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### Trends in HIV- and STD-Related Risk Behaviors Among High School Students — United States, 1991–2007

Persons who engage in unprotected sexual intercourse or use injection drugs are at increased risk for human immunodeficiency virus (HIV) infection and sexually transmitted diseases (STDs). Changes in HIV- and STD-related risk behaviors among high school students in the United States during 1991–2005 were reported previously (1). To update these analyses through 2007, CDC analyzed data from nine biennial national Youth Risk Behavior Surveys (YRBS). This report summarizes the results of that analysis, which indicated that, during 1991–2007, the percentage of U.S. high school students who ever had sexual intercourse decreased 12%, the percentage who had sexual intercourse with four or more persons during their lifetime decreased 20%, and the percentage who were currently sexually active decreased 7%. Among students who were currently sexually active, the prevalence of condom use increased 33%. However, these changes in risk behaviors were not observed in some subgroups. In addition, no changes were detected in the prevalence of sexual risk behaviors from 2005 to 2007, and many students still engaged in behaviors that place them at risk for HIV infection and STDs. Additional efforts to reduce sexual risk behaviors, particularly among black, Hispanic, and male students, must be implemented to meet the *Healthy People 2010* national health objective for adolescent sexual behaviors (objective no. 25-11) (2) and to decrease rates of HIV infection and STDs.

The biennial national YRBS, a component of CDC's Youth Risk Behavior Surveillance System, used independent, three-stage cluster samples for the 1991–2007 surveys to obtain cross-sectional data representative of public and private school students in grades 9–12 in all 50 states and the District of Columbia (3). Sample sizes ranged from 10,904 to 16,296. School response rates ranged from 70% to 81%, and student response rates ranged from 83% to 90%; therefore, overall response rates for the surveys ranged from 60% to 70%.

For each cross-sectional national survey, students completed anonymous, self-administered questionnaires that included identically worded questions about sexual intercourse, number of sex partners, condom use, and injection-drug use.\* Sexual experience was defined as ever having had sexual intercourse. Multiple sex partners was defined as having four or more sex partners during one's lifetime. Current sexual activity was defined as having sexual intercourse during the 3 months before the survey. Condom use was defined as use of a condom during last sexual intercourse among currently sexually active students. Injection-drug use was defined as ever having used a needle to inject any illegal drug into one's body. Race/ethnicity data are presented only for non-Hispanic black, non-Hispanic white, and Hispanic students (who might be of any race); the numbers of students from other racial/ethnic groups were too small for meaningful analysis.

Data were weighted to provide national estimates (3), and the statistical software used for all data analyses accounted for

\*The YRBS questions were as follows: "Have you ever had sexual intercourse?" "During your life, with how many people have you had sexual intercourse?" "During the past 3 months, with how many people did you have sexual intercourse?" "The last time you had sexual intercourse, did you or your partner use a condom?" and "During your life, how many times have you used a needle to inject any illegal drug into your body?" The wording of the question on injection-drug use changed substantially after the 1993 survey, so 1991 and 1993 data on injection-drug use are not included in this report.

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the complex sample design. Temporal changes were analyzed using logistic regression analyses, which controlled for sex, race/ethnicity, and grade and simultaneously assessed significant ( $p < 0.05$ ) linear and quadratic time effects.<sup>†</sup> T-test analyses were used to test for significant ( $p < 0.05$ ) differences between results from 2005 and 2007.

During 1991–2007, the prevalence of sexual experience decreased 12% overall, from 54.1% to 47.8%. Logistic regression analyses indicated a significant linear decrease overall and among female, male, 9th-grade, 10th-grade, 11th-grade, 12th-grade, black, and white students (Table). Among Hispanic students, no significant change was detected. Among male students, 11th-grade students, and black students, a significant quadratic trend also was detected. Among male students and 11th-grade students, the prevalence of sexual experience declined during 1991–1997 and then leveled off during 1997–2007. Among black students, the prevalence of sexual experience declined during 1991–2001 and then leveled off during 2001–2007. From 2005 to 2007, no significant change was detected in the prevalence of sexual experience overall or among any sex, grade, or racial/ethnic subgroup of students.

During 1991–2007, the prevalence of multiple sex partners decreased 20%, from 18.7% to 14.9%. A significant linear decrease was detected overall and among female, male, 9th-grade, 10th-grade, 11th-grade, 12th-grade, black, and white students (Table). Among Hispanic students, no significant change was detected. A significant quadratic trend also was detected among male students, 11th-grade students, and 12th-grade students. For each group, the prevalence of multiple sex partners declined during 1991–1997 and then leveled off during 1997–2007. From 2005 to 2007, no significant change was detected in the prevalence of multiple sex partners overall or among any sex, grade, or racial/ethnic subgroup of students.

During 1991–2007, the prevalence of current sexual activity decreased 7%, from 37.5% to 35.0%. A significant linear decrease was detected overall and among 9th-grade students and black students (Table). Among 9th-grade and 11th-grade students, a significant quadratic trend was detected. For 9th-grade students, the prevalence of current sexual activity remained stable during 1991–1999 and then declined during 1999–2007. For 11th-grade students, the prevalence of current sexual activity declined during 1991–1999 and then

<sup>†</sup> A quadratic trend indicates a significant but nonlinear trend in the data over time; whereas a linear trend is depicted with a straight line, a quadratic trend is depicted with a curve with one bend. Trends that include significant quadratic and linear components demonstrate nonlinear variation in addition to an overall increase or decrease over time.

remained stable during 1999–2007. From 2005 to 2007, no significant change was detected in the prevalence of current sexual activity overall or among any sex, grade, or racial/ethnic subgroup of students.

During 1991–2007, among students who were currently sexually active, the prevalence of condom use increased 33%, from 46.2% to 61.5%. A significant linear increase in condom use was detected among currently sexually active students overall and among all sex, grade, and racial/ethnic subgroups of students who were currently sexually active. A significant quadratic trend also was detected among currently sexually active students overall and among female students, 10th-grade students, and black students who were currently sexually active. Among currently sexually active students overall, female students, and 10th-grade students, the prevalence of condom use increased during 1991–2003 and then leveled off during 2003–2007. The prevalence of condom use among currently sexually active black students increased during 1991–1999 and then leveled off during 1999–2007. From 2005 to 2007, no significant change was detected in the prevalence of condom use overall or among any sex, grade, or racial/ethnic subgroup of currently sexually active students.

During 1995–2007, the prevalence of injection-drug use remained below 4%. However, a significant linear increase in injection-drug use was detected among black and Hispanic students. From 2005 to 2007, no change was detected in the prevalence of injection-drug use overall or among any subgroup, except for 10th-grade students, whose prevalence decreased from 2.3% to 1.4%.

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**Editorial Note:** A *Healthy People 2010* national health objective (no. 25-11) is to increase to 95% the proportion of adolescents in grades 9–12 who abstain from sexual intercourse or use condoms if currently sexually active (2). CDC reported previously that, in 2007, 87% of high school students reported abstaining from sexual intercourse or using condoms if currently sexually active (4), compared with 80% in 1991. Despite this progress, the analyses in this report indicate that no changes were detected in the prevalence of sexual risk behaviors from 2005 to 2007, and some subgroups did not experience the overall changes observed during 1991–2007. For example, among black students, the prevalence of sexual experience, multiple sex partners, and current sexual activity remained higher than among any other subgroup of high school students, the prevalence of sexual experience did not decrease during 2001–2007, and the prevalence of condom use did not increase during 1999–2007. Among Hispanic

students, the prevalence of sexual experience, multiple sex partners, and current sexual activity did not change during 1991–2007. Among male students, the prevalence of sexual experience and multiple sex partners did not decrease after 1997, and current sexual activity did not change during 1991–2007. Therefore, renewed efforts to delay onset of sexual activity and increase condom use among students who are sexually active are warranted, especially among black, Hispanic, and male students.

The findings in this report are subject to at least two limitations. First, these data apply only to youths who attend school and therefore are not representative of all persons in this age group. In 2005, of persons aged 16–17 years in the United States, approximately 3% were not enrolled in a high school program and had not completed high school (5). Second, the extent of underreporting or overreporting of behaviors cannot be determined, although the survey questions demonstrated good test-retest reliability (6).

The lack of recent change in the prevalence of HIV- and STD-related risk behaviors among high school students might have contributed to recent increases in related health outcomes. For example, during 2003–2006, in the 33 states with confidential, name-based HIV infection reporting, the estimated annual number of HIV/acquired immunodeficiency syndrome cases diagnosed among adolescents aged 15–19 increased 34%, from 993 in 2003 to 1,332 in 2006 (7). Similarly, after decreasing annually since 1999, gonorrhea infection rates among adolescents aged 15–19 years increased 2% from 2004 to 2005, from 421.9 to 431.8 per 100,000, and then increased 6% from 2005 to 2006, from 431.8 to 458.8 per 100,000 (8). Also, birth rates among adolescents aged 15–19 years decreased annually during 1991–2005 and then increased for the first time during 2005–2006, from 40.5 live births per 1,000 females in 2005 to 41.9 in 2006 (9). Programs and activities aimed at addressing these health outcomes should involve parents and families, schools, youth-serving organizations, health-care providers, the media, government agencies, and youths themselves.

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TABLE. Percentage of high school students who reported HIV- and STD-related\* risk behaviors, by sex, grade, race/ethnicity, and survey year — United States, Youth Risk Behavior Survey, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, and 2007

Characteristic	Survey year	Ever had sexual intercourse		Multiple sex partners <sup>§</sup>		Currently sexually active <sup>¶</sup>		Condom use <sup>**</sup>		Lifetime illegal injection-drug use <sup>††</sup>	
		%	(95% CI) <sup>†</sup>	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
Total	1991	54.1	(50.5–57.8)	18.7	(16.6–21.0)	37.5	(34.3–40.7)	46.2	(42.8–49.6)	—	—
	1993	53.0	(50.2–55.8)	18.7	(16.8–20.9)	37.5	(35.4–39.7)	52.8	(50.0–55.6)	—	—
	1995	53.1	(48.4–57.7)	17.8	(15.2–20.7)	37.9	(34.4–41.5)	54.4	(50.7–58.0)	2.1	(1.6–2.6)
	1997	48.4	(45.2–51.6)	16.0	(14.6–17.5)	34.8	(32.6–37.2)	56.8	(55.2–58.4)	2.1	(1.7–2.7)
	1999	49.9	(46.1–53.7)	16.2	(13.7–19.0)	36.3	(32.7–40.0)	58.0	(53.6–62.3)	1.8	(1.4–2.2)
	2001	45.6	(43.2–48.1)	14.2	(13.0–15.6)	33.4	(31.3–35.5)	57.9	(55.6–60.1)	2.3	(2.0–2.7)
	2003	46.7	(44.0–49.4)	14.4	(12.9–16.1)	34.3	(32.1–36.5)	63.0	(60.5–65.5)	3.2	(2.1–4.7)
	2005	46.8	(43.4–50.2)	14.3	(12.8–15.8)	33.9	(31.4–36.6)	62.8	(60.6–64.9)	2.1	(1.8–2.4)
	2007	47.8	(45.1–50.6) <sup>§§</sup>	14.9	(13.4–16.5) <sup>§§</sup>	35.0	(32.8–37.2) <sup>§§</sup>	61.5	(59.4–63.6) <sup>§§¶¶</sup>	2.0	(1.5–2.7)
Sex											
Female	1991	50.8	(46.7–54.9)	13.8	(12.1–15.7)	38.2	(34.7–41.8)	38.0	(33.7–42.5)	—	—
	1993	50.2	(47.5–52.8)	15.0	(13.2–17.0)	37.5	(35.7–39.3)	46.0	(43.2–49.0)	—	—
	1995	52.1	(46.9–57.2)	14.4	(11.1–18.5)	40.4	(36.1–44.8)	48.6	(43.3–53.9)	1.0	(0.6–1.7)
	1997	47.7	(43.9–51.5)	14.1	(12.3–16.3)	36.5	(33.8–39.3)	50.8	(47.7–53.8)	1.5	(0.9–2.5)
	1999	47.7	(43.5–51.9)	13.1	(11.0–15.5)	36.3	(32.2–40.7)	50.7	(44.8–56.6)	0.7	(0.5–1.1)
	2001	42.9	(40.1–45.8)	11.4	(10.0–13.0)	33.4	(30.9–35.9)	51.3	(47.8–54.9)	1.6	(1.2–2.1)
	2003	45.3	(42.6–48.0)	11.2	(9.8–12.7)	34.6	(32.5–36.8)	57.4	(54.2–60.5)	2.5	(1.4–4.2)
	2005	45.7	(42.0–49.4)	12.0	(10.4–13.7)	34.6	(31.5–37.7)	55.9	(53.0–58.8)	1.1	(0.8–1.6)
	2007	45.9	(43.1–48.6) <sup>§§</sup>	11.8	(10.5–13.1) <sup>§§</sup>	35.6	(33.2–38.1)	54.9	(51.8–58.1) <sup>§§¶¶</sup>	1.3	(0.8–2.2)
Male	1991	57.4	(53.1–61.5)	23.4	(20.4–26.7)	36.8	(33.3–40.3)	54.5	(50.5–58.4)	—	—
	1993	55.6	(52.0–59.2)	22.3	(19.6–25.2)	37.5	(34.5–40.7)	59.2	(55.3–63.0)	—	—
	1995	54.0	(49.0–58.8)	20.9	(18.3–23.7)	35.5	(32.0–39.2)	60.5	(56.0–64.9)	3.0	(2.4–3.7)
	1997	48.9	(45.4–52.3)	17.6	(16.1–19.2)	33.4	(30.8–36.1)	62.5	(59.6–65.3)	2.6	(2.0–3.3)
	1999	52.2	(48.0–56.2)	19.3	(15.8–23.3)	36.2	(32.3–40.2)	65.5	(61.0–69.8)	2.8	(2.1–3.8)
	2001	48.5	(45.8–51.3)	17.2	(15.7–18.9)	33.4	(31.0–35.8)	65.1	(62.2–67.9)	3.1	(2.7–3.6)
	2003	48.0	(44.6–51.4)	17.5	(15.3–19.9)	33.8	(31.3–36.5)	68.8	(66.0–71.4)	3.8	(2.7–5.4)
	2005	47.9	(44.4–51.5)	16.5	(14.8–18.4)	33.3	(30.7–36.0)	70.0	(66.7–73.0)	3.0	(2.6–3.6)
	2007	49.8	(46.7–52.9) <sup>§§¶¶</sup>	17.9	(16.0–20.0) <sup>§§¶¶</sup>	34.3	(32.0–36.7)	68.5	(65.4–71.4) <sup>§§</sup>	2.6	(2.0–3.4)
Grade											
9	1991	39.0	(34.0–44.2)	12.5	(9.8–15.8)	22.4	(18.6–26.6)	53.3	(46.9–59.6)	—	—
	1993	37.7	(33.5–42.1)	10.9	(9.0–13.1)	24.8	(21.6–28.3)	61.6	(55.6–67.3)	—	—
	1995	36.9	(31.0–43.2)	12.9	(10.1–16.3)	23.6	(19.7–28.0)	62.9	(57.0–68.4)	2.8	(1.9–4.2)
	1997	38.0	(34.2–42.0)	12.2	(9.9–15.0)	24.2	(21.0–27.7)	58.8	(53.0–64.4)	3.0	(1.6–5.5)
	1999	38.6	(32.6–45.0)	11.8	(9.6–14.3)	26.6	(21.1–32.8)	66.6	(58.2–74.1)	1.6	(1.1–2.4)
	2001	34.4	(30.7–38.2)	9.6	(8.1–11.3)	22.7	(19.7–26.1)	67.5	(64.0–70.8)	2.5	(1.8–3.6)
	2003	32.8	(29.0–36.8)	10.4	(8.5–12.6)	21.2	(18.7–24.0)	69.0	(62.0–75.3)	3.2	(1.8–5.7)
	2005	34.3	(30.8–38.0)	9.4	(8.0–11.1)	21.9	(19.6–24.5)	74.5	(68.9–79.5)	2.4	(1.8–3.2)
	2007	32.8	(29.7–36.1) <sup>§§</sup>	8.7	(7.1–10.6) <sup>§§</sup>	20.1	(18.1–22.3) <sup>§§¶¶</sup>	69.3	(63.4–74.6) <sup>§§</sup>	2.0	(1.4–2.9)
10	1991	48.2	(42.4–54.1)	15.1	(12.4–18.1)	33.2	(28.6–38.0)	46.3	(41.6–51.2)	—	—
	1993	46.1	(42.4–49.8)	15.9	(14.0–18.1)	30.1	(27.1–33.2)	54.7	(50.1–59.2)	—	—
	1995	48.0	(42.8–53.3)	15.6	(13.7–17.8)	33.7	(30.6–36.9)	59.7	(54.8–64.4)	2.2	(1.2–4.2)
	1997	42.5	(38.1–46.9)	13.8	(11.2–16.7)	29.2	(26.3–32.3)	58.9	(55.1–62.6)	2.5	(1.5–4.3)
	1999	46.8	(41.2–52.6)	15.6	(11.1–21.5)	33.0	(27.9–38.5)	62.6	(56.2–68.7)	1.2	(0.8–1.9)
	2001	40.8	(37.7–43.9)	12.6	(10.9–14.6)	29.7	(26.8–32.8)	60.1	(55.4–64.7)	2.6	(1.9–3.5)
	2003	44.1	(41.2–47.0)	12.6	(10.3–15.2)	30.6	(28.1–33.2)	69.0	(63.9–73.6)	3.2	(1.9–5.3)
	2005	42.8	(38.8–46.8)	11.5	(9.5–13.7)	29.2	(26.3–32.3)	65.3	(61.2–69.2)	2.3	(1.8–3.0)
	2007	43.8	(39.8–47.9) <sup>§§</sup>	13.4	(11.7–15.5) <sup>§§</sup>	30.6	(27.2–34.2)	66.1	(62.5–69.5) <sup>§§¶¶</sup>	1.4	(1.0–2.1)
11	1991	62.4	(59.0–65.7)	22.1	(18.6–26.0)	43.3	(39.6–47.1)	48.7	(42.7–54.7)	—	—
	1993	57.5	(53.9–61.0)	19.9	(16.9–23.2)	40.0	(36.4–43.7)	55.3	(52.2–58.4)	—	—
	1995	58.6	(53.4–63.7)	19.0	(15.5–23.1)	42.4	(37.9–47.0)	52.3	(45.9–58.7)	1.7	(1.1–2.4)
	1997	49.7	(44.5–55.0)	16.7	(13.9–19.8)	37.8	(33.1–42.8)	60.1	(54.7–65.2)	1.6	(1.1–2.5)
	1999	52.5	(48.6–56.4)	17.3	(13.5–21.9)	37.5	(34.0–41.0)	59.2	(54.2–64.1)	2.0	(1.1–3.7)
	2001	51.9	(48.9–54.8)	15.2	(13.8–16.8)	38.1	(35.4–40.8)	58.9	(54.7–63.0)	1.9	(1.3–2.6)
	2003	53.2	(48.8–57.6)	16.0	(13.5–18.8)	41.1	(37.1–45.1)	60.8	(55.7–65.6)	2.8	(1.7–4.4)
	2005	51.4	(46.0–56.7)	16.2	(13.9–18.8)	39.4	(35.1–43.9)	61.7	(57.7–65.6)	1.7	(1.3–2.4)
	2007	55.5	(51.3–59.6) <sup>§§¶¶</sup>	17.0	(14.8–19.4) <sup>§§¶¶</sup>	41.8	(38.1–45.6) <sup>¶¶</sup>	62.0	(58.1–65.8) <sup>§§</sup>	1.9	(1.1–3.1)

TABLE. (Continued) Percentage of high school students who reported HIV- and STD-related risk behaviors, by sex, grade, race/ethnicity, and survey year — United States, Youth Risk Behavior Survey, 1991, 1993, 1995, 1997, 1999, 2001, 2003, 2005, and 2007

Characteristic	Survey year	Ever had sexual intercourse		Multiple sex partners		Currently sexually active		Condom use		Lifetime illegal injection-drug use	
		%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
12	1991	66.7	(62.0–71.1)	25.1	(21.1–29.5)	50.6	(46.0–55.2)	41.4	(37.8–45.1)	—	—
	1993	68.3	(63.4–72.8)	27.0	(23.5–30.9)	53.0	(48.9–57.0)	46.5	(42.4–50.6)	—	—
	1995	66.4	(62.2–70.4)	22.9	(19.5–26.7)	49.7	(45.7–53.7)	49.5	(44.9–54.1)	1.6	(0.8–2.8)
	1997	60.9	(54.1–67.4)	20.6	(17.2–24.4)	46.0	(40.9–51.2)	52.4	(48.8–56.0)	1.5	(0.9–2.5)
	1999	64.9	(59.6–69.7)	20.6	(17.9–23.6)	50.6	(45.3–55.8)	47.9	(42.1–53.8)	2.3	(1.5–3.4)
	2001	60.5	(56.3–64.6)	21.6	(19.2–24.2)	47.9	(43.8–52.0)	49.3	(46.2–52.5)	2.1	(1.5–2.8)
	2003	61.6	(57.6–65.5)	20.3	(18.2–22.5)	48.9	(45.3–52.5)	57.4	(53.6–61.1)	3.0	(1.7–5.1)
	2005	63.1	(58.8–67.2)	21.4	(18.6–24.5)	49.4	(45.5–53.3)	55.4	(51.8–59.0)	1.7	(1.3–2.3)
2007	64.6	(60.7–68.3) <sup>§§</sup>	22.4	(19.8–25.2) <sup>§§¶¶</sup>	52.6	(49.0–56.2)	54.2	(50.7–57.7) <sup>§§</sup>	2.4	(1.6–3.5)	
<b>Race/Ethnicity***</b>											
Black, non-Hispanic	1991	81.5	(78.0–84.5)	43.1	(39.5–46.7)	59.3	(55.3–63.1)	48.0	(44.1–51.9)	—	—
	1993	79.7	(76.2–82.7)	42.7	(38.8–46.7)	59.1	(54.6–63.5)	56.5	(52.6–60.3)	—	—
	1995	73.4	(68.4–77.8)	35.6	(31.2–40.3)	54.2	(49.4–59.0)	66.1	(61.0–70.9)	1.1	(0.6–2.0)
	1997	72.7	(69.7–75.4)	38.5	(34.9–42.3)	53.6	(50.3–56.9)	64.0	(61.0–66.8)	1.0	(0.5–2.0)
	1999	71.2	(62.2–78.8)	34.4	(24.7–45.7)	53.0	(43.8–62.0)	70.0	(64.1–75.2)	0.9	(0.5–1.6)
	2001	60.8	(53.9–67.4)	26.6	(22.9–30.6)	45.6	(40.1–51.2)	67.1	(63.4–70.6)	1.6	(1.0–2.5)
	2003	67.3	(63.7–70.6)	28.8	(26.3–31.5)	49.0	(46.0–52.0)	72.8	(68.8–76.4)	2.4	(1.5–3.9)
	2005	67.6	(64.4–70.7)	28.2	(25.6–30.9)	47.4	(44.7–50.1)	68.9	(65.0–72.5)	1.7	(0.9–3.0)
2007	66.5	(63.0–69.9) <sup>§§¶¶</sup>	27.6	(24.8–30.6) <sup>§§</sup>	46.0	(42.3–49.7) <sup>§§</sup>	67.3	(62.6–71.6) <sup>§§¶¶</sup>	1.8	(1.2–2.6) <sup>§§</sup>	
Hispanic	1991	53.1	(49.4–56.7)	16.8	(14.3–19.7)	37.0	(33.4–40.8)	37.4	(31.3–44.0)	—	—
	1993	56.0	(51.8–60.2)	18.6	(15.7–22.0)	39.4	(35.6–43.3)	46.1	(41.6–50.6)	—	—
	1995	57.6	(48.6–66.1)	17.6	(14.1–21.7)	39.3	(32.3–46.8)	44.4	(33.4–56.0)	2.2	(1.4–3.4)
	1997	52.2	(48.4–55.8)	15.5	(13.2–18.1)	35.4	(31.5–39.5)	48.3	(42.6–54.0)	2.2	(1.6–2.9)
	1999	54.1	(49.0–59.0)	16.6	(13.2–20.7)	36.3	(32.2–40.5)	55.2	(48.1–62.0)	1.8	(1.1–2.8)
	2001	48.4	(43.8–53.0)	14.9	(13.2–16.7)	35.9	(32.7–39.4)	53.5	(48.2–58.7)	2.5	(1.8–3.4)
	2003	51.4	(48.1–54.8)	15.7	(13.5–18.1)	37.1	(34.4–40.0)	57.4	(51.9–62.8)	3.9	(2.2–6.8)
	2005	51.0	(46.5–55.4)	15.9	(13.6–18.5)	35.0	(31.1–39.1)	57.7	(53.4–61.8)	3.0	(2.1–4.2)
2007	52.0	(48.3–55.6)	17.3	(15.2–19.5)	37.4	(33.8–41.1)	61.4	(56.7–65.9) <sup>§§</sup>	3.1	(2.2–4.3) <sup>§§</sup>	
White, non-Hispanic	1991	50.0	(46.7–53.4)	14.7	(13.0–16.7)	33.9	(31.1–36.9)	46.5	(41.8–51.2)	—	—
	1993	48.4	(45.6–51.3)	14.3	(12.3–16.6)	34.0	(31.9–36.2)	52.3	(48.2–56.3)	—	—
	1995	48.9	(43.8–54.1)	14.2	(11.8–16.8)	34.8	(30.8–39.0)	52.5	(48.4–56.6)	2.0	(1.5–2.7)
	1997	43.6	(39.4–48.0)	11.6	(10.2–13.2)	32.0	(29.0–35.3)	55.8	(53.8–57.8)	1.8	(1.4–2.4)
	1999	45.1	(41.1–49.2)	12.4	(10.4–14.7)	33.0	(29.6–36.5)	55.0	(49.8–60.2)	1.6	(1.2–2.1)
	2001	43.2	(40.7–45.8)	12.0	(10.6–13.5)	31.3	(29.0–33.6)	56.8	(53.7–59.9)	2.4	(2.0–2.9)
	2003	41.8	(39.0–44.5)	10.8	(9.4–12.4)	30.8	(28.7–32.9)	62.5	(59.2–65.6)	2.5	(1.5–4.3)
	2005	43.0	(38.8–47.3)	11.4	(9.7–13.3)	32.0	(28.7–35.5)	62.6	(60.0–65.2)	1.9	(1.6–2.3)
2007	43.7	(40.5–47.0) <sup>§§</sup>	11.5	(9.6–13.7) <sup>§§</sup>	32.9	(30.3–35.5)	59.7	(56.8–62.5) <sup>§§</sup>	1.5	(1.0–2.3)	

\* Human immunodeficiency virus (HIV)- and sexually transmitted disease (STD)-related.

† Confidence interval.

§ Had sexual intercourse with four or more persons during their lifetime.

¶ Had sexual intercourse during the 3 months before the survey.

\*\* Used a condom during last sexual intercourse (among students who were currently sexually active).

†† Ever used a needle to inject any illegal drug into their body. The wording of the question on injection-drug use changed substantially after the 1993 survey, so 1991 and 1993 data are not included.

§§ Significant linear effect ( $p < 0.05$ ).

¶¶ Significant quadratic effect ( $p < 0.05$ ).

\*\*\* Numbers of students in racial/ethnic groups other than non-Hispanic black, Hispanic, or non-Hispanic white were too small for meaningful analysis. Hispanic students might be of any race.

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## HIV Prevention Education and HIV-Related Policies in Secondary Schools — Selected Sites, United States, 2006

Persons who engage in sexual risk behaviors are at increased risk for human immunodeficiency virus (HIV) infection. School health education can help reduce the prevalence of sexual risk behaviors among students (1). In addition, school health policies can help protect the rights and health of HIV-infected students and staff members and reduce the likelihood of transmitting HIV infection to others (2). To determine the prevalence and extent of HIV prevention education and the prevalence of HIV infection policies among public secondary schools,\* CDC analyzed data from the 2006 School Health Profiles for schools in 36 states and 13 large urban school districts. The results of that analysis indicated that, in 2006, the majority of secondary schools included HIV prevention in a required health education course (state median: 84.2%; district median: 57.2%); however, few secondary schools (state median: 21.1%; district median: 28.5%) taught all 11 topics listed in the questionnaire related to HIV prevention. Approximately half of schools (state median: 51.6%; district median: 48.3%) had a policy regarding students or staff members with HIV infection or acquired immunodeficiency syndrome (AIDS). To help reduce HIV-related risk behavior and protect the rights and health of HIV-infected students and staff members, schools should increase efforts to teach all HIV prevention topics and implement policies regarding students or staff members with HIV infection.

\*Middle, junior high, and senior high schools with one or more of grades 6–12.

School Health Profiles surveys have been conducted biennially since 1994 to assess school health programs (3). States and large school districts participate in the surveys, selecting either all public secondary schools within their jurisdictions or systematic, equal-probability, representative samples of schools.† At each school, the principal and lead health education teacher are sent questionnaires to be self-administered and returned to the state or local agency conducting the survey. Participation in School Health Profiles is confidential and voluntary. In 2006, lead health education teachers were asked questions regarding the content of required health education courses and staff development on health education topics. Principals were asked questions regarding policies on students or staff members with HIV infection or AIDS. Follow-up telephone calls and written reminders were used to encourage participation. Data from each questionnaire were cleaned and edited by CDC. Those surveys that used a representative sample of schools, had appropriate documentation, and achieved a response rate of 70% or higher were weighted to reflect the likelihood of schools being selected and to adjust for differing patterns of nonresponse.

For the 2006 School Health Profiles survey, lead health education teachers were asked the following questions: 1) “During this school year, have teachers in this school tried to increase student knowledge on each of the following topics in a required health education course in any of grades 6 through 12?” Respondents were asked to indicate yes or no on a list of topics that included “HIV prevention.” 2) “During this school year, did teachers in this school teach each of the following pregnancy, HIV, or sexually transmitted disease (STD) prevention topics in a required health education course for students in any of grades 6 through 12?” The following 11 topics were listed: abstinence as the most effective method to avoid pregnancy, HIV, and STDs; how to correctly use a condom; condom efficacy; risks associated with having multiple sexual partners; social or cultural influences on sexual behavior; how to prevent HIV infection; how HIV is transmitted; how HIV affects the human body; influence of alcohol and other drugs on HIV-related risk behaviors; how to find valid information or services related to HIV or HIV testing; and compassion for persons living with HIV or AIDS. 3) “During the past 2 years, did you receive staff development (such as workshops, conferences, continuing education, or any other kind of in-service) on each of the following health education topics?” Respondents were asked to indicate yes or no on a list of topics that

† In the 2006 survey, statewide samples were representative of all public secondary schools in the state with two exceptions: no schools from the New York City Department of Education were included in the New York state sample, and no schools from the Chicago Public Schools were included in the Illinois sample.

included “HIV prevention.” Principals were asked the following question: “Has this school adopted a policy on students and/or staff who have HIV infection or AIDS?”

In 2006, 34 states and 13 large urban school districts<sup>§</sup> met the criteria for both their principal and lead health education teacher surveys to be weighted and two states<sup>¶</sup> met the criteria for the principal survey only. Among states, the number of lead health education teachers who participated ranged from 68 to 659 (median: 250), and response rates ranged from 70% to 91% (median: 77%); among school districts, the number of lead health education teachers ranged from 32 to 212 (median: 56), and response rates ranged from 70% to 100% (median: 79%). Among states, the number of principals who participated ranged from 68 to 661 (median: 262), and response rates ranged from 70% to 91% (median: 78%); among school districts, the number of principals ranged from 31 to 234 (median: 55), and response rates ranged from 71% to 98% (median: 79%). Only 21 states and eight large urban school districts that obtained weighted data in both 1996 and 2006 were included in comparisons of data for those 2 years. The Wilcoxon rank-sum test, a nonparametric analogue to a two-sample t-test, was used to test for differences across states and school districts. Differences were considered statistically significant at  $p < 0.05$ .

The percentage of secondary schools that taught HIV prevention in a required health education course ranged from 35.6% to 99.3% (median: 84.2%) among states, and from 0.0% to 100.0% (median: 57.2%) among school districts (Table 1). The percentage of schools that taught all 11 HIV prevention topics ranged from 1.0% to 53.1% (median: 21.1%) among states and from 0.0% to 66.5% (median: 28.5%) among school districts. The percentage of secondary schools that taught how to correctly use a condom ranged from 1.0% to 59.1% (median: 24.3%) among states and from 0.0% to 74.8% (median: 33.7%) among school districts. The percentage that taught about condom efficacy ranged from 11.7% to 90.0% (median: 56.0%) among states and from 0.0% to 91.1% (median: 56.0%) among school districts. For the other nine HIV prevention topics the median percentage of secondary schools that taught each in a required health

**TABLE 1. Percentage of secondary schools\* that taught HIV† prevention in a required health education course, percentage that taught all 11 HIV prevention topics,§ and percentage in which the lead health education teacher received staff development on HIV prevention during the preceding 2 years, by location — School Health Profiles, selected U.S. sites, 2006**

Location	Taught HIV prevention in a required course (%)	Taught all 11 HIV prevention topics (%)	Received staff development on HIV prevention (%)
<b>State</b>			
Alabama	76.9	21.0	54.7
Alaska	69.3	18.8	25.7
Arizona	35.6	9.0	32.4
Arkansas	92.0	19.1	30.6
Connecticut	87.6	32.6	39.0
Delaware	88.1	37.8	39.5
Florida	55.2	21.2	56.3
Georgia	86.8	18.3	50.0
Hawaii	94.7	44.9	53.4
Idaho	92.8	16.1	48.3
Iowa	71.5	23.7	32.6
Kansas	74.7	15.2	43.9
Maine	86.6	34.9	43.4
Massachusetts	77.6	30.8	28.9
Michigan	76.4	19.7	57.2
Mississippi	97.9	28.5	41.0
Missouri	83.8	16.8	34.3
Montana	92.4	26.5	44.8
Nebraska	83.9	16.8	29.5
New Hampshire	84.3	37.4	63.9
New York†	99.3	53.1	52.5
North Carolina	84.0	12.1	48.2
North Dakota	84.4	15.3	32.5
Oregon	94.8	35.0	48.7
Pennsylvania	92.8	29.7	37.8
Rhode Island	96.3	39.9	24.3
South Carolina	69.5	23.0	51.3
South Dakota	61.0	9.5	21.3
Tennessee	65.7	15.5	51.0
Texas	73.6	15.1	35.0
Utah	92.2	1.0	53.6
Vermont	77.4	33.3	44.2
Virginia	78.1	1.5	45.0
West Virginia	94.7	31.0	24.0
<b>Median</b>	<b>84.2</b>	<b>21.1</b>	<b>43.7</b>
<b>Range</b>	<b>35.6–99.3</b>	<b>1.0–53.1</b>	<b>21.3–63.9</b>
<b>School district</b>			
Charlotte-Mecklenburg County, North Carolina	100.0	13.9	62.4
Chicago, Illinois	45.2	16.8	42.9
Dallas, Texas	57.1	10.4	61.5
District of Columbia	75.5	44.0	65.9
Hillsborough County, Florida	45.7	18.2	58.9
Los Angeles, California	100.0	66.5	82.5
Memphis, Tennessee	84.6	33.7	89.2
Miami-Dade County, Florida	52.5	40.0	69.2
Orange County, Florida	48.0	32.0	88.1
Palm Beach County, Florida	71.1	25.5	65.6
Philadelphia, Pennsylvania	81.3	28.5	52.4
San Diego, California**	0.0	0.0	100.0
San Francisco, California	57.2	28.6	60.6
<b>Median</b>	<b>57.2</b>	<b>28.5</b>	<b>65.6</b>
<b>Range</b>	<b>0.0–100.0</b>	<b>0.0–66.5</b>	<b>42.9–100.0</b>

<sup>§</sup> States: Alabama, Alaska, Arizona, Arkansas, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Iowa, Kansas, Maine, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New York, North Carolina, North Dakota, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, and West Virginia. *School districts:* Charlotte-Mecklenburg County, North Carolina; Chicago, Illinois; Dallas, Texas; District of Columbia; Hillsborough County, Florida; Los Angeles, California; Memphis, Tennessee; Miami-Dade County, Florida; Orange County, Florida; Palm Beach County, Florida; Philadelphia, Pennsylvania; San Diego, California; and San Francisco, California.

<sup>¶</sup> Illinois and Washington.

\* Middle, junior high, and senior high schools with one or more of grades 6–12.

† Human immunodeficiency virus.

§ Abstinence as the most effective method to avoid pregnancy, HIV, and STDs; how to correctly use a condom; condom efficacy; risks associated with having multiple sexual partners; social or cultural influences on sexual behavior; how to prevent HIV infection; how HIV is transmitted; how HIV affects the human body; influence of alcohol and other drugs on HIV-related risk behaviors; how to find valid information or services related to HIV or HIV testing; and compassion for persons living with HIV or AIDS.

¶ Does not include schools from the New York City Department of Education.

\*\* Does not have a required health education course, but requires that health education be taught in science and physical education classes.

education course ranged from 64.1% (how to find valid information or services related to HIV or HIV testing) to 78.7% (how HIV is transmitted) among states and from 50.0% (social or cultural influences on sexual behavior) to 57.2% (six different topics) among school districts.

The percentage of secondary schools in which the lead health education teacher received staff development on HIV prevention during the 2 years preceding the survey ranged from 21.3% to 63.9% (median: 43.7%) among states and from 42.9% to 100.0% (median: 65.6%) among school districts (Table 1). The percentage of secondary schools with a policy regarding students or staff members with HIV infection or AIDS ranged from 27.0% to 89.5% (median: 51.6%) among states and from 28.1% to 100.0% (median: 48.3%) among school districts (Table 2). The median percentage of schools with such a policy decreased from 71.9% in 1996 to 52.9% in 2006 among states and from 86.2% to 49.2% among school districts, when analysis was limited to comparing results from the same 21 states and eight school districts in each year.

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**Editorial Note:** The findings in this report indicate that, in 2006, the majority of secondary schools in 34 states and 13 school districts provided some education on HIV prevention topics in required health education courses. However, more than half the states that conducted surveys reported that less than one fourth of their schools taught all 11 HIV prevention topics listed in the questionnaire; more than half the school districts that conducted surveys reported that less than one third of their schools taught all 11 topics. Health education can increase knowledge and skills regarding how to avoid HIV infection (4).

This analysis also indicated that a median of less than 50% of lead health education teachers among states and a median of approximately two thirds among school districts had received staff development on HIV prevention. Staff development on health topics is critical for effective teaching (5).

The finding that in approximately half of the states and school districts conducting surveys, less than 50% of secondary schools had a policy on students or staff members with HIV infection or AIDS is consistent with previously reported national data (6). In addition, the median percentage of schools with such a policy has decreased since 1996. Reasons for these decreases warrant further investigation. Policies for addressing HIV infection in the school setting can provide guidance, support, and protection to those who are infected and to other students and staff members, families, and community members. These groups, along with public health and legal professionals, should work together to develop and implement

**TABLE 2. Percentage of secondary schools\* with a policy regarding students or staff members with HIV† infection or AIDS,‡ by location — School Health Profiles, selected U.S. sites, 2006**

Location	Schools with a policy (%)
<b>State</b>	
Alabama	62.2
Alaska	40.5
Arizona	41.7
Arkansas	33.1
Connecticut	59.3
Delaware	30.3
Florida	43.9
Georgia	42.6
Hawaii	51.2
Idaho	60.4
Illinois†	39.7
Iowa	42.9
Kansas	39.6
Maine	66.4
Massachusetts	58.2
Michigan	32.3
Mississippi	27.0
Missouri	52.9
Montana	48.3
Nebraska	53.5
New Hampshire	76.9
New York**	59.0
North Carolina	36.0
North Dakota	39.7
Oregon	66.4
Pennsylvania	59.9
Rhode Island	64.8
South Carolina	57.9
South Dakota	51.9
Tennessee	58.2
Texas	30.8
Utah	52.5
Vermont	89.5
Virginia	55.2
Washington	45.4
West Virginia	27.1
<b>Median</b>	<b>51.6</b>
<b>Range</b>	<b>27.0–89.5</b>
<b>School district</b>	
Charlotte-Mecklenburg County, North Carolina	35.2
Chicago, Illinois	48.3
Dallas, Texas	30.5
District of Columbia	28.1
Hillsborough County, Florida	45.3
Los Angeles, California	57.7
Memphis, Tennessee	51.1
Miami-Dade County, Florida	44.6
Orange County, Florida	37.8
Palm Beach County, Florida	60.8
Philadelphia, Pennsylvania	57.7
San Diego, California	100.0
San Francisco, California	50.0
<b>Median</b>	<b>48.3</b>
<b>Range</b>	<b>28.1–100.0</b>

\* Middle, junior high, and senior high schools with one or more of grades 6–12.

† Human immunodeficiency virus.

‡ Acquired immunodeficiency syndrome.

†† Does not include schools from the Chicago Public Schools.

\*\* Does not include schools from the New York City Department of Education.



HIV-related policies and continually assess them, based on new legislation, scientific data, and real-world experience (2).

The findings in this report are subject to at least three limitations. First, these data apply only to public secondary schools and, therefore, do not reflect practices at private schools or elementary schools. Second, these data were self-reported by principals and lead health education teachers and were not verified by other sources. Finally, these data were collected during spring and fall 2006 and do not reflect any state, district, or school policies enacted, modified, or discontinued since then.

Despite limitations, School Health Profiles remains an important tool for states and school districts to monitor the current status of HIV prevention education and HIV-related policies. These data can be used by public health and education agencies to assist schools in improving their HIV prevention curricula and HIV-related policies.

#### Acknowledgments

The findings in this report are based on data collected by state and local School Health Profiles coordinators.

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## Newborn Hepatitis B Vaccination Coverage Among Children Born January 2003–June 2005 — United States

Hepatitis B vaccine was first recommended for administration to all infants in 1991 by the Advisory Committee on Immunization Practices (ACIP) as the primary focus of a strategy to eliminate hepatitis B virus (HBV) transmission in the United States (1). The recommended timing of administration of the first dose of hepatitis B vaccine to infants has evolved since then to optimize prevention of perinatal and early childhood HBV infections. In 1991, the first dose was recommended to be administered at birth before hospital discharge or at age 1–2 months. In 2002, ACIP indicated a preference for the first dose to be administered to newborns before hospital discharge (2). In December 2005, ACIP issued revised recommendations specifying that all medically stable newborns who weigh  $\geq 2,000$  g (4.4 lbs) receive their first dose of hepatitis B vaccine before hospital discharge (3). To measure hepatitis B vaccination coverage during the neonatal period, CDC analyzed data from the 2006 National Immunization Survey (NIS). This report summarizes the results of this analysis and provides national, state, and local data on vaccination coverage for infants who received the hepatitis B vaccine during the first days of life. The findings reveal that, during January 2003–June 2005, before implementation of the 2005 ACIP hepatitis B vaccine recommendation, the national newborn hepatitis B vaccination coverage estimate was 42.8% at age 1 day and 50.1% at age 3 days, with substantial variation by states and local areas. To comply with ACIP recommendations and increase coverage, delivery hospitals should provide hepatitis B vaccination of newborns as a standard of care.

NIS provides estimates of vaccination coverage among noninstitutionalized children aged 19–35 months for each of the 50 states and selected local areas. To collect vaccination data, NIS conducts a random-digit-dialed telephone survey of households and a mail survey of children's vaccination providers identified by household respondents. Data are weighted to adjust for households with multiple telephone lines, household nonresponse, and exclusion of households without landline telephones (4). Infant age at vaccination was calculated by subtracting birth date from vaccination date. Children included in the 2006 NIS were born during January 2003–June 2005.

**TABLE. Estimated hepatitis B vaccination coverage among children aged 1 day and 3 days, by state and local area — United States and District of Columbia, National Immunization Survey (NIS), 2006\***

State/Area	1 dose by 1 day <sup>†</sup>		1 dose by 3 days <sup>§</sup>	
	%	(95% CI) <sup>¶</sup>	%	(95% CI)
<b>United States</b>	<b>42.8</b>	<b>(±1.1)</b>	<b>50.1</b>	<b>(±1.1)</b>
Alabama	59.1	(±7.4)	69.1	(±7.2)
Alaska	55.9	(±7.2)	58.7	(±7.2)
Arizona	65.2	(±4.6)	69.5	(±4.5)
Maricopa County	71.3	(±5.6)	75.0	(±5.4)
Rest of state	53.6	(±7.9)	59.2	(±7.9)
Arkansas	65.0	(±9.3)	72.5	(±8.8)
California	29.0	(±4.3)	31.3	(±4.4)
Fresno County	8.2	(±3.9)	9.1	(±4.0)
Los Angeles County	32.2	(±6.5)	33.7	(±6.6)
Northern California	11.3	(±4.3)	12.9	(±4.6)
San Diego County	22.9	(±5.7)	30.9	(±6.3)
Santa Clara County	70.4	(±6.5)	77.0	(±5.9)
Rest of state	26.2	(±7.1)	27.8	(±7.3)
Colorado	37.0	(±9.2)	42.6	(±9.1)
Connecticut	36.5	(±6.8)	55.2	(±7.0)
Delaware	55.1	(±8.1)	61.8	(±8.0)
District of Columbia	44.0	(±6.8)	59.6	(±6.3)
Florida	18.2	(±4.0)	24.1	(±4.6)
Duval County	18.3	(±4.8)	19.6	(±4.9)
Miami-Dade County	22.7	(±6.2)	25.3	(±6.5)
Rest of state	17.3	(±4.9)	24.2	(±5.7)
Georgia	47.2	(±5.7)	52.2	(±5.7)
Fulton and DeKalb counties	33.1	(±7.7)	37.7	(±7.9)
Rest of state	50.3	(±6.7)	55.4	(±6.8)
Hawaii	51.6	(±8.0)	62.6	(±7.8)
Idaho	42.3	(±7.2)	48.6	(±7.3)
Illinois	45.7	(±6.2)	51.6	(±6.3)
City of Chicago	55.6	(±6.7)	66.3	(±6.4)
Rest of state	42.1	(±8.1)	46.3	(±8.1)
Indiana	61.0	(±6.5)	65.6	(±6.4)
Marion County	74.8	(±5.9)	78.6	(±5.5)
Rest of state	58.2	(±7.8)	63.0	(±7.6)
Iowa	20.2	(±6.8)	23.1	(±7.0)
Kansas	62.6	(±5.8)	67.4	(±5.6)
Eastern Kansas	69.5	(±6.4)	72.1	(±6.2)
Rest of state	60.1	(±7.4)	65.7	(±7.2)
Kentucky	65.3	(±6.6)	73.8	(±6.0)
Louisiana	54.3	(±7.2)	61.0	(±7.1)
Maine	34.4	(±7.8)	62.7	(±7.4)
Maryland	48.4	(±6.4)	68.7	(±6.0)
City of Baltimore	58.1	(±7.6)	68.3	(±7.1)
Rest of state	47.1	(±7.2)	68.7	(±6.8)
Massachusetts	61.9	(±6.5)	85.6	(±4.2)
City of Boston	53.0	(±6.5)	79.9	(±5.6)
Rest of state	62.9	(±7.1)	86.2	(±4.6)
Michigan	66.5	(±5.9)	79.5	(±4.9)
City of Detroit	77.5	(±6.1)	82.2	(±5.6)
Rest of state	65.2	(±6.5)	79.2	(±5.4)
Minnesota	12.8	(±4.9)	15.2	(±5.1)

**TABLE. (Continued) Estimated hepatitis B vaccination coverage among children aged 1 day and 3 days, by state and local area — United States and District of Columbia, National Immunization Survey (NIS), 2006\***

State/Area	1 dose by 1 day		1 dose by 3 days	
	%	(95% CI) <sup>¶</sup>	%	(95% CI)
Mississippi	48.5	(±7.4)	52.9	(±7.5)
Missouri	48.2	(±7.0)	52.4	(±6.9)
Montana	54.4	(±6.7)	61.4	(±6.6)
Nebraska	13.3	(±4.6)	14.2	(±4.6)
Nevada	56.5	(±7.3)	56.7	(±7.3)
New Hampshire	34.8	(±7.3)	69.4	(±6.7)
New Jersey	23.0	(±5.7)	31.4	(±6.3)
City of Newark	64.0	(±7.7)	71.2	(±7.6)
Rest of state	21.2	(±5.9)	29.6	(±6.6)
New Mexico	40.2	(±5.3)	46.7	(±5.5)
Southern New Mexico	60.7	(±6.8)	65.4	(±6.6)
Rest of state	31.2	(±7.0)	38.5	(±7.3)
New York	24.0	(±4.2)	27.4	(±4.4)
City of New York	37.4	(±6.8)	38.5	(±6.9)
Rest of state	11.4	(±4.7)	16.9	(±5.3)
North Carolina	68.0	(±6.9)	80.4	(±6.1)
North Dakota	51.5	(±6.3)	76.4	(±5.9)
Ohio	53.7	(±6.3)	66.0	(±6.2)
Cuyahoga County	53.5	(±7.1)	66.6	(±6.6)
Rest of state	53.7	(±7.1)	65.9	(±6.9)
Oklahoma	41.6	(±7.2)	50.2	(±7.0)
Oregon	25.7	(±6.5)	33.3	(±7.0)
Pennsylvania	45.8	(±5.6)	56.8	(±5.7)
Allegheny County	18.0	(±4.5)	25.4	(±5.5)
Philadelphia County	75.1	(±6.3)	83.9	(±5.4)
Rest of state	43.3	(±7.2)	55.1	(±7.3)
Rhode Island	60.1	(±6.3)	74.3	(±5.4)
South Carolina	55.8	(±7.0)	63.0	(±6.9)
South Dakota	26.5	(±6.1)	32.6	(±6.4)
Tennessee	27.6	(±5.9)	32.4	(±6.2)
Shelby County	NA**	—	10.5	(±4.9)
Rest of state	31.9	(±7.1)	37.1	(±7.5)
Texas	54.8	(±4.3)	61.7	(±4.2)
Bexar County	46.5	(±7.9)	55.3	(±7.9)
City of Houston	51.0	(±6.5)	56.1	(±6.5)
Dallas County	54.3	(±8.0)	55.8	(±7.9)
El Paso County	73.3	(±5.1)	77.0	(±4.9)
Rest of state	55.3	(±6.2)	63.6	(±6.0)
Utah	70.6	(±6.7)	73.6	(±6.4)
Vermont	14.4	(±5.8)	19.9	(±6.4)
Virginia	21.2	(±5.5)	28.0	(±6.0)
Washington	57.4	(±5.0)	70.4	(±4.6)
Eastern Washington	59.8	(±6.7)	67.9	(±6.3)
King County	51.5	(±8.1)	66.6	(±7.6)
Rest of state	59.8	(±7.3)	72.8	(±6.6)
West Virginia	35.5	(±7.1)	49.6	(±7.5)
Wisconsin	43.5	(±6.0)	53.6	(±6.0)
Milwaukee County	31.9	(±6.9)	43.1	(±7.2)
Rest of state	46.6	(±7.3)	56.4	(±7.4)
Wyoming	36.9	(±6.5)	40.1	(±6.7)

\* Estimates based on NIS dataset rereleased February 25, 2008, after correcting for Hispanic overcount in nine states; includes children born during January 2003–June 2005.

<sup>†</sup> Hepatitis B vaccine administered between birth and age 1 day.

<sup>§</sup> Hepatitis B vaccine administered between birth and age 3 days.

<sup>¶</sup> Confidence interval.

\*\* Not available; unweighted sample size for the numerator is <30, or (CI half width) / estimate >0.5, or (CI half width) >10.

Household response rate for the survey was 64.5%, based on Council of American Survey and Research Organizations guidelines (CASRO); 21,044 children with provider-verified vaccination records were included in this report and represent 70.4% of all children with completed household interviews. National newborn hepatitis B vaccination coverage was 42.8% at age 1 day, 48.5% at 2 days, 50.1% at 3 days, 51.1% at 4 days, 51.8% at 5 days, and 52.5% at 6 days. State and local area rates showed substantial variability, with hepatitis B vaccination coverage at age 1 day ranging from 8.2% in Fresno County, California, to 77.5% in Detroit, Michigan (Table). Among all states and local areas surveyed, the median coverage estimate was 50.3% at age 1 day and 58.7% at 3 days.

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**Editorial Note:** The analysis in this report indicates that, for the January 2003–June 2005 birth cohort, 42.8% of newborns had received hepatitis B vaccine by age 1 day and 50.1% had received hepatitis B vaccine by age 3 days. These data provide a baseline for assessing implementation of the December 2005 ACIP recommendation to administer hepatitis B vaccine to all newborns before hospital discharge (3). The 2009 NIS will be the first to include all survey-eligible children who were born after the December 2005 recommendation was made. Therefore, that survey will be the first to provide full estimates of national newborn vaccination coverage to evaluate the effect of the 2005 ACIP recommendation.

Newborn hepatitis B vaccination coverage estimates varied substantially among and within states. Administration of hepatitis B vaccine to newborns is dependent on hospital policies and procedures and on provider and parent preferences (5,6).

Although NIS does not distinguish whether hepatitis B vaccine was given before or after hospital discharge, National Hospital Discharge Survey data (7) indicate that the average length of hospital stay for all newborns in 2004 was 3.3 days, with an average stay of 2.1 days for well newborns and an average stay of 5.0 days for ill newborns; 85.6% of all newborns were discharged by age 3 days.

The findings in this report are subject to at least four limitations. First, NIS is a telephone survey; although results are statistically adjusted to account for nonresponse and households without telephones, some bias might remain. Second, vaccination coverage is confirmed using provider-verified records. Although clinic providers might not always have records of a hospital-administered hepatitis B vaccine dose, this does not appear to result in substantial underascertainment of vaccination. A 2004 study in eight locations matched provider-reported vaccination records for the chil-

dren sampled in NIS to their vaccination histories reported by the state Immunization Information Systems (IIS). NIS data underestimated birth dose coverage by no more than 5% at any one location when compared with the combined NIS and IIS coverage among children who had vaccination histories from both sources (M Khare, CDC, personal communication, February 2008). Third, estimates from state and local areas should be interpreted with caution because of smaller sample size and wider confidence intervals compared with the national estimate. Finally, infants who were not recommended to receive hepatitis B vaccine until age 1 month or after hospital discharge because their birth weights were <2,000 g and they were born to HBsAg-negative mothers could not be excluded from the coverage estimates. Inclusion of those infants in the denominator might result in an underestimate of newborn coverage, but the effect should be minimal because infants at this birth weight account for only 3% of births (8).

Infants infected with HBV typically are asymptomatic and have a 90% likelihood of remaining chronically infected (3). Up to 25% of chronically infected children die prematurely of cirrhosis or liver cancer (9). Two primary modes of HBV transmission occur during infancy and early childhood: 1) from an infected mother to her infant during delivery, and 2) from infected household contacts to infant or child. Both modes of transmission can be prevented by immunization of newborn infants. For infants born to mothers identified as hepatitis B surface antigen (HBsAg)-positive (i.e., HBV-infected), administration of hepatitis B vaccine and hepatitis B immune globulin within 12 hours of birth is 85%–95% effective as postexposure prophylaxis in preventing HBV infection in the infant. In addition, hepatitis B vaccine alone is 70%–95% effective in preventing perinatal HBV transmission when the first dose is given within 24 hours of birth. Thus, administration of hepatitis B vaccine soon after birth provides timely postexposure prophylaxis to infants born to HBsAg-positive mothers who were not screened prenatally, or were not identified as HBsAg-positive because of testing errors or lapses in reporting or documentation of test results (10). Hepatitis B vaccination of all newborns also provides early preexposure protection to infants born to uninfected women during a period when the risk for developing chronic HBV infection is greatest.

The 2005 ACIP recommendation to administer the first dose of hepatitis B vaccine to all newborns before hospital discharge will increase hepatitis B vaccination coverage during the first days of life. Delivery hospitals play a key role in the national strategy to eliminate HBV transmission. The 2005 ACIP statement recommends that delivery hospitals have policies and procedures in place, including appropriate standing

orders, to ensure 1) administration of hepatitis B vaccine to all newborns with birth weights  $\geq 2,000$  g before hospital discharge and 2) identification of all infants born to HBsAg-positive mothers and infants born to mothers with unknown HBsAg status to allow initiation of postexposure prophylaxis within 12 hours of birth. State and local information on prevention of HBV infection in infants and children, including information on hospital-based policies and procedures to prevent HBV infection, is available through CDC-funded perinatal hepatitis B prevention coordinators based in state health departments. Contact information for those coordinators is available at <http://www.cdc.gov/vaccines/vpd-vac/hepb/perinatal-contacts.htm>.

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### *Notice to Readers*

## **Epidemic Intelligence Service Online-Only Application Deadline — September 15, 2008**

Applications for CDC's July 2009–June 2011 Epidemic Intelligence Service (EIS) program are now being accepted. This year, applications are only being accepted via the new EIS online application system.

EIS is a 2-year, postgraduate program of service and on-the-job training for health professionals interested in the practice of epidemiology. Each year, EIS provides approximately 90 persons, selected from applicants around the world, opportunities to gain hands-on experience in epidemiology at CDC or at state or local health departments. EIS officers, often called CDC's "disease detectives," have gone on to occupy leadership positions at CDC and other public health agencies nationally and internationally. However, the experience also is useful for health professionals who want to gain a population health perspective.

Persons with a strong interest in applied epidemiology who meet at least one of the following qualifications may apply to EIS:

- physicians with  $\geq 1$  year of clinical training;
- persons with a PhD, DrPH, or other doctoral degree in epidemiology, biostatistics, social or behavioral sciences, natural sciences, or nutrition sciences;
- dentists, physician assistants, and nurses with an MPH or equivalent degree;
- or veterinarians with an MPH or equivalent degree or relevant public health experience.

Additional information regarding the EIS program and the new online application system is available at <http://www.cdc.gov/eis/applyeis/toapply.htm>; by telephone (404-498-6110); or by e-mail ([eisepo@cdc.gov](mailto:eisepo@cdc.gov)).

*Notice to Readers***Webcast: Immunization Update 2008**

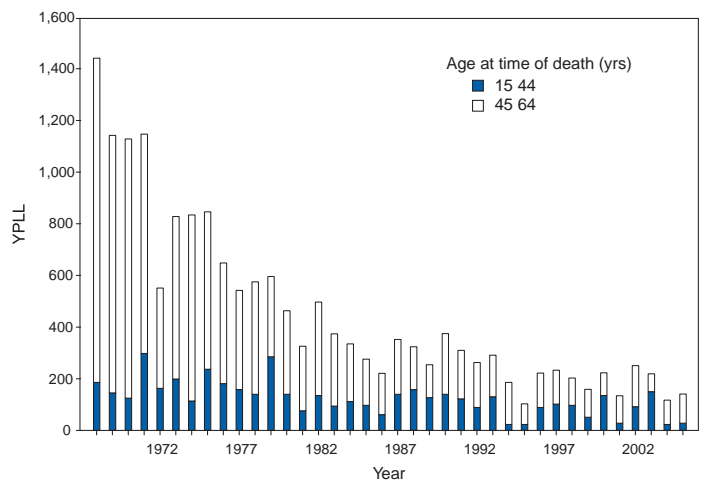
CDC and the Public Health Training Network will present a webcast, Immunization Update 2008, on August 28, 2008. The 2-hour broadcast will occur during 12:00 noon–2:00 p.m. EDT. Anticipated topics include influenza and zoster vaccines, recently approved vaccines, and updates on vaccine supplies and vaccine safety. Continuing education (CE) credits will be provided. Additional information about the program is available at <http://www2d.cdc.gov/phtn/immupdate2008/default.asp>.

No registration is necessary to access the webcast via an Internet connection. The link to the webcast is available at <http://www2a.cdc.gov/phtn/webcast/immupdate2008/default.asp>. The webcast will remain accessible through an Internet connection until September 29, 2008. The program will become available as a self-study DVD and Internet-based program in October 2008.

**Erratum: Vol. 57, No. 28**

In the report, “Silicosis-Related Years of Potential Life Lost Before Age 65 Years — United States, 1968–2005,” on page 774, the figure legend was incorrect. The corrected figure is as follows:

**FIGURE. Years of potential life lost before age 65 years (YPLL) for decedents with silicosis as the underlying cause of death, by age at time of death and year — United States, 1968–2005**

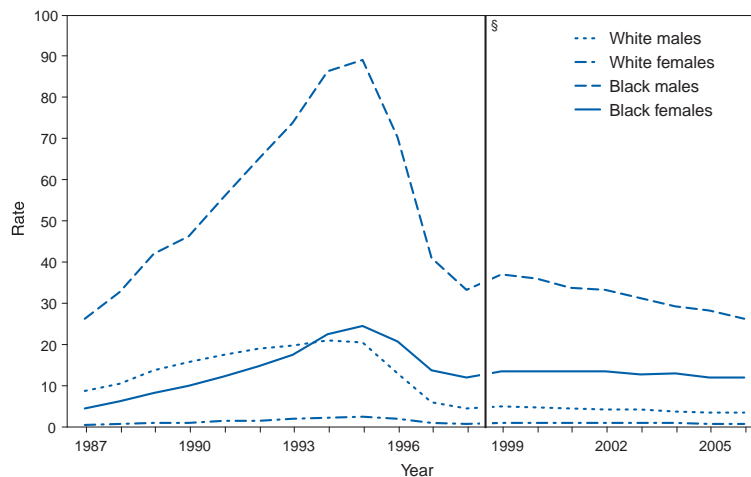


**SOURCE:** National Center for Health Statistics, CDC, multiple cause-of-death data.

# QuickStats

FROM THE NATIONAL CENTER FOR HEALTH STATISTICS

## Age-Adjusted Death\* Rates for Human Immunodeficiency Virus (HIV) Disease, by Race and Sex — United States, 1987–2006†



\* Per 100,000 U.S. standard population.

† Data for 2006 are preliminary.

§ In 1987, a new category for HIV infection was added to the *International Classification of Diseases, Ninth Revision (ICD-9)*. In 1999, ICD-10 took effect, resulting in additional deaths classified into the HIV/acquired immunodeficiency syndrome category; therefore, death rates for 1987–1998 are not comparable with those computed after 1998.

The age-adjusted death rate for HIV disease declined by 6.7% for black males and 5.6% for white males from 2005 to 2006. The rate did not change for black females, but the low rate for white females further declined by 12.5% to 0.7 per 100,000 in 2006. After a period of steady increase from 1987 to 1995, HIV disease mortality peaked for white males in 1994, for white females in 1995, and for black males and females in 1995. Subsequently, the death rate for HIV disease decreased an average of 30.5% per year for the white population and 26.3% for the black population through 1998, with smaller decreases noted through 2006.

**SOURCE:** Heron MP, Hoyert DL, Xu JQ, Scott C, Tejada-Vera B. Deaths: preliminary data for 2006. *Natl Vital Stat Rep* 2008;56(16). Available at [http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56\\_16.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_16.pdf) and <http://www.cdc.gov/nchs/data/statab/hist001r.pdf>.

**TABLE I. Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 26, 2008 (30th Week)\***

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2007	2006	2005	2004	2003	
Anthrax	—	—	—	1	1	—	—	—	
Botulism:									
foodborne	—	5	0	32	20	19	16	20	
infant	—	43	2	85	97	85	87	76	
other (wound & unspecified)	—	9	1	27	48	31	30	33	
Brucellosis	1	43	3	131	121	120	114	104	PA (1)
Chancroid	—	23	1	23	33	17	30	54	
Cholera	—	—	0	7	9	8	6	2	
Cyclosporiasis§	3	73	6	92	137	543	160	75	FL (3)
Diphtheria	—	—	—	—	—	—	—	1	
Domestic arboviral diseases§,¶:									
California serogroup	—	7	5	55	67	80	112	108	
eastern equine	—	1	1	4	8	21	6	14	
Powassan	—	—	0	7	1	1	1	—	
St. Louis	—	3	1	9	10	13	12	41	
western equine	—	—	—	—	—	—	—	—	
Ehrlichiosis/Anaplasmosis§,¶,¶¶:									
<i>Ehrlichia chaffeensis</i>	10	139	20	828	578	506	338	321	VA (1), GA (1), TN (7), AL (1)
<i>Ehrlichia ewingii</i>	—	2	—	—	—	—	—	—	
<i>Anaplasma phagocytophilum</i>	—	90	25	834	646	786	537	362	
undetermined	—	3	7	337	231	112	59	44	
<i>Haemophilus influenzae</i> ,††									
invasive disease (age <5 yrs):									
serotype b	—	16	0	22	29	9	19	32	
nonserotype b	2	96	2	199	175	135	135	117	FL (1), OK (1)
unknown serotype	—	128	3	180	179	217	177	227	
Hansen disease§	1	39	2	101	66	87	105	95	NYC (1)
Hantavirus pulmonary syndrome§	—	7	1	32	40	26	24	26	
Hemolytic uremic syndrome, postdiarrheal§	3	78	7	292	288	221	200	178	TN (2), CA (1)
Hepatitis C viral, acute	14	427	17	849	766	652	720	1,102	NY (2), OH (4), FL (2), OK (4), NV (1), CA (1)
HIV infection, pediatric (age <13 yrs)§§	—	—	3	—	—	380	436	504	
Influenza-associated pediatric mortality§,¶¶	—	87	0	77	43	45	—	N	
Listeriosis	12	290	22	808	884	896	753	696	RI (1), NY (3), PA (1), VA (1), NC (1), FL (1), OK (1), WA (3)
Measles***	—	123	1	43	55	66	37	56	
Meningococcal disease, invasive†††:									
A, C, Y, & W-135	1	168	4	325	318	297	—	—	OH (1)
serogroup B	—	102	3	167	193	156	—	—	
other serogroup	—	20	1	35	32	27	—	—	
unknown serogroup	9	403	9	550	651	765	—	—	NY (1), NC (1), FL (1), OR (2), CA (3), HI (1)
Mumps	1	254	13	800	6,584	314	258	231	PA (1)
Novel influenza A virus infections	—	—	—	1	N	N	N	N	
Plague	—	1	0	7	17	8	3	1	
Poliomyelitis, paralytic	—	—	—	—	—	1	—	—	
Poliovirus infection, nonparalytic§	—	—	—	—	N	N	N	N	
Psittacosis§	2	6	0	12	21	16	12	12	FL (2)
Q fever§,§§ total:	1	56	3	171	169	136	70	71	
acute	1	51	—	—	—	—	—	—	CA (1)
chronic	—	5	—	—	—	—	—	—	
Rabies, human	—	—	0	1	3	2	7	2	
Rubella¶¶¶	—	8	0	12	11	11	10	7	
Rubella, congenital syndrome	—	—	—	—	1	1	—	1	
SARS-CoV§,****	—	—	—	—	—	—	—	8	

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

\* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 2003, 2004, 2005, and 2006 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/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.

§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.

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

\*\* The names of the reporting categories changed in 2008 as a result of revisions to the case definitions. Cases reported prior to 2008 were reported in the categories: Ehrlichiosis, human monocytic (analogous to *E. chaffeensis*); Ehrlichiosis, human granulocytic (analogous to *Anaplasma phagocytophilum*), and Ehrlichiosis, unspecified, or other agent (which included cases unable to be clearly placed in other categories, as well as possible cases of *E. ewingii*).

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

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

¶¶ Updated weekly from reports to the Influenza Division, National Center for Immunization and Respiratory Diseases. Eighty-five cases occurring during the 2007–08 influenza season have been reported.

\*\*\* No measles cases were reported for the current week.

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

§§§ In 2008, Q fever acute and chronic reporting categories were recognized as a result of revisions to the Q fever case definition. Prior to that time, case counts were not differentiated with respect to acute and chronic Q fever cases.

¶¶¶ No rubella cases were reported for the current week.

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

**TABLE I. (Continued) Provisional cases of infrequently reported notifiable diseases (<1,000 cases reported during the preceding year) — United States, week ending July 26, 2008 (30th Week)\***

Disease	Current week	Cum 2008	5-year weekly average†	Total cases reported for previous years					States reporting cases during current week (No.)
				2007	2006	2005	2004	2003	
Smallpox§	—	—	—	—	—	—	—	—	
Streptococcal toxic-shock syndrome§	—	88	2	132	125	129	132	161	
Syphilis, congenital (age <1 yr)	—	102	7	430	349	329	353	413	
Tetanus	—	5	1	28	41	27	34	20	
Toxic-shock syndrome (staphylococcal)§	—	37	2	92	101	90	95	133	
Trichinellosis	1	5	0	5	15	16	5	6	MN (1)
Tularemia	3	44	5	137	95	154	134	129	CO (1), WA (2)
Typhoid fever	3	195	8	434	353	324	322	356	OH (1), MD (1), VA (1)
Vancomycin-intermediate <i>Staphylococcus aureus</i> §	—	5	0	28	6	2	—	N	
Vancomycin-resistant <i>Staphylococcus aureus</i> §	—	—	—	2	1	3	1	N	
Vibriosis (noncholera <i>Vibrio</i> species infections)§	13	133	9	447	N	N	N	N	MD (2), FL (2), AL (1), AZ (1), WA (6), CA (1)
Yellow fever	—	—	—	—	—	—	—	—	

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

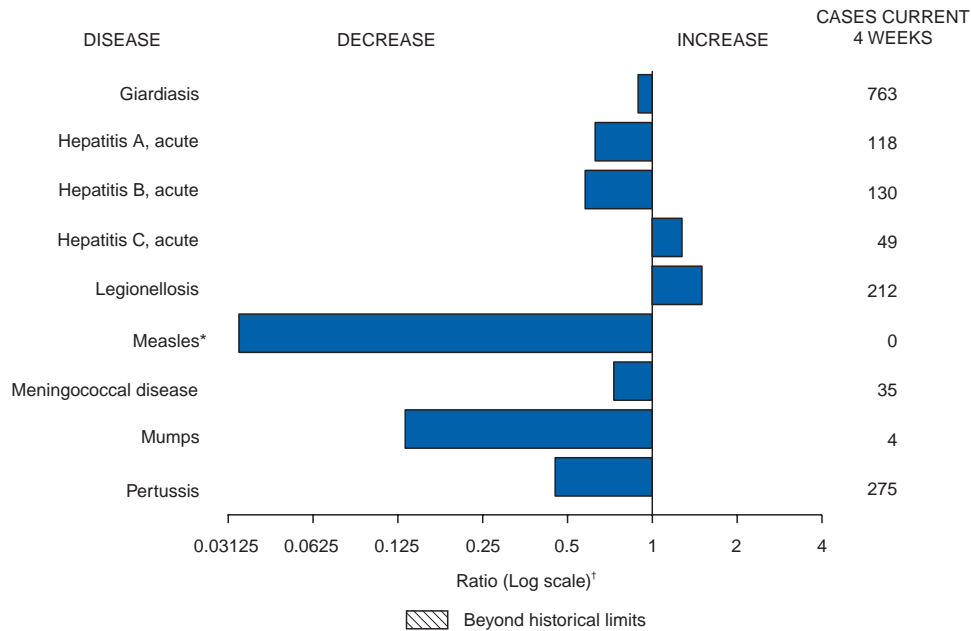
\*\*\*\* Updated weekly from reports to the Division of Viral and Rickettsial Diseases, National Center for Zoonotic, Vector-Borne, and Enteric Diseases.

\* Incidence data for reporting years 2007 and 2008 are provisional, whereas data for 2003, 2004, 2005, and 2006 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/epo/dphsi/phs/files/5yearweeklyaverage.pdf>.

§ Not notifiable in all states. Data from states where the condition is not notifiable are excluded from this table, except in 2007 and 2008 for the domestic arboviral diseases and influenza-associated pediatric mortality, and in 2003 for SARS-CoV. Reporting exceptions are available at <http://www.cdc.gov/epo/dphsi/phs/infdis.htm>.

**FIGURE I. Selected notifiable disease reports, United States, comparison of provisional 4-week totals July 26, 2008, with historical data**



\* No measles cases were reported for the current 4-week period yielding a ratio for week 30 of zero (0).

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

**Notifiable Disease Data Team and 122 Cities Mortality Data Team**  
 Patsy A. Hall  
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TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2008, and July 28, 2007 (30th Week)\*

Reporting area	Pertussis					Rabies, animal					Rocky Mountain spotted fever				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max				Med	Max		
<b>United States</b>	61	145	849	3,860	5,425	74	82	177	2,185	3,381	22	29	195	721	1,006
<b>New England</b>	—	21	49	373	847	7	7	20	188	314	—	0	1	1	7
Connecticut	—	0	5	—	47	—	3	17	96	128	—	0	0	—	—
Maine†	—	1	5	14	45	—	1	5	31	46	N	0	0	N	N
Massachusetts	—	17	34	315	685	N	0	0	N	N	—	0	1	1	7
New Hampshire	—	1	5	17	40	1	1	4	22	32	—	0	1	—	—
Rhode Island†	—	1	25	21	5	N	0	0	N	N	—	0	0	—	—
Vermont†	—	0	6	6	25	6	1	5	39	108	—	0	0	—	—
<b>Mid. Atlantic</b>	30	20	43	454	724	11	20	32	578	576	3	1	5	35	47
New Jersey	—	1	9	3	125	—	0	0	—	—	—	0	2	2	17
New York (Upstate)	24	6	23	200	344	11	9	20	264	279	3	0	2	12	4
New York City	—	2	7	34	79	—	0	2	11	30	—	0	2	10	17
Pennsylvania	6	7	23	217	176	—	9	23	303	267	—	0	2	11	9
<b>E.N. Central</b>	8	20	190	722	984	5	3	43	92	117	1	1	7	35	32
Illinois	—	3	8	79	107	2	0	0	35	37	—	0	3	21	21
Indiana	—	0	12	25	40	—	0	1	2	6	—	0	1	2	4
Michigan	—	4	16	103	162	1	1	32	33	42	—	0	1	2	3
Ohio	8	6	176	475	429	2	1	11	22	32	1	0	4	10	4
Wisconsin	—	2	9	40	246	N	0	0	N	N	—	0	1	—	—
<b>W.N. Central</b>	—	11	142	346	366	—	4	13	82	166	—	4	22	160	215
Iowa	—	1	5	35	110	—	0	3	11	19	—	0	2	1	13
Kansas	—	1	5	26	61	—	0	7	—	81	—	0	2	—	9
Minnesota	—	1	131	110	59	—	0	7	27	16	—	0	4	—	1
Missouri	—	2	18	124	56	—	0	5	22	24	—	3	19	149	181
Nebraska†	—	1	12	43	29	—	0	0	—	—	—	0	3	8	8
North Dakota	—	0	5	1	3	—	0	8	15	12	—	0	0	—	—
South Dakota	—	0	2	7	48	—	0	2	7	14	—	0	1	2	3
<b>S. Atlantic</b>	14	14	50	367	571	39	35	94	977	1,305	9	8	109	236	450
Delaware	—	0	2	6	7	—	0	0	—	—	—	0	2	9	10
District of Columbia	—	0	1	2	7	—	0	0	—	—	—	0	2	6	2
Florida	7	3	17	128	139	—	0	77	80	128	—	0	4	8	7
Georgia	—	0	3	21	28	27	6	37	214	153	2	0	5	27	45
Maryland†	2	0	6	8	69	—	0	18	18	229	1	0	6	8	34
North Carolina	—	0	38	77	191	11	9	16	283	290	—	0	96	107	261
South Carolina†	1	2	22	59	50	—	0	0	—	46	1	0	4	17	34
Virginia†	4	2	8	62	69	—	11	27	321	420	5	1	9	51	55
West Virginia	—	0	12	4	11	1	1	11	61	39	—	0	3	3	2
<b>E.S. Central</b>	—	6	31	136	209	—	2	7	71	96	7	4	16	127	162
Alabama†	—	1	6	20	49	—	0	0	—	—	2	1	10	34	43
Kentucky	—	1	5	27	14	—	0	3	21	12	—	0	1	—	4
Mississippi	—	3	29	54	83	—	0	1	2	—	—	0	3	4	10
Tennessee†	—	1	4	35	63	—	1	6	48	84	5	2	13	89	105
<b>W.S. Central</b>	4	19	198	488	615	—	8	40	62	639	2	2	153	110	67
Arkansas†	—	1	11	38	126	—	1	6	36	19	—	0	15	13	14
Louisiana	—	0	2	3	13	—	0	2	—	4	—	0	1	2	3
Oklahoma	—	0	26	19	3	—	0	32	25	45	—	0	132	80	34
Texas†	4	17	179	428	473	—	0	34	1	571	2	1	8	15	16
<b>Mountain</b>	3	19	37	470	652	—	1	8	32	31	—	0	2	13	23
Arizona	—	3	10	105	152	N	0	0	N	N	—	0	2	6	4
Colorado	3	4	13	84	177	—	0	0	—	—	—	0	2	—	—
Idaho†	—	0	4	19	28	—	0	4	—	—	—	0	1	—	3
Montana†	—	1	11	60	33	—	0	3	3	7	—	0	1	3	1
Nevada†	—	0	7	19	25	—	0	2	3	5	—	0	0	—	—
New Mexico†	—	1	7	27	48	—	0	3	18	6	—	0	1	1	4
Utah	—	6	27	150	174	—	0	2	2	6	—	0	0	—	—
Wyoming†	—	0	2	6	15	—	0	4	6	7	—	0	2	3	11
<b>Pacific</b>	2	21	303	504	457	12	4	10	103	137	—	0	1	4	3
Alaska	—	1	29	59	34	—	0	4	12	36	N	0	0	N	N
California	—	8	129	200	267	12	3	8	88	96	—	0	1	2	1
Hawaii	—	0	2	4	15	—	0	0	—	—	N	0	0	N	N
Oregon†	1	2	14	88	55	—	0	1	3	5	—	0	1	2	2
Washington	1	5	169	153	86	—	0	0	—	—	N	0	0	N	N
American Samoa	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guam	—	0	0	—	—	—	0	0	—	—	N	0	0	N	N
Puerto Rico	—	0	0	—	—	—	1	4	33	32	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N	N	0	0	N	N

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

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

\* Incidence data for reporting years 2007 and 2008 are provisional.

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



TABLE II. (Continued) Provisional cases of selected notifiable diseases, United States, weeks ending July 26, 2008, and July 28, 2007 (30th Week)\*

Reporting area	Streptococcal disease, invasive, group A					<i>Streptococcus pneumoniae</i> , invasive disease, nondrug resistant† Age <5 years				
	Current week	Previous 52 weeks		Cum 2008	Cum 2007	Current week	Previous 52 weeks		Cum 2008	Cum 2007
		Med	Max				Med	Max		
<b>United States</b>	41	89	259	3,456	3,616	9	36	166	971	1,107
<b>New England</b>	1	6	33	265	289	—	2	14	48	87
Connecticut	—	0	28	78	90	—	0	11	—	11
Maine§	—	0	3	20	21	—	0	1	1	1
Massachusetts	—	3	8	125	140	—	1	5	37	57
New Hampshire	1	0	2	18	21	—	0	1	7	8
Rhode Island§	—	0	8	14	2	—	0	1	2	8
Vermont§	—	0	2	10	15	—	0	1	1	2
<b>Mid. Atlantic</b>	8	16	43	715	698	—	4	19	119	201
New Jersey	—	3	9	108	129	—	1	6	21	40
New York (Upstate)	5	6	17	246	213	—	2	14	65	71
New York City	—	3	10	126	172	—	1	12	33	90
Pennsylvania	3	5	16	235	184	N	0	0	N	N
<b>E.N. Central</b>	1	18	63	760	719	1	6	23	211	199
Illinois	—	5	16	191	216	—	1	6	46	47
Indiana	—	2	11	95	83	—	0	14	23	12
Michigan	—	3	10	117	149	—	1	5	50	56
Ohio	—	5	14	201	171	—	1	5	36	42
Wisconsin	1	2	42	156	100	1	1	9	56	42
<b>W.N. Central</b>	—	4	39	271	241	—	2	16	81	57
Iowa	—	0	0	—	—	—	0	0	—	—
Kansas	—	0	6	37	26	—	0	3	12	—
Minnesota	—	0	35	121	116	—	0	13	30	35
Missouri	—	2	10	63	63	—	1	2	24	15
Nebraska§	—	0	3	26	18	—	0	3	6	6
North Dakota	—	0	5	10	11	—	0	2	4	1
South Dakota	—	0	2	14	7	—	0	1	5	—
<b>S. Atlantic</b>	19	19	34	586	841	5	5	13	121	189
Delaware	—	0	2	6	7	—	0	0	—	—
District of Columbia	—	0	2	14	16	—	0	1	1	2
Florida	5	6	11	168	191	—	1	4	37	38
Georgia	12	5	10	154	160	4	1	5	20	42
Maryland§	—	0	6	4	146	1	0	4	2	47
North Carolina	1	2	10	93	118	N	0	0	N	N
South Carolina§	—	1	5	38	76	—	1	4	32	24
Virginia§	1	3	12	87	107	—	0	6	24	31
West Virginia	—	0	3	22	20	—	0	1	5	5
<b>E.S. Central</b>	2	4	9	112	147	—	2	11	65	62
Alabama§	N	0	0	N	N	N	0	0	N	N
Kentucky	—	0	3	22	31	N	0	0	N	N
Mississippi	N	0	0	N	N	—	0	3	16	5
Tennessee§	2	3	7	90	116	—	2	9	49	57
<b>W.S. Central</b>	3	8	85	288	207	3	5	66	156	149
Arkansas§	—	0	2	4	16	—	0	2	4	9
Louisiana	—	0	1	3	14	—	0	2	2	26
Oklahoma	—	2	19	74	50	—	1	7	47	34
Texas§	3	6	65	207	127	3	3	58	103	80
<b>Mountain</b>	4	10	22	370	387	—	5	12	160	152
Arizona	1	4	9	141	143	—	2	8	81	72
Colorado	3	2	8	102	99	—	1	4	44	31
Idaho§	—	0	2	11	8	—	0	1	3	2
Montana§	N	0	0	N	N	—	0	1	3	1
Nevada§	—	0	2	6	2	N	0	0	N	N
New Mexico§	—	2	7	66	68	—	0	3	13	27
Utah	—	1	5	39	62	—	0	3	15	19
Wyoming§	—	0	2	5	5	—	0	1	1	—
<b>Pacific</b>	3	3	10	89	87	—	0	2	10	11
Alaska	3	0	3	24	16	N	0	0	N	N
California	—	0	0	—	—	N	0	0	N	N
Hawaii	—	2	10	65	71	—	0	2	10	11
Oregon§	N	0	0	N	N	N	0	0	N	N
Washington	N	0	0	N	N	N	0	0	N	N
American Samoa	—	0	12	30	4	N	0	0	N	N
C.N.M.I.	—	—	—	—	—	—	—	—	—	—
Guam	—	0	3	—	7	—	0	0	—	—
Puerto Rico	N	0	0	N	N	N	0	0	N	N
U.S. Virgin Islands	—	0	0	—	—	N	0	0	N	N

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

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

\* Incidence data for reporting years 2007 and 2008 are provisional.

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

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







TABLE III. Deaths in 122 U.S. cities,\* week ending July 26, 2008 (30th Week)

Reporting Area	All causes, by age (years)							Reporting Area	All causes, by age (years)							
	All Ages	≥65	45-64	25-44	1-24	<1	P&I <sup>†</sup> Total		All Ages	≥65	45-64	25-44	1-24	<1	P&I <sup>†</sup> Total	
<b>New England</b>	464	334	89	24	9	8	36	<b>S. Atlantic</b>	1,133	686	282	77	38	50	52	
Boston, MA	142	102	27	5	5	3	13	Atlanta, GA	146	71	38	12	4	21	5	
Bridgeport, CT	24	16	5	3	—	—	1	Baltimore, MD	132	75	36	10	3	8	8	
Cambridge, MA	18	15	2	—	1	—	1	Charlotte, NC	85	57	23	3	2	—	7	
Fall River, MA	19	15	4	—	—	—	4	Jacksonville, FL	151	81	48	12	6	4	2	
Hartford, CT	47	27	12	6	2	—	4	Miami, FL	107	74	24	5	4	—	4	
Lowell, MA	13	9	3	1	—	—	1	Norfolk, VA	64	48	11	2	2	1	1	
Lynn, MA	6	4	2	—	—	—	—	Richmond, VA	57	29	18	5	2	3	2	
New Bedford, MA	20	15	3	2	—	—	—	Savannah, GA	47	31	9	5	1	1	2	
New Haven, CT	U	U	U	U	U	U	U	St. Petersburg, FL	70	46	14	2	4	4	6	
Providence, RI	58	43	9	4	1	1	4	Tampa, FL	184	120	42	12	6	4	12	
Somerville, MA	4	2	2	—	—	—	—	Washington, D.C.	75	45	17	6	3	4	2	
Springfield, MA	28	24	3	—	—	1	1	Wilmington, DE	15	9	2	3	1	—	1	
Waterbury, CT	28	20	6	1	—	1	1	<b>E.S. Central</b>	833	540	199	60	21	13	54	
Worcester, MA	57	42	11	2	—	2	6	Birmingham, AL	175	123	37	9	3	3	9	
<b>Mid. Atlantic</b>	2,087	1,427	454	116	54	36	94	Chattanooga, TN	68	54	11	3	—	—	4	
Albany, NY	38	25	8	2	1	2	1	Knoxville, TN	110	70	24	12	2	2	8	
Allentown, PA	25	19	4	2	—	—	1	Lexington, KY	61	36	17	4	—	4	2	
Buffalo, NY	68	51	12	3	2	—	1	Memphis, TN	123	83	26	10	2	2	17	
Camden, NJ	33	16	7	5	1	4	—	Mobile, AL	115	62	34	10	8	1	2	
Elizabeth, NJ	13	8	4	1	—	—	2	Montgomery, AL	45	29	10	5	1	—	3	
Erie, PA	47	34	12	—	1	—	—	Nashville, TN	136	83	40	7	5	1	9	
Jersey City, NJ	19	16	2	1	—	—	—	<b>W.S. Central</b>	1,487	892	409	101	43	42	66	
New York City, NY	937	658	194	54	20	11	41	Austin, TX	87	53	20	6	3	5	4	
Newark, NJ	28	15	9	2	—	2	2	Baton Rouge, LA	59	37	17	2	1	2	—	
Paterson, NJ	17	7	9	1	—	—	1	Corpus Christi, TX	38	25	9	4	—	—	2	
Philadelphia, PA	537	337	138	32	17	13	27	Dallas, TX	180	88	59	18	6	9	6	
Pittsburgh, PA <sup>§</sup>	25	15	7	—	3	—	1	El Paso, TX	90	56	26	7	1	—	4	
Reading, PA	29	25	2	2	—	—	—	Fort Worth, TX	124	75	33	6	4	6	4	
Rochester, NY	131	95	23	7	4	2	10	Houston, TX	397	214	120	34	17	12	22	
Schenectady, NY	18	16	2	—	—	—	4	Little Rock, AR	77	46	23	6	1	1	1	
Scranton, PA	25	16	4	2	3	—	1	New Orleans, LA <sup>†</sup>	U	U	U	U	U	U	U	
Syracuse, NY	39	29	6	1	1	2	1	San Antonio, TX	241	159	62	10	4	6	13	
Trenton, NJ	25	18	6	—	1	—	1	Shreveport, LA	85	62	18	3	1	1	6	
Utica, NY	12	10	2	—	—	—	—	Tulsa, OK	109	77	22	5	5	—	4	
Yonkers, NY	21	17	3	1	—	—	—	<b>Mountain</b>	880	562	215	67	21	15	56	
<b>E.N. Central</b>	1,892	1,239	422	145	35	50	128	Albuquerque, NM	131	82	27	13	7	2	4	
Akron, OH	52	36	12	2	—	2	3	Boise, ID	55	28	18	8	1	—	—	
Canton, OH	31	24	6	1	—	—	3	Colorado Springs, CO	63	48	10	5	—	—	2	
Chicago, IL	235	146	56	18	9	5	18	Denver, CO	82	42	29	6	2	3	6	
Cincinnati, OH	93	58	20	10	1	4	8	Las Vegas, NV	279	171	75	18	8	7	19	
Cleveland, OH	220	159	40	15	4	2	13	Ogden, UT	21	14	4	3	—	—	2	
Columbus, OH	200	136	47	10	5	2	17	Phoenix, AZ	U	U	U	U	U	U	U	
Dayton, OH	131	93	27	8	1	2	17	Pueblo, CO	27	22	2	2	—	1	1	
Detroit, MI	138	61	52	16	2	7	9	Salt Lake City, UT	102	75	16	7	2	2	10	
Evansville, IN	36	20	10	5	1	—	3	Tucson, AZ	120	80	34	5	1	—	12	
Fort Wayne, IN	67	47	14	5	—	1	1	<b>Pacific</b>	1,541	1,043	344	88	45	21	155	
Gary, IN	18	12	3	—	1	2	—	Berkeley, CA	9	5	4	—	—	—	—	
Grand Rapids, MI	54	38	10	3	—	3	4	Fresno, CA	98	64	20	10	4	—	6	
Indianapolis, IN	223	131	49	26	6	11	10	Glendale, CA	31	26	5	—	—	—	6	
Lansing, MI	37	31	4	2	—	—	1	Honolulu, HI	80	58	15	3	3	1	18	
Milwaukee, WI	68	45	8	11	1	3	8	Long Beach, CA	66	47	14	2	1	2	13	
Peoria, IL	42	32	8	—	1	1	4	Los Angeles, CA	224	129	57	20	13	5	32	
Rockford, IL	49	28	15	3	3	—	1	Pasadena, CA	22	15	7	—	—	—	1	
South Bend, IN	44	31	6	4	—	3	1	Portland, OR	125	91	22	7	4	1	7	
Toledo, OH	93	65	22	5	—	1	2	Sacramento, CA	162	101	48	7	5	1	19	
Youngstown, OH	61	46	13	1	—	1	5	San Diego, CA	153	110	29	8	3	3	4	
<b>W.N. Central</b>	672	412	150	56	25	28	36	San Francisco, CA	104	79	17	5	1	2	8	
Des Moines, IA	U	U	U	U	U	U	U	San Jose, CA	187	130	38	14	3	2	25	
Duluth, MN	29	24	3	1	—	1	3	Santa Cruz, CA	23	11	11	—	1	—	3	
Kansas City, KS	27	15	7	3	2	—	2	Seattle, WA	96	61	23	6	4	2	8	
Kansas City, MO	200	138	38	13	4	7	12	Spokane, WA	56	38	11	4	1	2	3	
Lincoln, NE	30	23	3	4	—	—	—	Tacoma, WA	105	78	23	2	2	—	2	
Minneapolis, MN	65	32	18	4	5	6	4	<b>Total</b>	10,989**	7,135	2,564	734	291	263	677	
Omaha, NE	72	49	12	4	3	4	7									
St. Louis, MO	110	45	31	21	6	7	3									
St. Paul, MN	61	37	17	2	3	2	2									
Wichita, KS	78	49	21	4	2	1	3									

U: Unavailable. —:No reported cases.

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

† Pneumonia and influenza.

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

¶ Because of Hurricane Katrina, weekly reporting of deaths has been temporarily disrupted.

\*\* Total includes unknown ages.



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