4,511	4,205	—	2	6	47	29
Pennsylvania	6	15	37	250	261	108	206	277	4,154	3,734	2	4	9	95	103
E.N. Central	17	49	92	840	951	238	1,075	1,536	11,559	25,254	—	8	18	149	196
Illinois	—	12	22	175	198	—	351	441	48	8,082	—	3	9	45	71
Indiana	—	6	14	68	82	—	96	183	1,269	3,001	—	1	5	27	39
Michigan	—	13	25	227	232	188	247	502	5,362	6,115	—	0	4	14	11
Ohio	17	16	28	321	297	50	311	359	4,307	5,935	—	2	6	50	43
Wisconsin	—	7	23	49	142	—	91	115	573	2,121	—	1	5	13	32
W.N. Central	21	27	165	527	534	15	270	367	4,425	5,826	1	2	24	69	70
Iowa	6	6	15	95	96	4	31	46	592	660	—	0	1	1	—
Kansas	3	3	14	76	51	—	40	83	537	967	—	0	2	7	10
Minnesota	—	0	135	136	137	—	42	64	702	912	1	0	17	22	15
Missouri	11	8	27	133	167	—	123	172	2,138	2,559	—	1	6	30	30
Nebraska§	1	3	9	72	53	11	22	55	413	532	—	0	3	4	12
North Dakota	—	0	8	9	4	—	2	11	43	44	—	0	4	5	3
South Dakota	—	1	10	6	26	—	4	16	—	152	—	0	0	—	—
S. Atlantic	64	73	144	1,402	1,327	574	1,328	1,774	17,551	28,988	6	14	27	276	355
Delaware	—	0	3	10	12	17	19	37	386	313	—	0	1	3	3
District of Columbia	—	1	4	10	24	—	43	86	616	1,090	—	0	1	—	1
Florida	45	37	87	688	695	176	381	482	7,210	8,330	2	3	10	84	117
Georgia	8	14	52	354	281	—	170	494	743	5,534	2	3	9	70	68
Maryland§	3	5	12	114	100	—	126	237	2,027	2,280	1	1	6	19	43
North Carolina	N	0	0	N	N	—	227	386	—	5,483	—	1	6	20	44
South Carolina§	3	2	7	40	39	214	159	394	3,090	3,161	1	2	7	41	32
Virginia§	5	9	37	173	160	163	163	271	3,295	2,567	—	2	5	31	32
West Virginia	—	1	5	13	16	4	8	19	184	230	—	0	5	8	15
E.S. Central	1	7	22	94	135	276	472	649	8,198	10,137	1	3	12	71	82
Alabama§	—	4	13	51	63	129	135	187	2,787	2,850	—	0	2	7	22
Kentucky	N	0	0	N	N	—	84	156	1,279	1,222	1	0	5	14	7
Mississippi	N	0	0	N	N	—	127	198	1,637	2,908	—	0	2	6	9
Tennessee§	1	4	18	43	72	147	144	206	2,495	3,157	—	2	10	44	44
W.S. Central	2	9	18	116	137	183	879	1,554	14,095	17,844	1	2	20	55	58
Arkansas§	—	2	9	32	43	98	87	139	1,652	1,735	—	0	3	7	10
Louisiana	—	3	10	44	68	—	127	343	910	3,794	—	0	2	12	10
Oklahoma	2	3	10	40	26	85	69	616	1,543	985	—	1	15	31	35
Texas§	N	0	0	N	N	—	565	964	9,990	11,330	1	0	2	5	3
Mountain	8	31	64	529	474	53	168	266	2,591	3,405	—	5	14	144	121
Arizona	1	3	7	50	73	19	56	109	587	1,086	—	2	10	55	41
Colorado	—	12	26	258	136	—	51	127	888	999	—	1	6	37	35
Idaho§	1	4	10	78	44	4	1	8	28	38	—	0	2	6	2
Montana§	3	3	11	47	37	—	2	6	44	36	—	0	1	1	1
Nevada§	3	2	11	23	34	28	26	94	680	741	—	0	2	5	10
New Mexico§	—	1	8	25	41	—	19	41	238	359	—	1	5	22	17
Utah	—	5	13	33	87	2	6	14	115	124	—	1	4	13	14
Wyoming§	—	1	5	15	22	—	1	7	11	22	—	0	2	5	1
Pacific	44	53	132	917	861	318	539	651	10,685	11,101	1	2	9	45	72
Alaska	—	2	7	32	22	—	22	36	536	351	—	0	3	11	6
California	28	34	61	571	607	278	448	544	8,869	9,082	—	0	3	1	26
Hawaii	—	0	2	—	7	—	10	24	207	254	—	0	2	—	15
Oregon	5	9	17	185	124	—	15	43	106	447	1	1	5	30	22
Washington	11	8	75	129	101	40	43	84	967	967	—	0	4	3	3
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	1	—	—	0	3	5	—	—	0	0	—	—
Puerto Rico	—	1	10	9	57	—	4	24	97	82	—	0	1	1	1
U.S. Virgin Islands	—	0	0	—	—	—	1	7	8	65	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Data for *H. influenzae* (age <5 yrs for serotype b, nonserotype b, and unknown serotype) are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Hepatitis (viral, acute), by type														
	A					B					C				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	22	33	67	501	745	25	57	202	967	1,334	9	15	43	270	294
New England	1	1	5	19	41	—	1	4	19	25	—	1	5	9	21
Connecticut	1	0	2	12	9	—	0	3	5	5	—	1	4	9	17
Maine†	—	0	1	3	1	—	0	2	8	5	—	0	1	—	—
Massachusetts	—	1	4	—	23	—	0	2	—	12	—	0	1	—	3
New Hampshire	—	0	1	—	4	—	0	2	5	3	—	0	0	—	—
Rhode Island†	—	0	4	4	3	—	0	0	—	—	—	0	0	—	—
Vermont†	—	0	1	—	1	—	0	1	1	—	—	0	0	—	1
Mid. Atlantic	3	4	10	71	93	1	5	10	105	157	1	2	4	32	37
New Jersey	—	1	5	8	29	—	1	4	21	54	—	0	2	2	5
New York (Upstate)	3	1	3	21	16	1	1	6	20	26	1	1	3	20	17
New York City	—	2	5	23	22	—	1	4	31	28	—	0	1	—	1
Pennsylvania	—	1	6	19	26	—	1	5	33	49	—	0	4	10	14
E.N. Central	2	4	19	61	118	2	7	14	130	194	—	2	5	47	38
Illinois	—	1	13	13	44	—	2	6	23	44	—	0	1	—	3
Indiana	—	0	4	5	9	—	1	5	18	36	—	0	3	8	5
Michigan	—	1	4	24	30	—	2	6	44	54	—	1	4	37	12
Ohio	2	0	4	14	22	2	2	4	45	51	—	0	3	2	16
Wisconsin	—	0	2	5	13	—	0	3	—	9	—	0	1	—	2
W.N. Central	—	1	10	21	46	1	3	15	51	48	1	0	11	14	4
Iowa	—	0	3	4	14	—	1	3	8	10	—	0	4	2	2
Kansas	—	0	2	6	4	—	0	2	2	4	—	0	0	—	1
Minnesota	—	0	8	1	11	—	0	13	2	10	—	0	9	3	—
Missouri	—	0	3	9	8	1	1	5	31	15	1	0	1	7	—
Nebraska†	—	0	3	1	8	—	0	2	8	8	—	0	1	1	1
North Dakota	—	0	1	—	—	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	1	—	1	—	0	1	—	1	—	0	1	1	—
S. Atlantic	4	7	14	117	174	10	16	39	293	363	4	3	8	59	83
Delaware	—	0	1	5	2	U	1	2	U	U	U	0	0	U	U
District of Columbia	—	0	1	—	—	—	0	2	—	4	—	0	1	—	—
Florida	3	3	8	44	83	5	5	11	117	124	3	1	4	22	10
Georgia	—	1	3	16	13	2	3	7	58	55	—	0	2	4	19
Maryland†	—	0	4	9	18	1	1	6	23	42	1	1	3	12	17
North Carolina	—	0	3	11	31	—	1	4	4	53	—	0	4	9	17
South Carolina†	—	1	4	18	15	—	1	4	15	16	—	0	0	—	1
Virginia†	1	1	3	13	12	2	2	14	40	34	—	0	2	6	6
West Virginia	—	0	2	1	—	—	0	19	25	21	—	0	3	6	13
E.S. Central	—	1	3	16	20	2	7	13	103	156	2	2	6	49	42
Alabama†	—	0	2	4	3	—	1	5	23	45	—	0	2	1	5
Kentucky	—	0	2	9	1	1	2	6	34	34	1	1	5	36	23
Mississippi	—	0	2	—	11	—	0	5	8	20	—	0	0	—	—
Tennessee†	—	0	2	3	5	1	2	6	38	57	1	0	3	12	14
W.S. Central	3	3	19	52	67	5	10	109	131	208	—	1	14	20	18
Arkansas†	—	0	3	—	4	—	0	4	3	21	—	0	1	—	1
Louisiana	—	0	1	3	1	—	1	5	16	23	—	0	1	2	4
Oklahoma	—	0	3	—	1	4	1	19	25	43	—	0	12	9	2
Texas†	3	2	18	49	61	1	6	87	87	121	—	0	4	9	11
Mountain	1	3	8	56	52	2	2	6	34	54	—	1	4	16	21
Arizona	—	1	5	31	18	—	0	3	11	23	—	0	0	—	—
Colorado	—	1	4	9	16	—	0	2	1	11	—	0	3	2	12
Idaho†	1	0	1	3	—	1	0	2	4	2	—	0	2	6	1
Montana†	—	0	1	3	3	—	0	1	—	—	—	0	1	—	1
Nevada†	—	0	2	6	7	1	1	3	14	8	—	0	1	1	1
New Mexico†	—	0	1	3	5	—	0	1	2	4	—	0	2	5	4
Utah	—	0	2	1	3	—	0	1	2	4	—	0	1	2	2
Wyoming†	—	0	1	—	—	—	0	1	—	2	—	0	0	—	—
Pacific	8	5	16	88	134	2	6	20	101	129	1	1	6	24	30
Alaska	—	0	0	—	3	—	0	1	1	2	—	0	2	—	—
California	7	4	15	73	100	—	4	16	72	93	1	1	4	8	14
Hawaii	—	0	2	—	6	—	0	1	—	3	—	0	0	—	—
Oregon	—	0	2	8	6	—	1	4	15	16	—	0	3	9	8
Washington	1	0	4	7	19	2	0	4	13	15	—	0	6	7	8
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	6	10	—	—	1	6	22	—	—	1	5	19	—
Puerto Rico	—	0	2	2	13	—	0	5	7	11	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Legionellosis					Lyme disease					Malaria				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	29	58	174	614	641	138	431	2,336	3,561	5,264	13	26	87	358	413
New England	1	3	18	20	25	32	118	853	624	1,899	—	1	4	4	16
Connecticut	1	1	5	10	6	2	34	295	232	817	—	0	3	—	1
Maine†	—	0	3	2	—	29	13	76	142	63	—	0	1	1	—
Massachusetts	—	1	9	—	17	—	35	397	—	701	—	0	3	—	11
New Hampshire	—	0	3	2	—	—	18	95	206	262	—	0	1	1	1
Rhode Island†	—	0	4	5	1	—	1	29	10	15	—	0	1	1	2
Vermont†	—	0	1	1	1	1	5	45	34	41	—	0	1	1	1
Mid. Atlantic	6	18	73	139	167	76	199	999	1,999	1,994	3	7	17	96	116
New Jersey	—	3	14	—	32	—	39	429	437	790	—	1	5	—	31
New York (Upstate)	1	5	29	45	55	55	53	577	459	515	3	1	4	26	17
New York City	—	3	19	30	20	—	13	58	2	174	—	3	12	49	53
Pennsylvania	5	6	25	64	60	21	66	475	1,101	515	—	1	4	21	15
E.N. Central	4	11	41	105	133	—	21	258	64	322	2	2	12	36	52
Illinois	—	1	11	7	19	—	1	12	5	16	—	1	6	17	23
Indiana	—	1	5	8	16	—	1	6	9	12	—	0	4	2	8
Michigan	—	3	13	27	20	—	1	9	4	4	—	0	3	4	6
Ohio	4	5	17	61	59	—	1	5	5	4	2	0	6	13	13
Wisconsin	—	0	6	2	19	—	18	239	41	286	—	0	2	—	2
W.N. Central	1	2	19	24	22	—	4	1,395	11	49	—	1	11	21	19
Iowa	—	0	3	2	8	—	0	15	4	13	—	0	1	6	4
Kansas	—	0	1	2	3	—	0	2	3	7	—	0	1	3	1
Minnesota	—	0	16	9	—	—	0	1,380	—	26	—	0	11	3	9
Missouri	1	1	5	7	6	—	0	1	1	1	—	0	1	3	3
Nebraska†	—	0	2	2	4	—	0	3	3	1	—	0	2	6	1
North Dakota	—	0	1	2	1	—	0	15	—	—	—	0	1	—	—
South Dakota	—	0	1	—	—	—	0	0	—	1	—	0	0	—	1
S. Atlantic	6	11	24	136	136	28	68	255	744	912	5	6	15	101	130
Delaware	—	0	5	5	1	2	12	65	193	206	—	0	1	2	1
District of Columbia	—	0	5	2	5	—	0	7	3	9	—	0	3	5	5
Florida	3	4	10	60	53	1	2	11	26	11	2	2	7	45	34
Georgia	—	1	4	17	19	—	0	6	3	10	—	0	6	2	24
Maryland†	3	3	12	30	25	19	27	134	334	475	1	1	13	21	35
North Carolina	—	0	5	2	19	—	1	7	12	31	—	0	3	5	14
South Carolina†	—	0	2	1	2	—	1	3	10	11	—	0	1	1	1
Virginia†	—	1	6	17	12	6	13	79	149	126	2	1	5	20	15
West Virginia	—	0	2	2	—	—	0	33	14	33	—	0	2	—	1
E.S. Central	4	2	12	27	33	—	1	4	12	7	—	0	4	6	14
Alabama†	—	0	2	3	6	—	0	1	—	1	—	0	3	1	3
Kentucky	—	1	3	8	13	—	0	1	1	1	—	0	3	2	4
Mississippi	—	0	4	2	1	—	0	0	—	—	—	0	2	—	—
Tennessee†	4	1	9	14	13	—	1	4	11	5	—	0	1	3	7
W.S. Central	3	2	14	27	34	—	4	44	18	24	1	1	31	41	11
Arkansas†	—	0	1	1	3	—	0	0	—	—	—	0	1	1	—
Louisiana	—	0	3	1	3	—	0	0	—	—	—	0	1	—	3
Oklahoma	3	0	4	3	1	—	0	2	—	—	1	0	1	3	—
Texas†	—	1	10	22	27	—	4	42	18	24	—	1	30	37	8
Mountain	1	3	8	37	37	—	1	4	5	12	—	1	6	13	11
Arizona	—	1	4	14	14	—	0	1	—	1	—	0	2	6	1
Colorado	—	0	4	2	4	—	0	1	1	—	—	0	3	1	8
Idaho†	—	0	2	—	1	—	0	3	2	3	—	0	1	—	—
Montana†	—	0	1	1	4	—	0	1	—	1	—	0	3	1	—
Nevada†	1	0	2	11	6	—	0	2	—	4	—	0	1	2	—
New Mexico†	—	0	2	2	1	—	0	1	1	—	—	0	0	—	—
Utah	—	0	4	6	6	—	0	1	1	3	—	0	1	3	2
Wyoming†	—	0	2	1	1	—	0	1	—	—	—	0	0	—	—
Pacific	3	4	19	99	54	2	4	10	84	45	2	2	19	40	44
Alaska	—	0	0	—	1	—	0	1	1	2	—	0	1	2	1
California	3	3	19	91	46	2	3	9	56	27	1	2	13	28	32
Hawaii	—	0	0	—	1	N	0	0	N	N	—	0	0	—	1
Oregon	—	0	3	1	3	—	1	4	26	14	—	0	1	3	6
Washington	—	0	4	7	3	—	0	3	1	2	1	0	5	7	4
American Samoa	—	0	0	—	—	N	0	0	N	N	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	—	—	N	0	0	N	N	—	0	2	1	1
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Meningococcal disease, invasive† All groups					Pertussis					Rabies, animal				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009
United States	5	16	43	310	457	93	270	1,748	3,488	5,080	25	77	147	926	1,952
New England	—	0	2	4	16	—	7	23	29	250	3	5	24	92	121
Connecticut	—	0	2	—	2	—	1	4	14	14	—	1	22	43	49
Maine§	—	0	1	1	2	—	0	10	5	35	2	1	4	24	20
Massachusetts	—	0	1	—	9	—	4	12	—	161	—	0	0	—	—
New Hampshire	—	0	1	—	1	—	1	6	3	26	—	0	3	3	13
Rhode Island§	—	0	1	—	1	—	0	8	4	8	—	0	5	3	13
Vermont§	—	0	1	3	1	—	0	1	3	6	1	1	5	19	26
Mid. Atlantic	—	2	4	30	50	4	20	42	232	441	11	10	23	231	231
New Jersey	—	0	2	8	6	—	3	10	29	97	—	0	0	—	—
New York (Upstate)	—	0	3	6	11	2	5	27	94	68	11	9	22	171	129
New York City	—	0	2	7	10	—	0	11	3	35	—	0	11	60	2
Pennsylvania	—	0	2	9	23	2	9	22	106	241	—	0	0	—	100
E.N. Central	—	2	7	44	78	34	56	105	882	1,014	5	2	19	33	43
Illinois	—	0	4	7	20	—	9	29	122	253	1	1	9	15	16
Indiana	—	0	2	11	19	—	6	16	60	122	—	0	7	—	11
Michigan	—	0	5	7	12	4	17	41	280	215	3	1	6	12	14
Ohio	—	1	2	16	19	30	19	49	415	369	1	0	5	6	2
Wisconsin	—	0	1	3	8	—	2	12	5	55	—	0	0	—	—
W.N. Central	1	1	6	20	35	6	26	627	262	886	4	6	18	78	138
Iowa	—	0	2	3	4	—	4	12	71	77	—	0	4	—	9
Kansas	—	0	2	1	6	—	3	12	45	85	—	1	4	22	40
Minnesota	—	0	2	2	8	—	0	601	6	168	—	0	9	13	18
Missouri	1	0	3	9	12	1	12	35	104	463	3	1	5	18	14
Nebraska§	—	0	2	5	3	5	2	5	33	82	1	1	6	22	36
North Dakota	—	0	1	—	—	—	0	12	—	2	—	0	7	3	4
South Dakota	—	0	2	—	2	—	0	6	3	9	—	0	4	—	17
S. Atlantic	1	2	7	65	92	12	22	63	331	547	1	31	58	368	903
Delaware	—	0	1	1	2	—	0	2	—	6	—	0	0	—	—
District of Columbia	—	0	0	—	—	—	0	1	2	3	—	0	0	—	—
Florida	1	1	5	35	28	6	6	29	84	182	—	0	21	38	161
Georgia	—	0	2	6	16	4	3	8	71	106	—	5	14	—	173
Maryland§	—	0	1	2	4	2	3	8	43	46	—	7	15	130	137
North Carolina	—	0	2	5	24	—	1	9	—	83	—	6	17	—	187
South Carolina§	—	0	1	5	6	—	4	18	82	55	—	0	0	—	—
Virginia§	—	0	2	10	8	—	4	15	42	61	—	10	26	171	206
West Virginia	—	0	2	1	4	—	0	6	7	5	1	2	6	29	39
E.S. Central	1	0	4	17	19	4	15	31	276	312	1	1	7	46	60
Alabama§	—	0	2	4	4	—	5	17	66	97	—	0	4	14	—
Kentucky	1	0	2	6	3	2	4	15	112	92	1	0	2	3	24
Mississippi	—	0	2	2	4	—	2	12	18	55	—	0	2	—	2
Tennessee§	—	0	2	5	8	2	4	10	80	68	—	0	6	29	34
W.S. Central	1	1	9	37	37	23	70	754	987	854	—	10	40	10	327
Arkansas§	—	0	2	3	5	—	5	30	30	99	—	0	10	6	11
Louisiana	—	0	3	8	9	1	1	10	9	75	—	0	0	—	—
Oklahoma	—	0	7	12	2	—	0	41	5	11	—	0	15	4	4
Texas§	1	1	7	14	21	22	61	681	943	669	—	9	30	—	312
Mountain	—	1	4	24	39	6	17	41	294	408	—	2	8	15	42
Arizona	—	0	2	7	7	1	6	12	110	73	—	0	5	—	—
Colorado	—	0	3	6	11	—	3	13	42	106	—	0	0	—	—
Idaho§	—	0	1	3	5	5	1	19	60	39	—	0	2	1	—
Montana§	—	0	2	1	5	—	1	6	7	10	—	0	4	—	13
Nevada§	—	0	1	4	3	—	0	6	2	6	—	0	1	—	—
New Mexico§	—	0	1	2	3	—	1	6	29	30	—	0	3	4	15
Utah	—	0	1	1	1	—	3	6	43	127	—	0	2	—	1
Wyoming§	—	0	1	—	4	—	0	3	1	17	—	0	3	10	13
Pacific	1	3	16	69	91	4	25	186	195	368	—	4	12	53	87
Alaska	—	0	2	—	3	—	0	4	11	26	—	0	2	11	16
California	—	2	13	48	57	—	11	162	27	137	—	3	11	38	71
Hawaii	—	0	2	—	3	—	0	4	—	13	—	0	0	—	—
Oregon	—	0	5	12	19	2	5	12	104	86	—	0	2	4	—
Washington	1	0	7	9	9	2	5	24	53	106	—	0	0	—	—
American Samoa	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	1	—	—	—	0	0	—	1	—	1	3	19	20
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Data for meningococcal disease, invasive caused by serogroups A, C, Y, and W-135; serogroup B; other serogroup; and unknown serogroup are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Salmonellosis					Shiga toxin-producing *E. coli* (STEC)†					Shigellosis				
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	422	973	1,525	9,617	13,205	38	83	194	821	1,220	207	278	523	4,329	6,046
New England	3	24	140	260	1,067	—	2	30	28	120	—	3	28	26	111
Connecticut	—	0	135	135	430	—	0	14	14	67	—	0	15	15	43
Maine§	2	2	7	27	40	—	0	3	3	8	—	0	2	3	2
Massachusetts	—	16	47	—	379	—	1	6	—	28	—	2	27	—	54
New Hampshire	—	3	9	48	149	—	1	3	9	12	—	0	5	3	2
Rhode Island§	—	2	11	33	49	—	0	26	—	—	—	0	7	4	7
Vermont§	1	1	5	17	20	—	0	3	2	5	—	0	1	1	3
Mid. Atlantic	43	84	208	1,268	1,519	5	7	23	98	131	13	39	90	580	1,181
New Jersey	—	18	47	162	315	—	1	5	5	41	1	6	23	90	304
New York (Upstate)	24	24	78	345	345	5	3	15	45	33	7	4	19	66	63
New York City	—	22	46	308	346	—	1	4	9	25	—	7	15	96	189
Pennsylvania	19	29	67	453	513	—	2	8	39	32	5	23	63	328	625
E.N. Central	49	76	167	1,028	1,695	6	10	30	99	220	18	29	233	695	1,219
Illinois	—	25	52	338	493	—	2	6	10	73	—	9	227	501	290
Indiana	—	10	30	36	162	—	1	10	9	26	—	1	5	7	32
Michigan	2	15	34	211	355	2	2	7	38	35	—	4	10	66	109
Ohio	47	24	52	409	462	4	2	11	36	36	18	9	46	109	597
Wisconsin	—	11	30	34	223	—	2	11	6	50	—	4	23	12	191
W.N. Central	22	45	94	646	895	5	10	39	147	144	65	42	88	1,045	274
Iowa	1	7	16	95	140	—	2	14	22	34	—	0	5	18	38
Kansas	3	7	20	99	110	1	1	5	12	18	4	4	14	84	84
Minnesota	—	10	32	177	206	—	2	17	31	31	—	1	6	14	26
Missouri	13	13	29	203	161	2	2	27	66	35	61	35	75	919	113
Nebraska§	5	4	12	57	169	2	1	6	15	23	—	0	3	10	10
North Dakota	—	0	39	8	12	—	0	7	—	1	—	0	5	—	1
South Dakota	—	1	9	7	97	—	0	12	1	2	—	0	1	—	2
S. Atlantic	133	286	503	2,719	2,942	10	12	22	156	217	46	40	73	634	888
Delaware	—	2	9	27	23	—	0	2	1	5	—	3	10	31	26
District of Columbia	—	2	6	23	37	—	0	1	2	1	—	0	3	11	12
Florida	69	132	277	1,317	1,249	3	3	7	60	63	19	11	18	240	167
Georgia	30	42	105	422	499	1	1	4	18	21	18	12	23	229	235
Maryland§	12	15	32	229	240	3	1	6	21	27	1	4	17	35	146
North Carolina	—	34	90	230	374	—	1	5	4	47	—	2	26	15	166
South Carolina§	6	16	66	179	210	—	0	3	5	10	2	1	6	28	61
Virginia§	11	19	68	229	260	3	3	13	42	36	6	3	15	44	70
West Virginia	5	4	23	63	50	—	0	5	3	7	—	0	2	1	5
E.S. Central	15	58	153	527	924	1	4	10	46	72	5	13	43	189	382
Alabama§	1	14	40	151	237	—	1	4	11	11	—	2	10	22	74
Kentucky	7	7	18	111	149	—	1	4	5	21	4	3	22	83	94
Mississippi	—	25	87	98	342	1	0	1	7	12	—	1	8	11	24
Tennessee§	7	14	33	167	196	—	1	8	23	28	1	5	15	73	190
W.S. Central	42	110	546	898	1,297	1	5	68	38	80	37	47	250	690	1,150
Arkansas§	—	9	25	54	146	—	0	4	5	8	—	4	15	12	121
Louisiana	2	21	46	206	266	—	0	3	4	11	1	3	7	60	88
Oklahoma	13	10	46	117	166	1	0	27	2	6	12	6	96	123	73
Texas§	27	59	477	521	719	—	3	41	27	55	24	35	144	495	868
Mountain	10	50	133	711	954	3	7	26	94	130	1	15	48	178	411
Arizona	1	18	50	238	333	—	1	4	21	15	1	11	42	93	281
Colorado	—	11	33	193	193	—	2	11	16	60	—	2	6	28	33
Idaho§	3	3	10	44	58	1	1	7	13	12	—	0	1	5	2
Montana§	1	2	7	34	47	—	0	7	15	6	—	0	1	4	11
Nevada§	4	4	13	65	96	2	0	4	9	7	—	1	7	11	28
New Mexico§	—	5	40	73	92	—	1	3	10	13	—	1	9	33	46
Utah	—	5	14	49	111	—	1	11	9	16	—	0	4	4	10
Wyoming§	1	1	9	15	24	—	0	2	1	1	—	0	2	—	—
Pacific	105	122	299	1,560	1,912	7	9	46	115	106	22	21	64	292	430
Alaska	—	1	7	29	21	—	0	0	—	—	—	0	2	—	1
California	63	92	227	1,116	1,457	2	5	35	60	69	20	16	51	246	335
Hawaii	—	4	62	—	86	—	0	2	—	3	—	0	4	—	9
Oregon	4	9	45	224	143	—	1	11	11	9	—	1	5	22	22
Washington	38	14	61	191	205	5	3	19	44	25	2	2	9	24	63
American Samoa	—	1	1	1	—	—	0	0	—	—	—	1	1	1	3
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	1	1	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	8	39	67	194	—	0	0	—	—	—	0	1	—	5
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Includes *E. coli* O157:H7; Shiga toxin-positive, serogroup non-O157; and Shiga toxin-positive, not serogrouped.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Spotted Fever Rickettsiosis (including RMSF)†									
	Confirmed					Probable				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009
United States	—	2	12	16	31	15	11	354	135	305
New England	—	0	1	—	—	—	0	1	1	4
Connecticut	—	0	0	—	—	—	0	0	—	—
Maine§	—	0	0	—	—	—	0	1	1	3
Massachusetts	—	0	1	—	—	—	0	1	—	1
New Hampshire	—	0	0	—	—	—	0	1	—	—
Rhode Island§	—	0	0	—	—	—	0	0	—	—
Vermont§	—	0	1	—	—	—	0	0	—	—
Mid. Atlantic	—	0	2	3	—	—	1	7	11	24
New Jersey	—	0	1	—	—	—	0	4	—	18
New York (Upstate)	—	0	1	—	—	—	0	3	2	1
New York City	—	0	1	—	—	—	0	2	7	2
Pennsylvania	—	0	2	3	—	—	0	2	2	3
E.N. Central	—	0	1	—	3	—	0	7	—	22
Illinois	—	0	1	—	—	—	0	6	—	12
Indiana	—	0	1	—	2	—	0	2	—	1
Michigan	—	0	1	—	1	—	0	1	—	—
Ohio	—	0	0	—	—	—	0	4	—	8
Wisconsin	—	0	1	—	—	—	0	1	—	1
W.N. Central	—	0	3	1	3	4	2	23	33	41
Iowa	—	0	1	—	—	—	0	1	—	2
Kansas	—	0	1	—	—	—	0	0	—	—
Minnesota	—	0	1	—	—	—	0	1	—	—
Missouri	—	0	1	1	1	4	2	22	33	39
Nebraska§	—	0	2	—	2	—	0	1	—	—
North Dakota	—	0	0	—	—	—	0	0	—	—
South Dakota	—	0	0	—	—	—	0	0	—	—
S. Atlantic	—	1	7	9	20	3	3	31	50	125
Delaware	—	0	1	1	—	—	0	3	5	3
District of Columbia	—	0	0	—	—	—	0	1	—	—
Florida	—	0	1	1	—	1	0	1	3	1
Georgia	—	0	6	5	18	—	0	0	—	—
Maryland§	—	0	1	1	—	—	0	3	3	18
North Carolina	—	0	2	1	1	—	2	23	27	74
South Carolina§	—	0	1	—	1	—	0	1	2	12
Virginia§	—	0	1	—	—	2	0	5	10	17
West Virginia	—	0	0	—	—	—	0	1	—	—
E.S. Central	—	0	2	2	1	1	3	16	27	65
Alabama§	—	0	1	—	—	—	1	7	5	10
Kentucky	—	0	1	1	—	—	0	0	—	—
Mississippi	—	0	0	—	1	—	0	4	—	4
Tennessee§	—	0	2	1	—	1	2	13	22	51
W.S. Central	—	0	3	1	—	6	1	346	12	17
Arkansas§	—	0	0	—	—	—	0	48	—	2
Louisiana	—	0	0	—	—	—	0	1	—	1
Oklahoma	—	0	3	—	—	6	0	287	8	3
Texas§	—	0	1	1	—	—	0	11	4	11
Mountain	—	0	2	—	3	1	0	3	1	7
Arizona	—	0	2	—	1	—	0	2	—	2
Colorado	—	0	1	—	—	—	0	0	—	—
Idaho§	—	0	0	—	—	1	0	1	1	—
Montana§	—	0	1	—	2	—	0	1	—	3
Nevada§	—	0	0	—	—	—	0	1	—	—
New Mexico§	—	0	0	—	—	—	0	0	—	1
Utah	—	0	0	—	—	—	0	0	—	1
Wyoming§	—	0	1	—	—	—	0	1	—	—
Pacific	—	0	0	—	1	—	0	0	—	—
Alaska	N	0	0	N	N	N	0	0	N	N
California	—	0	0	—	1	—	0	0	—	—
Hawaii	N	0	0	N	N	N	0	0	N	N
Oregon	—	0	0	—	—	—	0	0	—	—
Washington	—	0	0	—	—	—	0	0	—	—
American Samoa	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	N	0	0	N	N	N	0	0	N	N
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Illnesses with similar clinical presentation that result from Spotted fever group rickettsia infections are reported as Spotted fever rickettsioses. Rocky Mountain spotted fever (RMSF) caused by *Rickettsia rickettsii*, is the most common and well-known spotted fever.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	*Streptococcus pneumoniae*,† invasive disease										Syphilis, primary and secondary				
	All ages					Age <5									
	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009	Current week	Previous 52 weeks		Cum 2010	Cum 2009
		Med	Max				Med	Max				Med	Max		
United States	151	60	427	6,522	1,638	20	48	160	1,054	1,179	64	237	414	3,735	5,356
New England	7	2	97	387	28	—	1	23	34	39	9	7	22	165	130
Connecticut	2	0	94	194	—	—	0	22	22	—	3	1	10	35	27
Maine§	3	1	6	58	7	—	0	2	6	—	—	0	3	14	1
Massachusetts	—	0	1	—	2	—	0	5	—	31	5	4	12	97	88
New Hampshire	—	0	7	56	—	—	0	2	3	5	—	0	1	5	10
Rhode Island§	—	0	7	40	11	—	0	1	2	1	1	0	5	12	4
Vermont§	2	0	6	39	8	—	0	1	1	2	—	0	2	2	—
Mid. Atlantic	12	6	44	464	96	4	6	52	137	138	24	33	47	640	714
New Jersey	—	0	5	45	—	—	1	4	25	24	3	4	12	87	98
New York (Upstate)	4	2	12	88	39	3	3	19	63	67	3	2	11	38	43
New York City	1	1	19	98	3	1	1	28	23	38	13	18	39	381	437
Pennsylvania	7	2	21	233	54	—	0	5	26	9	5	6	14	134	136
E.N. Central	17	13	75	904	375	4	8	18	161	193	1	25	43	251	556
Illinois	—	0	7	43	—	—	1	5	37	32	—	13	20	7	265
Indiana	—	5	20	227	153	—	1	6	26	37	—	2	9	38	67
Michigan	8	1	26	328	17	1	1	6	40	35	—	3	13	84	89
Ohio	9	8	19	215	205	3	2	6	49	68	1	7	13	122	118
Wisconsin	—	0	20	91	—	—	0	2	9	21	—	0	2	—	17
W.N. Central	17	4	182	469	99	2	3	12	87	88	—	5	12	74	122
Iowa	—	0	0	—	—	—	0	0	—	—	—	0	2	2	10
Kansas	1	1	7	55	40	1	0	2	11	13	—	0	3	4	8
Minnesota	12	0	179	269	18	—	1	10	41	29	—	1	4	15	33
Missouri	1	1	8	62	33	—	1	3	25	31	—	3	8	49	64
Nebraska§	3	0	7	63	—	1	0	2	9	4	—	0	2	4	5
North Dakota	—	0	10	16	6	—	0	1	—	4	—	0	1	—	2
South Dakota	—	0	2	4	2	—	0	1	1	7	—	0	0	—	—
S. Atlantic	47	29	142	1,726	735	5	12	28	280	294	9	60	218	971	1,218
Delaware	1	0	3	18	10	—	0	2	—	—	—	0	3	3	14
District of Columbia	1	0	4	17	11	1	0	1	6	2	—	2	8	41	70
Florida	27	16	89	833	440	2	3	18	104	110	1	19	32	339	447
Georgia	5	8	28	271	206	2	4	12	78	69	1	13	167	156	219
Maryland§	8	0	25	237	4	—	1	6	30	46	—	6	12	95	108
North Carolina	—	0	0	—	—	—	0	0	—	—	—	11	31	171	195
South Carolina§	5	0	25	270	—	—	1	4	28	27	3	2	6	51	48
Virginia§	—	0	4	26	—	—	1	4	24	27	4	4	22	113	113
West Virginia	—	1	21	54	64	—	0	4	10	13	—	0	2	2	4
E.S. Central	16	5	50	617	173	1	3	9	59	77	6	19	40	298	462
Alabama§	—	0	0	—	—	—	0	0	—	—	4	6	18	100	184
Kentucky	5	1	15	84	48	—	0	2	6	7	—	1	13	29	23
Mississippi	—	1	6	32	28	—	0	4	6	15	—	4	17	54	77
Tennessee§	11	2	44	501	97	1	2	7	47	55	2	7	15	115	178
W.S. Central	20	4	89	870	62	2	6	41	143	167	6	45	75	568	1,103
Arkansas§	—	1	8	63	30	—	0	4	9	23	6	6	16	97	74
Louisiana	—	1	8	43	32	—	0	3	16	16	—	8	27	64	345
Oklahoma	1	0	5	30	—	1	1	5	30	27	—	1	6	20	38
Texas§	19	0	81	734	—	1	4	34	88	101	—	28	46	387	646
Mountain	9	3	82	947	68	1	5	12	134	165	5	8	18	109	203
Arizona	7	0	51	464	—	—	2	7	59	75	1	3	10	21	100
Colorado	—	0	20	270	—	—	1	4	36	25	—	2	5	41	37
Idaho§	1	0	1	8	—	1	0	1	4	4	—	0	1	2	2
Montana§	—	0	1	8	—	—	0	0	—	—	—	0	1	—	—
Nevada§	1	1	4	36	27	—	0	1	4	6	4	1	10	34	36
New Mexico§	—	0	8	79	—	—	0	4	12	19	—	1	4	7	19
Utah	—	1	9	74	34	—	1	4	17	35	—	0	2	4	9
Wyoming§	—	0	2	8	7	—	0	1	2	1	—	0	1	—	—
Pacific	6	0	14	138	2	1	0	7	19	18	4	40	59	659	848
Alaska	—	0	9	57	—	—	0	5	15	11	—	0	0	—	—
California	6	0	12	81	—	1	0	2	4	—	—	35	54	573	752
Hawaii	—	0	1	—	2	—	0	1	—	7	—	0	3	11	16
Oregon	—	0	0	—	—	—	0	0	—	—	—	0	5	6	20
Washington	—	0	0	—	—	—	0	0	—	—	4	3	7	69	60
American Samoa	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	0	0	—	—	—	0	0	—	—	—	4	17	73	77
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional.
† Includes drug resistant and susceptible cases of invasive *Streptococcus pneumoniae* disease among children <5 years and among all ages. Case definition: Isolation of *S. pneumoniae* from a normally sterile body site (e.g., blood or cerebrospinal fluid).
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).

TABLE II. (*Continued*) Provisional cases of selected notifiable diseases, United States, weeks ending May 22, 2010, and May 23, 2009 (20th week)*

Reporting area	Varicella (chickenpox)[§]					West Nile virus disease[†]									
						Neuroinvasive					Nonneuroinvasive[¶]				
	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009	Current week	Previous 52 weeks Med	Previous 52 weeks Max	Cum 2010	Cum 2009
United States	265	329	772	6,481	11,657	—	0	46	1	3	—	0	49	—	4
New England	4	17	38	288	456	—	0	0	—	—	—	0	0	—	—
Connecticut	4	7	23	119	227	—	0	0	—	—	—	0	0	—	—
Maine[§]	—	4	15	96	74	—	0	0	—	—	—	0	0	—	—
Massachusetts	—	0	0	—	2	—	0	0	—	—	—	0	0	—	—
New Hampshire	—	3	10	53	95	—	0	0	—	—	—	0	0	—	—
Rhode Island[§]	—	1	12	8	16	—	0	0	—	—	—	0	0	—	—
Vermont[§]	—	1	10	12	42	—	0	0	—	—	—	0	0	—	—
Mid. Atlantic	18	32	72	648	1,057	—	0	2	—	—	—	0	1	—	—
New Jersey	—	8	28	209	204	—	0	1	—	—	—	0	0	—	—
New York (Upstate)	N	0	0	N	N	—	0	1	—	—	—	0	1	—	—
New York City	—	0	0	—	—	—	0	1	—	—	—	0	0	—	—
Pennsylvania	18	22	53	439	853	—	0	0	—	—	—	0	0	—	—
E.N. Central	83	106	193	2,378	3,675	—	0	4	—	—	—	0	3	—	—
Illinois	5	26	49	628	927	—	0	3	—	—	—	0	0	—	—
Indiana[§]	19	5	35	236	263	—	0	1	—	—	—	0	1	—	—
Michigan	15	35	84	770	1,023	—	0	1	—	—	—	0	0	—	—
Ohio	44	28	58	675	1,188	—	0	0	—	—	—	0	2	—	—
Wisconsin	—	6	57	69	274	—	0	1	—	—	—	0	0	—	—
W.N. Central	7	13	40	251	814	—	0	5	—	—	—	0	11	—	1
Iowa	N	0	0	N	N	—	0	0	—	—	—	0	1	—	—
Kansas[§]	—	5	18	90	361	—	0	1	—	—	—	0	2	—	—
Minnesota	—	0	0	—	—	—	0	1	—	—	—	0	1	—	—
Missouri	7	6	24	136	384	—	0	2	—	—	—	0	1	—	—
Nebraska[§]	N	0	0	N	N	—	0	2	—	—	—	0	6	—	—
North Dakota	—	0	26	23	38	—	0	0	—	—	—	0	1	—	—
South Dakota	—	0	7	2	31	—	0	3	—	—	—	0	2	—	1
S. Atlantic	86	36	123	983	1,459	—	0	4	—	—	—	0	2	—	—
Delaware[§]	—	0	3	10	2	—	0	0	—	—	—	0	0	—	—
District of Columbia	—	0	4	7	20	—	0	1	—	—	—	0	0	—	—
Florida[§]	57	15	54	533	753	—	0	1	—	—	—	0	1	—	—
Georgia	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Maryland[§]	N	0	0	N	N	—	0	0	—	—	—	0	1	—	—
North Carolina	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
South Carolina[§]	2	0	34	68	88	—	0	2	—	—	—	0	0	—	—
Virginia[§]	12	10	65	162	383	—	0	2	—	—	—	0	0	—	—
West Virginia	15	8	26	203	213	—	0	0	—	—	—	0	0	—	—
E.S. Central	2	6	30	125	312	—	0	6	1	—	—	0	4	—	—
Alabama[§]	2	6	27	124	306	—	0	0	—	—	—	0	0	—	—
Kentucky	N	0	0	N	N	—	0	1	—	—	—	0	0	—	—
Mississippi	—	0	3	1	6	—	0	5	1	—	—	0	4	—	—
Tennessee[§]	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
W.S. Central	47	73	285	1,255	2,675	—	0	19	—	2	—	0	6	—	—
Arkansas[§]	—	5	50	69	289	—	0	1	—	1	—	0	0	—	—
Louisiana	1	2	8	25	56	—	0	2	—	—	—	0	4	—	—
Oklahoma	N	0	0	N	N	—	0	2	—	—	—	0	2	—	—
Texas[§]	46	62	272	1,161	2,330	—	0	16	—	1	—	0	4	—	—
Mountain	18	25	49	539	1,143	—	0	12	—	—	—	0	17	—	3
Arizona	—	0	0	—	—	—	0	4	—	—	—	0	2	—	—
Colorado[§]	9	11	41	211	619	—	0	7	—	—	—	0	14	—	1
Idaho[§]	N	0	0	N	N	—	0	3	—	—	—	0	5	—	—
Montana[§]	7	2	17	98	91	—	0	1	—	—	—	0	1	—	—
Nevada[§]	N	0	0	N	N	—	0	2	—	—	—	0	1	—	—
New Mexico[§]	1	1	7	48	81	—	0	2	—	—	—	0	1	—	—
Utah	1	7	22	173	352	—	0	1	—	—	—	0	0	—	1
Wyoming[§]	—	0	3	9	—	—	0	1	—	—	—	0	2	—	1
Pacific	—	1	5	14	66	—	0	12	—	1	—	0	12	—	—
Alaska	—	0	4	14	37	—	0	0	—	—	—	0	0	—	—
California	—	0	0	—	—	—	0	8	—	1	—	0	6	—	—
Hawaii	—	0	2	—	29	—	0	0	—	—	—	0	0	—	—
Oregon	N	0	0	N	N	—	0	1	—	—	—	0	4	—	—
Washington	N	0	0	N	N	—	0	6	—	—	—	0	3	—	—
American Samoa	N	0	0	N	N	—	0	0	—	—	—	0	0	—	—
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	2	8	—	—	0	0	—	—	—	0	0	—	—
Puerto Rico	—	6	30	101	244	—	0	0	—	—	—	0	0	—	—
U.S. Virgin Islands	—	0	0	—	—	—	0	0	—	—	—	0	0	—	—

C.N.M.I.: Commonwealth of Northern Mariana Islands.
U: Unavailable. —: No reported cases. N: Not reportable. NN: Not Nationally Notifiable. Cum: Cumulative year-to-date counts. Med: Median. Max: Maximum.
* Incidence data for reporting years 2009 and 2010 are provisional. Data for HIV/AIDS, AIDS, and TB, when available, are displayed in Table IV, which appears quarterly.
† Updated weekly from reports to the Division of Vector-Borne Infectious Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases (ArboNET Surveillance). Data for California serogroup, eastern equine, Powassan, St. Louis, and western equine diseases are available in Table I.
§ Contains data reported through the National Electronic Disease Surveillance System (NEDSS).
¶ Not reportable in all states. Data from states where the condition is not reportable are excluded from this table, except starting in 2007 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at http://www.cdc.gov/ncphi/disss/nndss/phs/infdis.htm.

TABLE III. Deaths in 122 U.S. cities,* week ending May 22, 2010 (20th week)

Reporting area	All causes, by age (years)						P&I†
	All Ages	≥65	45–64	25–44	1–24	<1	Total
New England	508	357	114	18	9	10	44
Boston, MA	124	74	40	3	5	2	8
Bridgeport, CT	30	16	9	5	—	—	1
Cambridge, MA	12	11	1	—	—	—	2
Fall River, MA	17	15	2	—	—	—	1
Hartford, CT	47	34	10	2	1	—	7
Lowell, MA	19	14	3	—	—	2	2
Lynn, MA	6	6	—	—	—	—	2
New Bedford, MA	19	14	4	1	—	—	1
New Haven, CT	28	14	11	3	—	—	2
Providence, RI	65	52	10	—	1	2	6
Somerville, MA	1	—	1	—	—	—	—
Springfield, MA	51	40	8	1	—	2	5
Waterbury, CT	24	19	4	—	—	1	2
Worcester, MA	65	48	11	3	2	1	5
Mid. Atlantic	1,749	1,225	392	65	27	39	91
Albany, NY	46	37	6	—	1	2	1
Allentown, PA	29	24	5	—	—	—	1
Buffalo, NY	82	56	16	2	1	7	9
Camden, NJ	28	15	8	—	1	4	—
Elizabeth, NJ	10	9	1	—	—	—	—
Erie, PA	35	30	3	2	—	—	4
Jersey City, NJ	27	13	13	1	—	—	2
New York City, NY	1,019	710	227	47	16	18	49
Newark, NJ	29	14	8	4	2	1	—
Paterson, NJ	20	9	10	1	—	—	1
Philadelphia, PA	134	84	38	3	5	4	4
Pittsburgh, PA§	30	21	9	—	—	—	2
Reading, PA	29	21	8	—	—	—	1
Rochester, NY	69	52	14	3	—	—	4
Schenectady, NY	22	15	6	1	—	—	1
Scranton, PA	25	21	4	—	—	—	—
Syracuse, NY	69	57	9	1	—	2	9
Trenton, NJ	19	14	5	—	—	—	1
Utica, NY	10	9	—	—	—	1	—
Yonkers, NY	17	14	2	—	1	—	2
E.N. Central	1,978	1,314	476	104	41	43	119
Akron, OH	54	37	10	2	1	4	5
Canton, OH	36	29	7	—	—	—	1
Chicago, IL	305	201	69	22	9	4	5
Cincinnati, OH	96	65	17	5	2	7	9
Cleveland, OH	249	181	46	12	5	5	12
Columbus, OH	144	97	37	5	2	3	10
Dayton, OH	134	88	41	4	1	—	12
Detroit, MI	167	78	68	14	5	2	6
Evansville, IN	39	28	9	2	—	—	4
Fort Wayne, IN	68	49	15	3	—	1	5
Gary, IN	10	4	4	—	—	2	—
Grand Rapids, MI	43	30	11	1	1	—	3
Indianapolis, IN	207	121	65	11	4	6	11
Lansing, MI	41	31	10	—	—	—	3
Milwaukee, WI	87	58	20	6	2	1	7
Peoria, IL	46	30	8	3	4	1	6
Rockford, IL	45	32	7	3	1	2	1
South Bend, IN	47	35	6	4	1	1	5
Toledo, OH	103	75	15	7	3	3	10
Youngstown, OH	57	45	11	—	—	1	4
W.N. Central	632	439	131	35	12	15	44
Des Moines, IA	148	112	29	5	2	—	13
Duluth, MN	32	27	3	1	—	1	2
Kansas City, KS	27	16	8	2	1	—	1
Kansas City, MO	105	68	24	8	2	3	4
Lincoln, NE	36	27	6	1	1	1	1
Minneapolis, MN	60	31	18	6	1	4	3
Omaha, NE	78	56	16	4	1	1	7
St. Louis, MO	4	1	—	2	1	—	1
St. Paul, MN	69	53	9	1	3	3	7
Wichita, KS	73	48	18	5	—	2	5
S. Atlantic	1,267	780	336	74	33	27	76
Atlanta, GA	129	82	36	6	4	1	6
Baltimore, MD	166	99	51	8	5	3	14
Charlotte, NC	122	71	40	6	2	3	6
Jacksonville, FL	155	106	34	9	3	3	11
Miami, FL	190	111	46	14	9	6	6
Norfolk, VA	49	13	17	4	1	1	1
Richmond, VA	65	38	17	6	3	1	4
Savannah, GA	54	36	14	4	—	—	6
St. Petersburg, FL	48	34	10	—	1	3	2
Tampa, FL	202	141	42	13	3	3	13
Washington, D.C.	78	43	26	4	2	3	7
Wilmington, DE	9	6	3	—	—	—	—
E.S. Central	875	560	216	59	27	13	73
Birmingham, AL	166	113	38	11	2	2	21
Chattanooga, TN	105	68	26	3	6	2	6
Knoxville, TN	95	73	16	3	2	1	9
Lexington, KY	68	35	24	6	2	1	3
Memphis, TN	139	87	36	9	5	2	12
Mobile, AL	89	57	20	11	—	1	6
Montgomery, AL	51	27	16	5	3	—	3
Nashville, TN	162	100	40	11	7	4	13
W.S. Central	1,119	733	263	65	21	37	64
Austin, TX	85	60	20	4	—	1	4
Baton Rouge, LA	55	33	16	2	1	3	—
Corpus Christi, TX	65	47	11	5	1	1	4
Dallas, TX	189	114	47	19	3	6	13
El Paso, TX	60	42	13	3	1	1	3
Fort Worth, TX	U	U	U	U	U	U	U
Houston, TX	145	88	38	7	3	9	10
Little Rock, AR	91	57	25	6	2	1	4
New Orleans, LA	U	U	U	U	U	U	U
San Antonio, TX	255	165	59	13	8	10	15
Shreveport, LA	66	42	15	3	2	4	6
Tulsa, OK	108	85	19	3	—	1	5
Mountain	1,152	729	296	76	23	23	87
Albuquerque, NM	124	79	26	11	5	3	13
Boise, ID	62	45	12	2	1	2	8
Colorado Springs, CO	69	39	26	3	1	—	1
Denver, CO	79	47	23	5	2	2	10
Las Vegas, NV	272	176	74	15	5	2	22
Ogden, UT	33	21	8	2	—	2	3
Phoenix, AZ	202	112	58	18	7	7	13
Pueblo, CO	34	27	6	1	—	—	2
Salt Lake City, UT	126	79	30	13	—	4	5
Tucson, AZ	151	104	33	6	2	1	10
Pacific	1,413	985	302	75	30	21	138
Berkeley, CA	10	7	3	—	—	—	3
Fresno, CA	128	85	30	9	2	2	15
Glendale, CA	31	23	6	2	—	—	4
Honolulu, HI	72	53	15	3	1	—	10
Long Beach, CA	U	U	U	U	U	U	U
Los Angeles, CA	223	153	47	9	9	5	23
Pasadena, CA	17	16	1	—	—	—	3
Portland, OR	117	76	28	9	3	1	8
Sacramento, CA	190	129	42	11	2	6	20
San Diego, CA	206	159	42	4	1	—	13
San Francisco, CA	113	80	22	10	1	—	22
San Jose, CA	U	U	U	U	U	U	U
Santa Cruz, CA	29	19	9	1	—	—	2
Seattle, WA	112	76	20	9	4	3	9
Spokane, WA	58	39	15	1	1	2	4
Tacoma, WA	107	70	22	7	6	2	2
Total¶	**10,693**	**7,122**	**2,526**	**571**	**223**	**228**	**736**

U: Unavailable. —: No reported cases.

* Mortality data in this table are voluntarily reported from 122 cities in the United States, most of which have populations of >100,000. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

† Pneumonia and influenza.

§ Because of changes in reporting methods in this Pennsylvania city, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶ Total includes unknown ages.

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. To receive an electronic copy each week, visit *MMWR*'s free subscription page at *http://www.cdc.gov/mmwr/mmwrsubscribe.html*. Paper copy subscriptions are available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone 202-512-1800.

Data presented by the Notifiable Disease Data Team and 122 Cities Mortality Data Team in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. Address all 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 or to *mmwrq@cdc.gov.*

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.

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: 2010-623-026/41251 Region IV ISSN: 0149-2195