

## HEALTH STATUS

Monitoring the health status of infants, children, and adolescents allows health professionals, program planners, and policymakers to assess the impact of past and current health intervention and prevention programs and identify areas of need within the child population. Although indicators of child health and well-being are often assessed on an annual basis, some surveillance systems collect data at regular intervals, such as every 2, 4, or 5 years. Trends can be identified by examining and comparing data from one data collection period to the next whenever multiple years of data are available.

In the following section, mortality, disease, injury, and health behavior indicators are presented by age group. The health status indicators in this section are based on vital statistics and national surveys and surveillance systems. Population-based samples are designed to yield information that is representative of the maternal and child populations that are affected by, or in need of, specific health services or interventions.



**HEALTH STATUS - INFANTS**

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## LOW BIRTH WEIGHT

Low birth weight is a leading cause of neonatal mortality (death before 28 days of age). Low birth weight infants are more likely to experience physical and developmental health problems or die during the first year of life than are infants of normal weight.<sup>1,2</sup>

According to preliminary data, 8.2 percent of infants were born low birth weight (less than 2,500 grams, or 5 pounds 8 ounces) in 2009. In 2006, the rate of low birth weight was the highest recorded in four decades (8.3 percent). The increase in multiple births, which are at high risk of low birth weight, strongly influenced this increase; however, rates of low birth weight also rose for singleton births.<sup>3</sup>

In 2009, the rate of low birth weight was much higher among infants born to non-Hispanic Black women (13.6 percent) than infants born to mothers of other racial/ethnic groups. The second highest rate, which occurred among Asian/Pacific Islanders, was 8.3 percent, followed by a rate of 7.3 percent among American Indian/Alaska Natives. Low birth weight occurred among 7.2 percent of infants born to non-Hispanic White women, while infants of Hispanic women experienced the lowest rate (6.9 percent). Low birth weight levels in 2009 were not significantly different from 2008 for non-Hispanic White, non-Hispanic Black, and Hispanic infants.

Low birth weight also varied by maternal age. In 2008 (the latest year for which data are available), the rate of low birth weight was highest among babies born to women younger than 15 years of age (12.4 percent), followed by babies born to women aged 40–54 years (11.8 percent). The lowest rates occurred among babies born to mothers aged 25–29 years and 30–34 years (7.4 and 7.6 percent, respectively; data not shown).

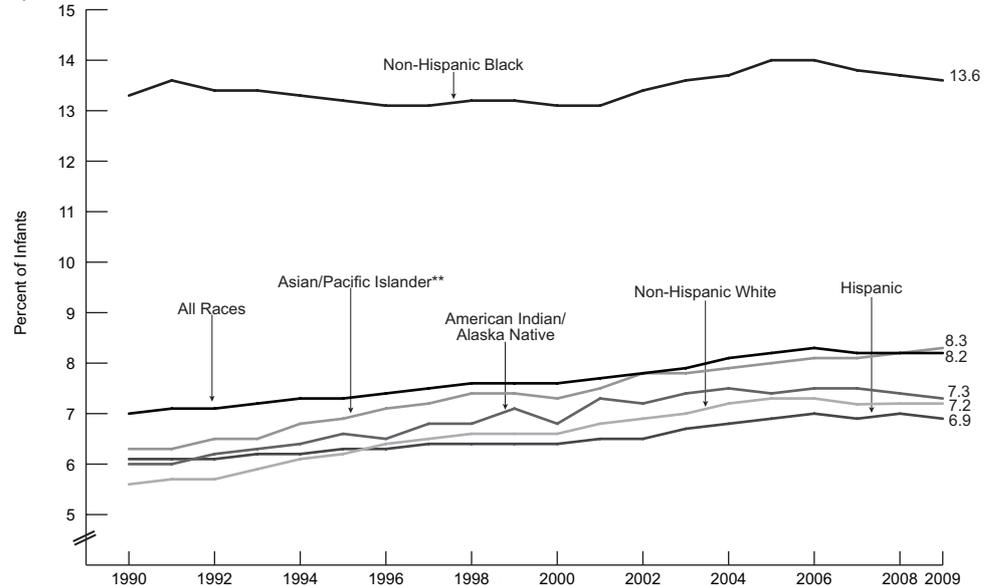
1 Stein REK, Siegel MJ, Bauman LJ. Are children of moderately low birth weight at increased risk for poor health? A new look at an old question. *Pediatrics* 2006;118:217-223.

2 Matthews TJ, MacDorman MF. Infant mortality statistics from the 2006 period linked birth/infant death data set. *National vital statistics reports; vol 58 no 17*. Hyattsville, MD: National Center for Health Statistics. 2010.

3 Martin JA, Hamilton BE, Sutton PD, Ventura SJ, et al. *Births: Final data for 2006. National vital statistics reports; vol 57 no 7*. Hyattsville, MD: National Center for Health Statistics. 2009.

### Low Birth Weight Among Infants, by Maternal Race/Ethnicity, 1990–2009\*

Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary. \*\*Separate estimates for Asians and Native Hawaiians and Other Pacific Islanders were not available.

## VERY LOW BIRTH WEIGHT

According to preliminary data, 1.5 percent of infants were born very low birth weight (less than 1,500 grams, or 3 pounds 4 ounces) in 2009. The proportion of very low birth weight infants has slowly climbed from just over 1 percent in 1980.

Infants born at such low weight are more than 100 times more likely to die in the first year of life than are infants of normal birth weight (above 5 pounds 8 ounces).<sup>1</sup> Very low birth weight infants who survive are at a significantly increased risk of severe health and developmental problems, including physical and sensory difficulties, developmental delays, and cognitive impairment, which may require increased levels of medical, educational, and parental care.<sup>2</sup>

Infants born to non-Hispanic Black women are over two times more likely than infants born to mothers of other racial/ethnic groups to be very low birth weight. Among infants born to non-Hispanic Black women, 3.1 percent were very low birth weight in 2009, compared to 1.2 percent of infants born to non-Hispanic White and Hispanic women, 1.3 percent born to American Indian/Alaska Native women, and 1.1 percent born to Asian/Pacific Islander women. This difference is a major contributor to the disparity in infant mortality rates between non-Hispanic Black infants and infants of other racial/ethnic groups.<sup>3</sup> Although, overall, the rate of very low birth weight was not statistically different from

2008, rates for non-Hispanic White and non-Hispanic Black newborns were down 2-3 percent from 2006.<sup>4</sup>

In 2008 (the latest year for which data are available), the rate of very low birth weight was highest among babies born to mothers aged 45-54 years (3.6 percent). Mothers under 15 years of age also had high rates of very low birth weight (3.0 percent.) The rate was lowest among mothers aged 25-29 years (1.3 percent; data not shown).

1 Matthews TJ, MacDorman MF. *Infant mortality statistics from the 2006 period linked birth/infant death data set. National vital statistics reports; vol 58 no 17.* Hyattsville, MD: National Center for Health Statistics. 2010.

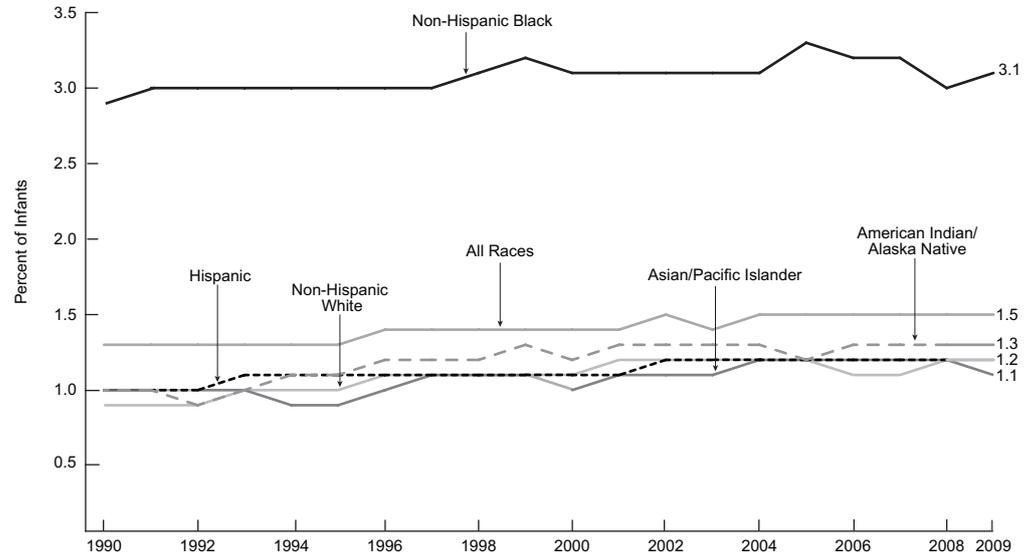
2 Eichenwald EC, Stark AR. *Management and outcomes of very low birth weight.* N Engl J Med 2008;358:1700-1711.

3 Wise PH. *The anatomy of a disparity in infant mortality.* Annu Rev Public Health. 2003;24:341-62.

4 Hamilton BE, Martin JA, Ventura SJ. *Births: Preliminary data for 2009. National vital statistics reports web release; vol 59 no 3.* Hyattsville, MD: National Center for Health Statistics. 2010.

### Very Low Birth Weight Among Infants, by Maternal Race/Ethnicity, 1990–2009\*

Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary. \*\*Separate estimates for Asians and Native Hawaiians and Other Pacific Islanders were not available.

## PRETERM BIRTH

Babies born preterm, before 37 completed weeks of gestation, are at increased risk of immediate and long-term complications, as well as mortality. Complications that can occur during the newborn period include respiratory distress, jaundice, anemia, and infection, while long-term complications can include learning and behavioral problems, cerebral palsy, lung problems, and vision and hearing loss. Although the risk of complications is greatest among those babies who are born the earliest, even those babies born “late preterm” (34 to 36 weeks’ ges-

tation) are more likely than full-term babies to experience these types of problems.<sup>1</sup>

According to preliminary data, 12.2 percent of infants were born preterm in 2009. Overall, 8.7 percent of babies were born at 34 to 36 weeks’ gestation, 1.6 percent were born at 32-33 weeks, and 2.0 percent were “very preterm” (less than 32 weeks). The preterm birth rate increased more than 20 percent from 1990 to 2006, but has declined in the three years since (data not shown).

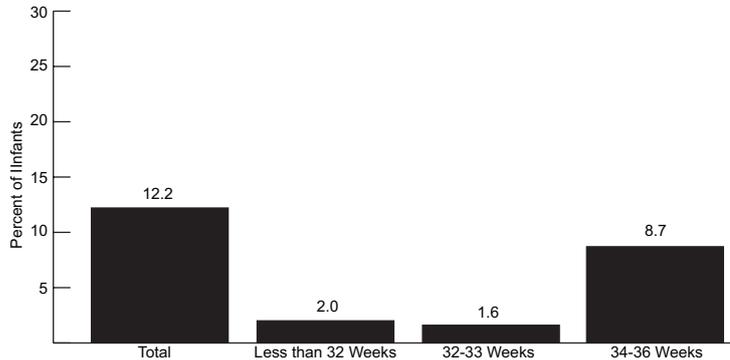
The preterm birth rate varies by race/ethnicity. In 2009, 17.5 percent of babies born to

non-Hispanic Black women were born preterm, compared to 10.8 percent of babies born to Asian/Pacific Islander women. Among babies born to non-Hispanic White women, 10.9 percent were born preterm, while the same was true of 12.0 percent of babies born to Hispanic women and 13.5 percent of babies born to American Indian/Alaska native women.

*1 Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Reproductive Health. Prematurity. November 2009. Available online: <http://www.cdc.gov/Features/PrematureBirth/>. Accessed March 2011.*

### Preterm Birth Among Infants, by Completed Weeks of Gestation, 2009\*

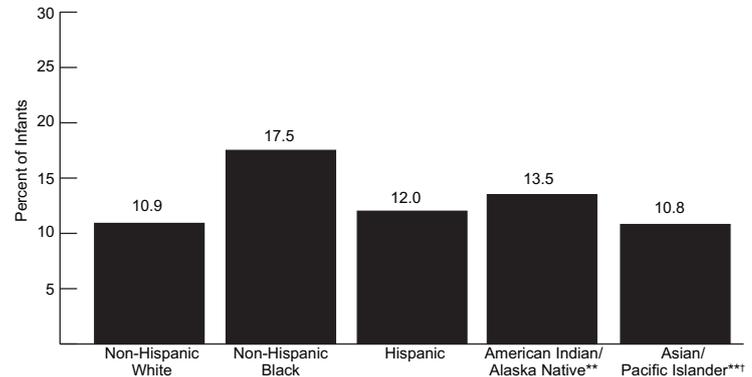
Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary

### Preterm Birth Among Infants, by Maternal Race/Ethnicity, 2009\*

Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary. \*\*Includes Hispanics. †Separate data for Asians and Native Hawaiians and Other Pacific Islanders not available.

## BREASTFEEDING

Breastfeeding has been shown to promote the health and development of infants, including their immunity to disease. It also confers a number of maternal benefits, such as a decreased risk of breast and ovarian cancers.<sup>1</sup> The American Academy of Pediatrics Section on Breastfeeding recommends exclusive breastfeeding—with no supplemental food or liquids—through the first 6 months of life, and continued supplemental breastfeeding through at least the first year.<sup>2</sup>

Breastfeeding practices vary considerably by a number of factors including maternal age, maternal education, household income, and race/ethnicity. In 2007, the parents of 75.5 percent of children from birth to 5 years of age reported that

the child had ever been breastfed or fed breast milk. While this represents a substantial increase in breastfeeding initiation over the past 25 years, the overall prevalence of any breastfeeding for 6 months and the prevalence of exclusive breastfeeding for 6 months remain below national objectives.<sup>3</sup> Parents of 45.0 percent of children aged 6 months to 5 years reported that the child was breastfed for 6 months. Exclusive breastfeeding for 6 months was reported for 12.4 percent of children aged 6 months to 5 years.

Children born to mothers aged 30 years or older are the most likely to be breastfed (79.8 percent), while children born to mothers aged 20 years or younger are the least likely (58.5 percent). A similar trend exists for exclusive breast-

feeding; 14.1 percent of children born to mothers aged 30 years or older are exclusively breastfed for 6 months compared to 4.6 percent of children born to mothers aged 20 years or younger. Mothers with more than a high school education are more likely to both initiate breastfeeding and to breastfeed for 6 months exclusively than those with less than a high school education.

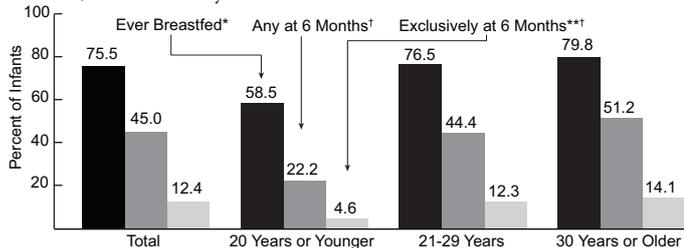
1 Ip S, Chung M, Raman G, Chew P, Magula N, DeVine D, et al. *Breastfeeding and maternal and infant health outcomes in developed countries*. Evid Rep Technol Assess (Full Rep). 2007(153):1-186.

2 Gartner LM, Morton J, Lawrence RA, Naylor AJ, O'Hare D, Schanler RJ, et al. *Breastfeeding and the use of human milk*. Pediatrics. 2005;115(2):496-506.

3 U.S. Department of Health and Human Services. *Healthy People 2020*. Available at: [www.healthypeople.gov](http://www.healthypeople.gov). Accessed March 2011.

### Breastfeeding Among Children Aged 0-5 Years, by Maternal Age and Duration, 2007

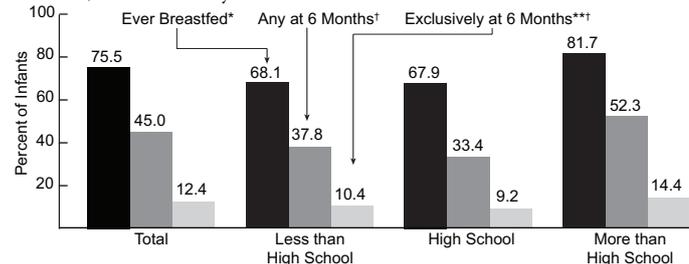
Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*Ever fed breast milk. \*\*Exclusive breastfeeding is defined as only human breastmilk—no solids, water, or other liquids. †Data is for infants aged 6 months to 5 years. Those less than 6 months of age were excluded.

### Breastfeeding Among Children Aged 0-5 Years, by Maternal Education and Duration, 2007

Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*Ever fed breast milk. \*\*Exclusive breastfeeding is defined as only human breastmilk—no solids, water, or other liquids. †Data is for infants aged 6 months to 5 years. Those less than 6 months of age were excluded.

## INFANT MORTALITY

Based on preliminary data, in 2009, 26,531 infants died before their first birthday, representing an infant mortality rate of 6.42 deaths per 1,000 live births. This represents a decrease of 2.6 percent from the preliminary estimate in 2008 (6.59 deaths per 1,000 live births). The leading causes of infant mortality were congenital malformations, followed by disorders related to short gestation and low birth weight, and Sudden Infant Death Syndrome (data not shown). Although overall there were no changes in the ranking of leading causes of infant death, the infant mortality rate decreased for 2 of 10 leading causes of infant death between 2008 and 2009: maternal complications of pregnancy and unintentional injuries. The infant mortality rates associated with each of these causes declined by 7.5 and 8.5 percent, respectively.

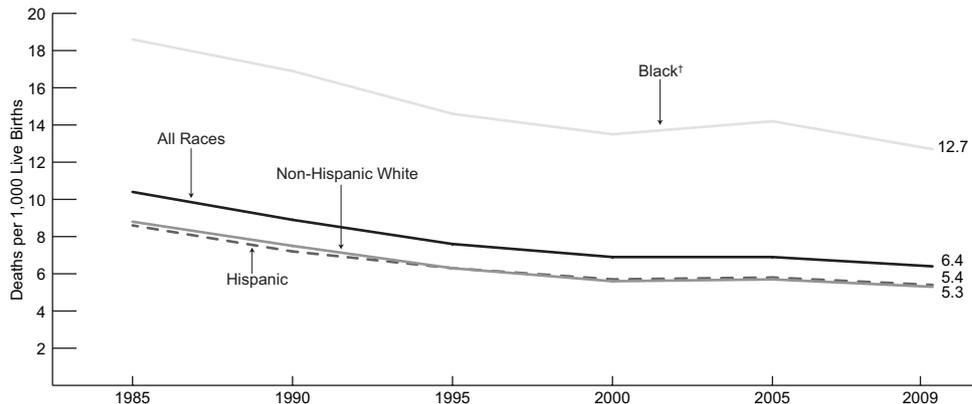
The infant mortality declined substantially during the 20th century resulting in a 93 percent decrease in the overall infant mortality rate between 1915 and 1998.<sup>1</sup> Some factors which contributed to this decline included economic growth, improved nutrition, and new sanitary measures, as well as advances in clinical medicine and access to care.<sup>2</sup> More recent declines in birth-weight-specific infant mortality rates in the latter part of the 20th century have been attributed, in part, to the approval of synthetic surfactants to reduce the severity of respiratory distress syn-

drome<sup>3</sup> and the recommendation that infants be placed on their backs to sleep to prevent Sudden Infant Death Syndrome.<sup>4</sup>

In 2009, the mortality rate among infants born to Black women (including Hispanics) was 12.71 deaths per 1,000 live births, compared to 12.68 per 1,000 live births in 2008; this difference was not statistically significant. Despite the overall decrease in the infant mortality rate, in 2009 the rate for Blacks (including Hispanics) was still 2.4 times the rate among infants born to non-Hispanic White women (5.32 per 1,000 births). The 2009 rate for infants born to non-Hispanic white women reflects a 4.0 percent decrease since the previous year (5.54 infant deaths per 1,000 live births).

### Infant Mortality Rates, \* by Maternal Race/Ethnicity, 1985-2009\*\*

Source (II.3): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Under 1 year of age. \*\*Data for 2009 are preliminary. †Including Hispanics who identify themselves as Black.

The Maternal and Child Health Block Grant and MCHB's Healthy Start program provide health and support services to pregnant women and infants with the goal of improving children's health outcomes and reducing infant and child mortality.

1 Guyer B, Freedman MA, Strobino DM, and Sondik EJ. Annual summary of vital statistics: trends in the health of Americans during the 20th century. *Pediatrics*. 2000;106:1307-17.

2 Centers for Disease Control and Prevention. *Advancements in public health, 1900-1999: healthier mothers and babies*. MMWR. 1999; 48:849-58.

3 Schoendorf KC and JL Kiely. Birth weight and age-specific analysis of the 1990 US infant mortality drop: was it surfactant? *Arch Pediatr Adolesc Med*. 1997;151:129-134

4 American Academy of Pediatrics Task Force on Infant Positioning and SIDS. *Positioning and SIDS*. *Pediatrics*. 1992;87:1120-6.

## NEONATAL AND POSTNEONATAL MORTALITY

**Neonatal.** According to preliminary data, in 2009, 17,298 infants died before reaching 28 days of age, representing a neonatal mortality rate of 4.19 deaths per 1,000 live births. Although this represents a 1.9 percent decrease from 4.27 per 1,000 live births in 2008, this change was not statistically significant.

Neonatal mortality is generally related to short gestation and low birth weight, congenital malformations, and conditions originating in the perinatal period, such as maternal complications related to pregnancy or complications experienced by the newborn resulting from birth.<sup>1</sup>

Neonatal mortality rates vary by race and ethnicity. Based on preliminary data for 2009, the neonatal mortality rate among infants born to Black women (including Hispanics) was 8.20 per 1,000 live births, more than twice the rate among infants born to non-Hispanic White and Hispanic women (3.43 and 3.62 per 1,000, respectively).

**Postneonatal.** In 2009, 9,233 infants died between the ages of 28 days and 1 year, representing a postneonatal mortality rate of 2.24 deaths per 1,000 live births. This represents a 3.4 percent decrease since 2008, when the postneonatal mortality rate was 2.32 deaths per 1,000 live births.

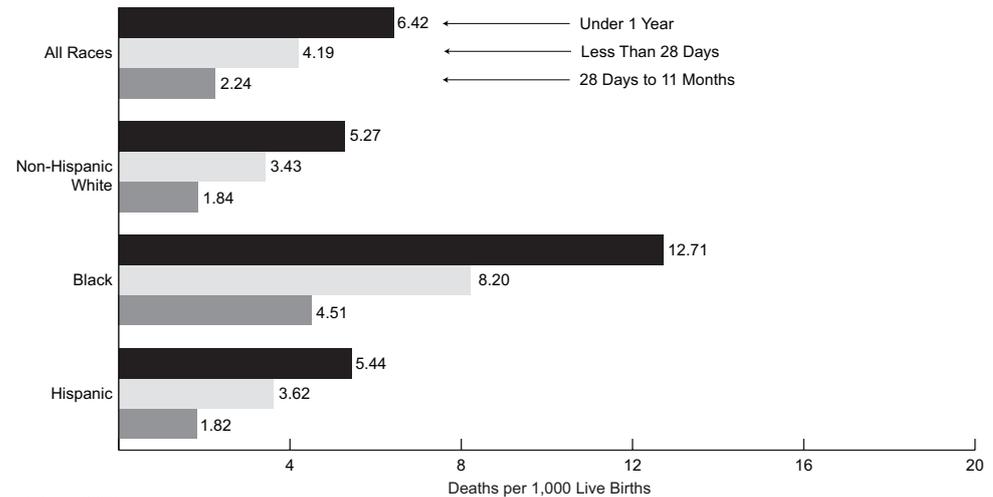
Postneonatal mortality is generally related to Sudden Infant Death Syndrome (SIDS), congenital malformations, and unintentional injuries.<sup>1</sup> Postneonatal mortality varies by race and ethnicity. According to preliminary data in 2009, the highest rate of postneonatal mortality was reported among infants born to

Black (including Hispanic) women (4.51 deaths per 1,000 live births). Rates for infants born to non-Hispanic White and Hispanic women were 1.84 and 1.82 deaths per 1,000 live births, respectively.

*1 Centers for Disease Control and Prevention. Quick Stats: Leading Causes of Neonatal and Postneonatal Deaths — United States, 2002. MMWR. 2005; 54(38):966.*

### Neonatal and Post Neonatal Mortality Rates, by Maternal Race/Ethnicity, 2009\*

Source (II.3): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary.

## INTERNATIONAL INFANT MORTALITY

In 2007, the U.S. infant mortality rate (6.8 infant deaths per 1,000 live births) was higher than that of many other industrialized nations. Differences in infant mortality rates among industrialized nations may reflect variation in the definition, measurement, and reporting of fetal and infant deaths. However, recent analyses of the differences in gestational age-specific infant mortality indicate that this disparity is most likely related to the high rate of preterm birth in the U.S.<sup>1</sup> Infants born preterm (or less than 37 weeks gestation) have higher rates of death and disability than infants born at term (37 weeks gestation or more).<sup>2</sup> Although the United States compares favorably with European countries with respect to the survival of infants born preterm, the higher rate of preterm birth in the U.S. overall has a significant impact on the infant mortality rate.

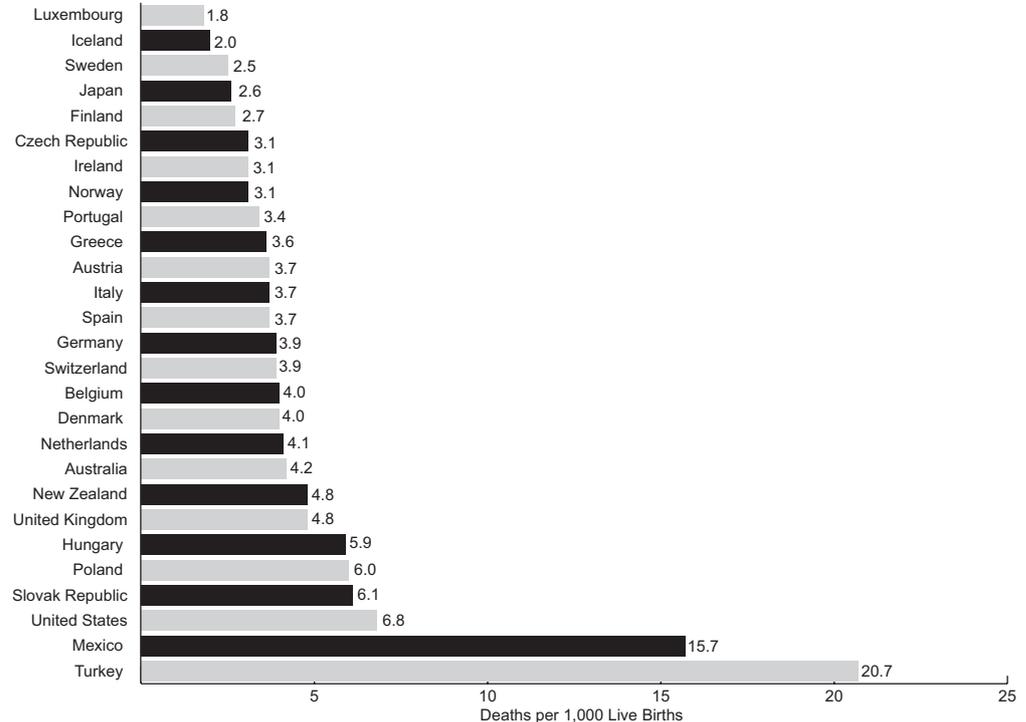
In 2007, the U.S. infant mortality rate was more than twice that of nine other industrialized countries (Luxembourg, Iceland, Sweden, Japan, Finland, Czech Republic, Ireland, Norway, and Portugal). Luxembourg had the lowest rate (1.8 per 1,000), followed by Iceland and Sweden (2.0 and 2.5 deaths per 1,000 live births, respectively).

1 MacDorman MF and Mathews TJ. *Behind international rankings of infant mortality: how the US compares with Europe.* Int J Health Serv. 2010;40(4):577-88.

2 MacDorman, MF, and Mathews, TJ. *Recent Trends in Infant Mortality in the United States.* NCHS Data Brief No. 9. National Center for health Statistics, Hyattsville, MD, 2008.

### International Infant Mortality Rates, Selected Countries,\* 2007

Source (II.4): The Organization for Economic Co-operation and Development (OECD)



\*2007 data were not available for all Organization for Economic Co-operation and Development (OECD) countries.

## MATERNAL MORTALITY

Maternal mortality, or death due to maternal causes, includes deaths due to causes related to or aggravated by pregnancy or pregnancy management, and excludes deaths occurring more than 42 days after the end of the pregnancy and deaths of pregnant women due to external causes (such as injury).<sup>1</sup> The rate of maternal mortality in the United States declined dramatically over the last century; however, this trend has reversed somewhat in the last several decades and racial and ethnic disparities persist.<sup>2</sup>

In 2007, the latest year for which data are available, the maternal mortality rate was 12.7 deaths per 100,000 live births, compared to a low of 6.6 per 100,000 in 1987. This represents

a total of 548 women who died due to maternal causes in 2007. Some of this increase observed over the past decades may be due to changes in the coding and classification of maternal deaths.

The maternal mortality rate among non-Hispanic Black women was approximately 2.7 times the rate for non-Hispanic White women (28.4 versus 10.5 per 100,000), while the maternal mortality rate among Hispanic women was 8.9 deaths per 100,000 live births.

Causes of maternal death are classified as direct, indirect, or unspecified. Some of the most common direct causes are complications related to the puerperium, or period immediately after delivery (2.2 per 100,000), eclampsia and pre-eclampsia (1.5 per 100,000), hemorrhage of preg-

nancy, childbirth, and placenta previa (0.9 per 100,000), and pregnancy with abortive outcome (0.7 per 100,000). Indirect causes occurred at a rate of 3.1 per 100,000, and comprised deaths from pre-existing conditions complicated by pregnancy. The rate of maternal deaths from unspecified causes was 0.5 per 100,000.

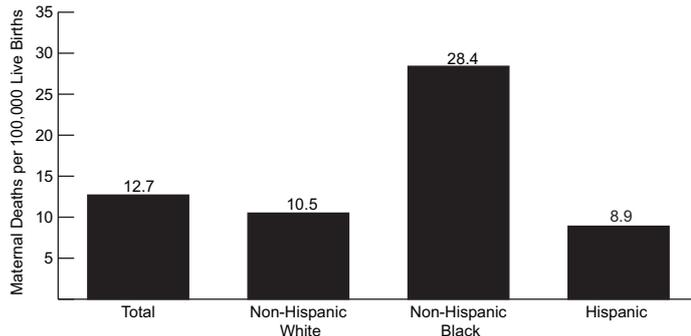
For more information on maternal morbidity, please see *Women's Health USA 2011* available at: <http://www.mchb.hrsa.gov/publications/index.html>.

1 Xu J, Kochanek K, Murphy S, Tejada-Vera B. *Deaths: Final data for 2007. National vital statistics reports; vol 58, no 19.* Hyattsville, MD: National Center for Health Statistics. May 2010.

2 Chang J, Elam-Evans LD, Berg CJ et al. *Pregnancy-Related Mortality Surveillance --- United States, 1991—1999.* MMWR. 2003; 52(SS02);1-8.4

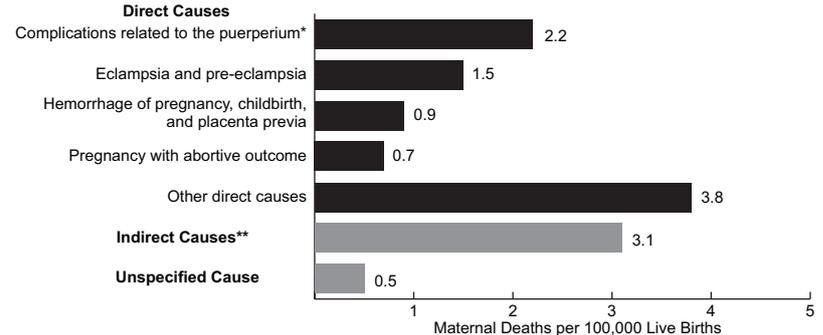
### Maternal Mortality Rates, by Race/Ethnicity, 2007

Source (II.5): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



### Leading Causes of Maternal Mortality, 2007

Source (II.5): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Deaths occurring in the period immediately after delivery. \*\*Deaths from pre-existing conditions complicated by pregnancy.



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## HEALTH STATUS - CHILDREN



## VACCINE-PREVENTABLE DISEASES

The number of reported cases of vaccine-preventable diseases among children has generally decreased over the past several decades. In 2008, there were no reported cases of diphtheria, polio, or smallpox in the United States, and no cases of tetanus among children under 5 years of age. There were 5 cases of rubella (German measles) among children aged 0-4 years.

From 2007 to 2008, the number of reported cases of hepatitis A, mumps, and meningococcal disease decreased among children under 5 years of age. The overall incidence of hepatitis A began dropping dramatically once routine vaccination for children living in high-risk areas was recommended beginning in 1996. Furthermore, in 2005, the Centers for Disease Control and Prevention (CDC) instituted the recommendation that all children be immunized for hepatitis A starting at 1 year of age. The latter recommendation was made because two-thirds of cases were occurring in States where the vaccine was not currently recommended. With regard to pertussis (or whooping cough), the number of cases among children aged 0-4 years increased from 2,746 in 2007 to 3,468 in 2008. According to the CDC, pertussis occurs cyclically and decreases

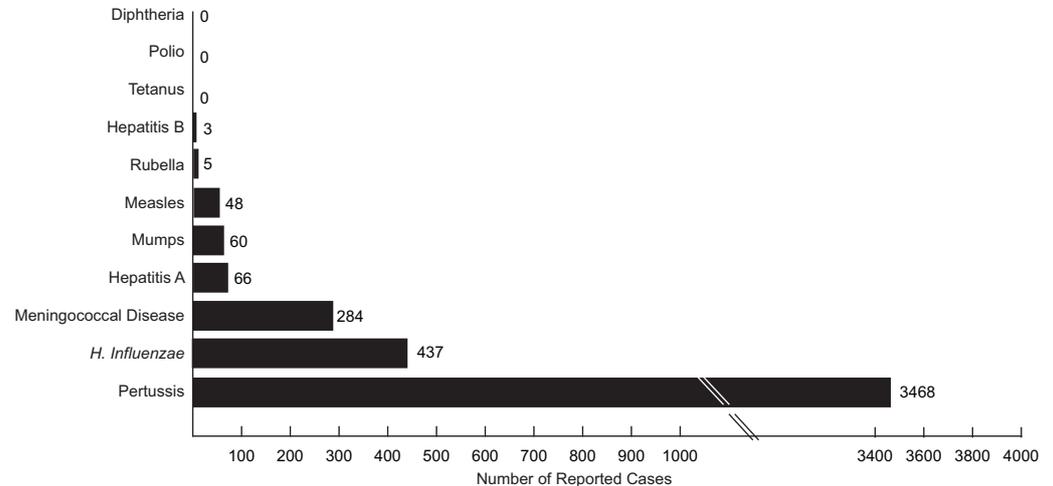
in the incidence of the disease may not be due to increases in immunization rates. The highest reported rate occurred among infants under 6 months of age, a population that is too young to be fully vaccinated. In 2006, the United States experienced a multi-state outbreak of mumps, primarily in Midwestern states. In the following two years, the number of reported cases returned to usual levels; however, beginning in July 2009, another outbreak was documented primarily in New York and New Jersey.<sup>1</sup> Reported cases of

hepatitis B and *H. influenzae* remained relatively unchanged from 2007 to 2008.

<sup>1</sup> Centers for Disease Control and Prevention. *Mumps Outbreaks*. Available at: <http://www.cdc.gov/mumps/outbreaks.html#b>. Accessed March 2011.

### Reported Cases of Selected Vaccine-Preventable Diseases Among Children Aged 0-4 Years, 2008

Source (II.6): Centers for Disease Control and Prevention, National Notifiable Diseases Surveillance System



## PEDIATRIC HIV AND AIDS

Human immunodeficiency virus (HIV) is a disease that destroys cells that are critical to a healthy immune system. Acquired immunodeficiency syndrome (AIDS) is diagnosed when HIV has weakened the immune system enough that the body has difficulty fighting disease and infections. In 2009, an estimated 166 children younger than 13 years of age were diagnosed with HIV, and 13 were reported to have AIDS. Racial and ethnic minorities are disproportionately affected by HIV. In 2009, non-Hispanic Black children accounted for over three-quarters of diagnosed cases, but represented only

15 percent of the total U.S. population in this age group.

The number of pediatric AIDS cases has declined substantially since 1992, when an estimated 911 cases were reported. A major factor in this decline is the increasing use of antiretroviral therapy before, during, and after pregnancy to reduce perinatal transmission of HIV and the promotion of universal prenatal HIV testing. Perinatal transmission accounts for 91 percent of all AIDS cases among children in the United States. Antiretroviral therapy during pregnancy can reduce the transmission rate to

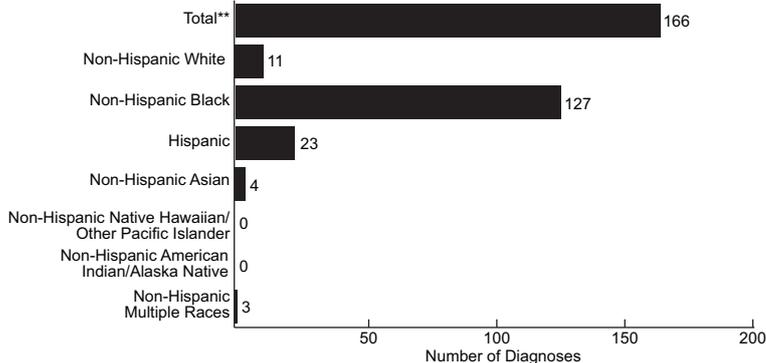
2 percent or less, while without treatment the transmission rate is 25 percent.<sup>1</sup>

At the end of 2008, 660,062 adults and adolescents and 3,022 children under age 13 years were living with HIV while 479,161 adults and adolescents, and 707 children under age 13 years were living with AIDS. Of the 1,108,611 AIDS cases cumulatively diagnosed through 2009, 9,448 were among children under age 13 years (data not shown).

<sup>1</sup> Centers for Disease Control and Prevention. *One Test Two Lives*. Available at: <http://www.cdc.gov/hiv/topics/perinatal/1test2lives/default.htm>. Accessed April 2011.

### Estimated Numbers of Diagnoses of HIV Infection\* Reported in Children Under Age 13, by Race/Ethnicity, 2009

Source (II.7): Centers for Disease Control and Prevention, HIV/AIDS Surveillance System

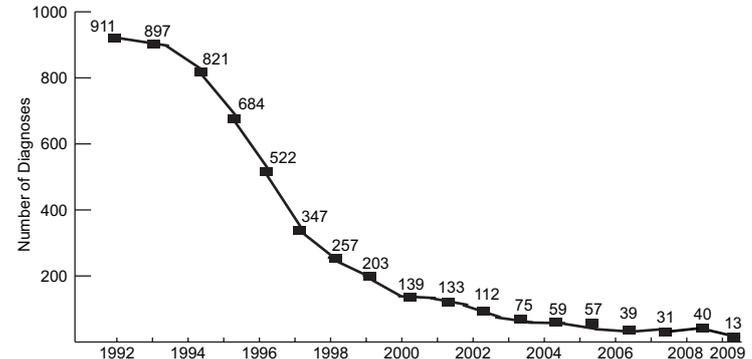


\*Includes persons with a diagnosis of HIV infection regardless of stage of disease at the time of diagnosis.

\*\*The total was estimated independently of values for each subpopulation; therefore, the sum of all races/ethnicities does not equal the overall total.

### Estimated Numbers of AIDS Diagnoses in Children Under Age 13, by Year of Diagnosis, 1992–2009

Source (II.7): Centers for Disease Control and Prevention, HIV/AIDS Surveillance System



## HOSPITALIZATION

In 2009, there were over 3.1 million hospital discharges among people aged 1–21 years, equaling 3.6 hospital discharges per 100 children, adolescents and young adults. While injuries are the leading cause of death among this age group, they were not the most common cause of hospitalization. In 2009, diseases of the respiratory system, including asthma and pneumonia, were the most common causes of hospitalization among children aged 1–4 and 5–9 years. Among children aged 1–4 years, diseases of the respiratory system accounted for nearly 40 percent of discharges; the same was true for about one-quarter of 5–9 year-olds. Mental disorders were the most common cause of hospitalization among children aged 10–14 years (22.5 percent of discharges) and the second most common cause among adolescents aged 15–19 years (15.7 percent of discharges) and young adults aged 20–21 years (8.4 percent). Among adolescents aged 15–19 years and young adults aged 20–21 years, labor and delivery (among females) was the most common cause of hospitalization resulting 49.6 and 62.3 percent of discharges, respectively.

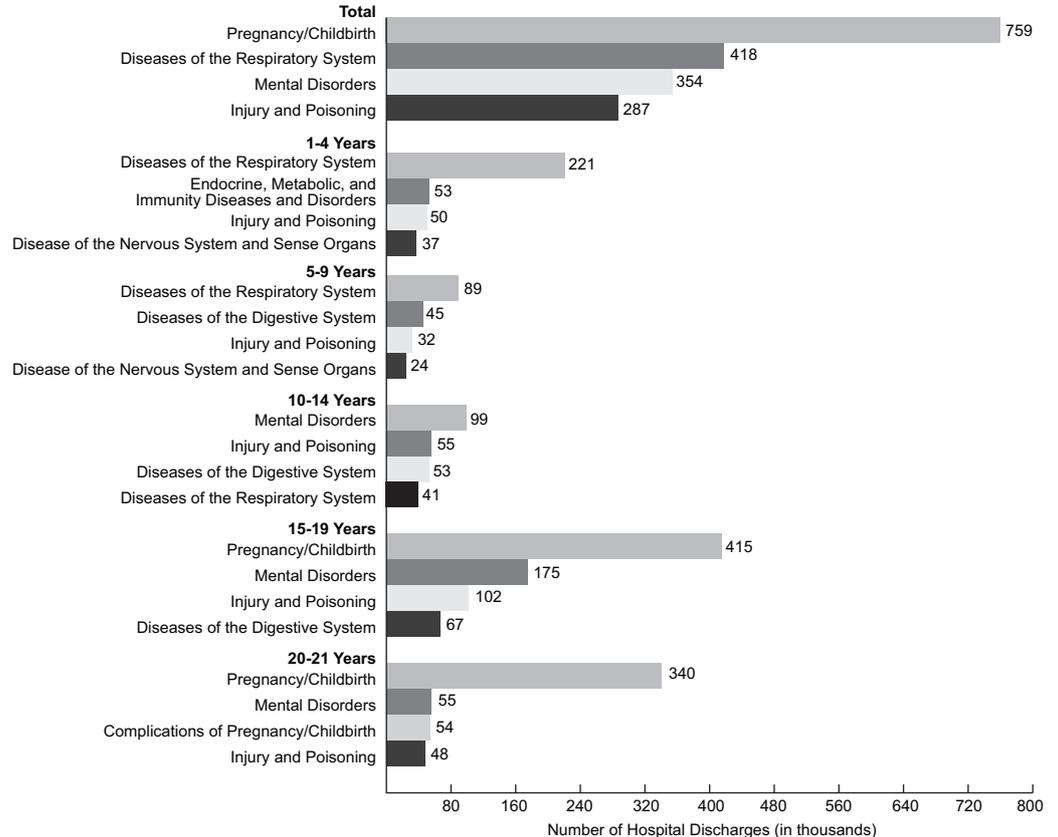
Between 1990 and 2009, overall hospital discharge rates for children aged 1–14 years did not change significantly. However, there was a change in the rates for some of the most common individual categories of discharges: the rate of discharges for diseases of the respiratory

system increased by 19.6 percent between 1990 and 2009, while discharges related to injury and

poisoning decreased by 31.5 percent during the same period.

### Major Causes of Hospitalization, by Age Group, 2009

Source (II.8): Centers for Disease Control and Prevention, National Hospital Discharge Survey



## CHRONIC HEALTH CONDITIONS

In 2007, the parents of 22.3 percent of children reported that their child had one or more of 16 chronic physical or mental health conditions. The five most commonly reported conditions were asthma, learning disabilities, attention deficit or attention deficit hyperactivity disorder (ADD/ADHD), speech problems, and oppositional defiant or conduct disorder. The least commonly reported conditions addressed in the survey were brain injury or concussion and Tourette syndrome.

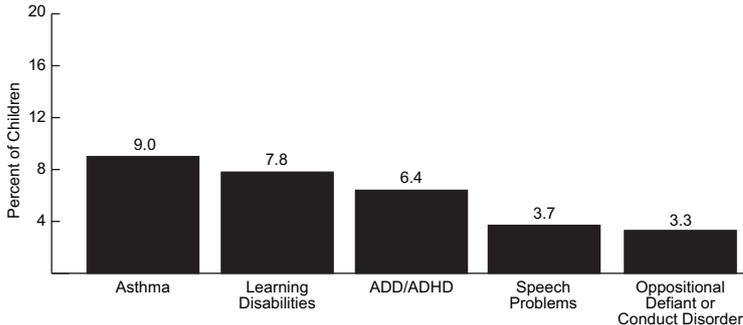
The proportion of children with one or more conditions varied by race/ethnicity. Nearly 30

percent of non-Hispanic Black children had one or more chronic conditions while the same was true for 18.3 percent of Hispanic children and 22.5 percent of non-Hispanic White children. The proportion of children with chronic conditions was also greater among those living in households with incomes less than 100 percent or between 100-199 percent of the Federal poverty level (\$20,650 for a family of four in 2007), with 27.0 and 24.2 percent of poor and near-poor children, respectively, having at least one reported condition compared to 18.9 percent of children living in families with incomes of 400 percent or more of the Federal poverty level (data not shown).

Among children with at least one of these 16 health conditions, 47.8 percent were reported to have one or more moderate or severe conditions. Of the 9.0 percent of children with asthma, the majority (71.3 percent) had parents who reported the condition to be mild, while 23.1 percent had a condition reported to be moderate and 5.6 percent had a condition reported to be severe. Parent-reported severity of asthma varied by race/ethnicity: 10.3 percent of non-Hispanic Black children were severely affected by their asthma, followed by 6.5 percent of Hispanic children and 3.1 percent of non-Hispanic White children.

### Five Most Common Chronic Conditions\* Among Children Aged 0-17 Years, 2007

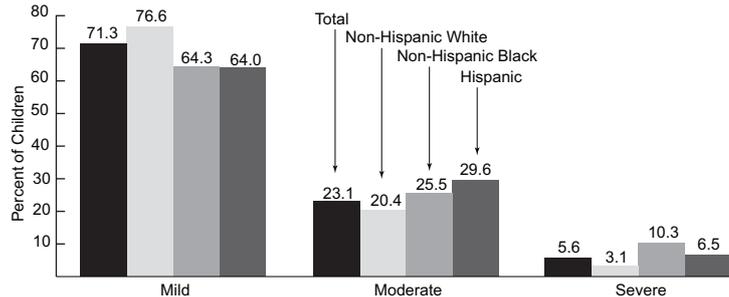
Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*Based on parent-report that a doctor or other health care provider ever told them that their child had a particular condition.

### Children Aged 0-17 Years with Asthma, by Condition Severity\* and Race/Ethnicity, 2007

Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*Based on parent-report.

## ABUSE AND NEGLECT

State child protective services (CPS) agencies received approximately 3.3 million referrals, involving an estimated 6.0 million children, alleging abuse or neglect in 2009. More than 58.3 percent of these reports were made by professionals, including teachers, police officers, lawyers, and social services staff. Nonprofessionals, including parents, neighbors, friends, other relatives, and anonymous reporters made 28.1 percent of the reports; other and unknown sources submitted the remainder of reports (13.6 percent; data not shown).

CPS investigations determined that an estimated 702,000 individual children were victims of abuse or neglect in 2009, equaling a victimiza-

tion rate of 9.3 per 1,000 children in the population (data not shown). Neglect was the most common type of maltreatment (experienced by 78.3 percent of victims), followed by physical abuse (17.8 percent), sexual abuse (9.5 percent), psychological maltreatment (7.6 percent), and medical neglect (2.4 percent). About 10 percent of victims experienced other types of maltreatment including abandonment, threats of harm, or congenital drug addiction. A child may have suffered from multiple forms of maltreatment and was counted once for each maltreatment type.

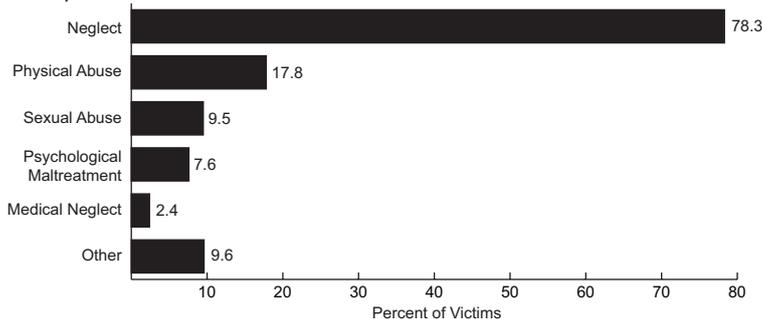
In 2009, children aged 0-3 years accounted for 33.4 percent of all victims. Approximately one-quarter of victims were between the ages of 4 and

7 years, 18.8 percent were aged 8-11 years, 17.8 percent were aged 12-15 years, and 6.3 percent were aged 16-17 years. Victimization was split between the sexes with males accounting for 48.2 percent and females accounting for 51.1 percent (the remainder were unknown; data not shown).

Overall, 80.9 percent of perpetrators of abuse or neglect were parents of the victim (either alone or in conjunction with another person). Additional categories of perpetrators included other relatives (6.3 percent), unmarried partners of parents (4.3 percent), and professionals such as childcare workers and residential facility staff (0.8 percent). Other types of perpetrators included foster parents, friends and neighbors, and legal guardians (data not shown).

### Abuse and Neglect Among Children Under Age 18, by Type of Maltreatment,\* 2009

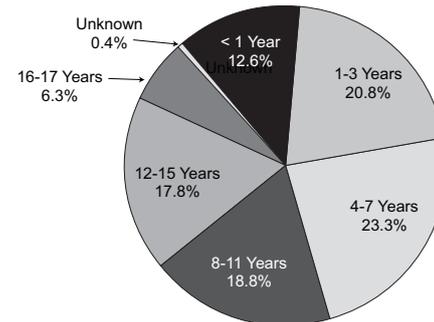
Source (II.9): Administration for Children and Families, National Child Abuse and Neglect Data System



\*A child may have suffered from multiple forms of maltreatment and was counted once for each maltreatment type.

### Child Abuse and Neglect Victims, by Age, 2009

Source (II.9): Administration for Children and Families, National Child Abuse and Neglect Data System



## CHILD MORTALITY

According to preliminary data in 2009, 10,076 children aged 1-14 years died of various causes, which was a decrease of 335 cases since the previous year. The overall mortality rate among children aged 1-4 years was 26.1 per 100,000 children in that age group, and the rate among children aged 5-14 years was 13.9 per 100,000.

Unintentional injury continued to be the leading cause of death among children in both age groups, accounting for 32.5 percent of all deaths among 1- to 4-year-olds and 29.6 percent of deaths among 5- to 14-year-olds. Among children aged 1-4 years, congenital anomalies (or birth defects) were the second most common cause of death (10.9 percent of deaths), while among children aged 5-14 years, cancer was the second leading cause of death (15.9 percent of deaths).

Between 1970 and 2008, the leading causes of child mortality shifted. The percentage of deaths due to homicide increased from 2 to 9 percent among 1- to 4-year-olds and from 2 to 6 percent among 5- to 14-year-olds. Conversely, the proportion of deaths due to pneumonia and influenza declined from 9 to 3 percent among 1- to 4-year-olds and from 4 to 2 percent among 5- to 14-year-olds during the same time period (data not shown).<sup>1</sup>

In 2009, mortality rates were higher among males than females in both age groups. Among

children aged 1-4 years, the mortality rate for males was 28.8 per 100,000 compared to 23.4 per 100,000 among females of the same age; rates among 5- to 14-year-old children were 15.6 per 100,000 and 12.1 per 100,000 for males and females, respectively (data not shown). There are also racial/ethnic disparities in child mortality, with non-Hispanic Black children experiencing higher mortality rates than children of other racial/ethnic groups. Among children aged 1-4 years, the rate was 41.2 per 100,000 for non-Hispanic Blacks, compared to rates of 23.2 and 23.9 per 100,000 for Hispanics and non-His-

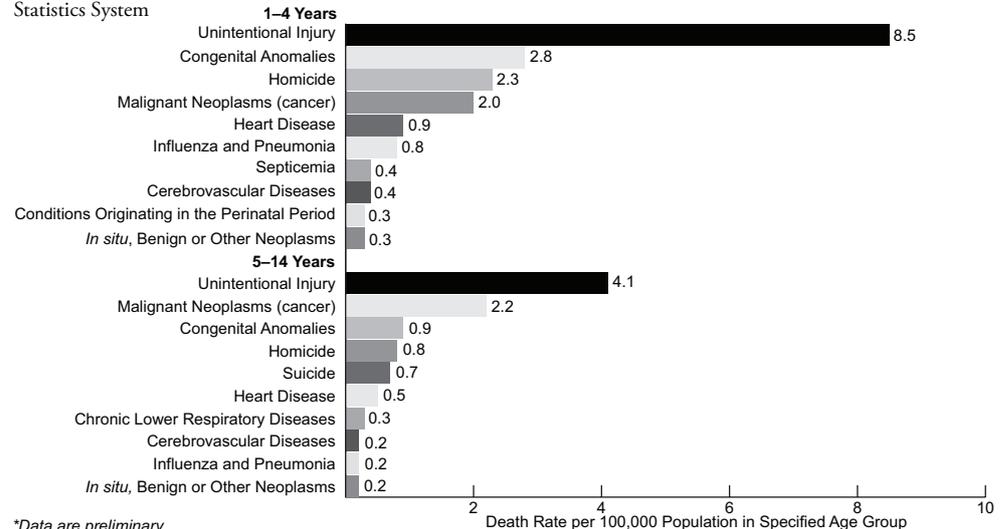
panic Whites, respectively. Among children aged 5-14 years, rates were 21.0 per 100,000 for non-Hispanic Blacks, 13.1 per 100,000 for Hispanics, 12.2 for non-Hispanic Whites, 10.9 for Asian or Pacific Islanders,<sup>2</sup> and 20.2 for American Indian/Alaskan Native children (data not shown).

*1 Singh GK. Child Mortality in the United States, 1935-2007: Large Racial and Socioeconomic Disparities Have Persisted Over Time. A 75th Anniversary Publication. Health Resources and Services Administration, Maternal and Child Health Bureau. Rockville, MD: US Department of Health and Human Services; 2010.*

*2 Separate estimates for Asians and Native Hawaiian or Other Pacific Islanders not available.*

### Leading Causes of Death Among Children Aged 1-14 Years, 2009\*

Source (II.3): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data are preliminary.

**HEALTH STATUS - ADOLESCENTS**

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## SEXUAL ACTIVITY AND EDUCATION

In 2009, 46.0 percent of high school students reported having had sexual intercourse at least once, while the remaining 54.0 percent were abstinent. Sexual activity increased with grade level: 31.6 percent of 9th grade students reported having had sexual intercourse, compared to 40.9 percent of 10th graders, 53.0 percent 11th graders, and 62.3 percent of 12th graders. No significant difference was observed between males and females with respect to the proportion who reported sexual activity within each grade level. However, males are significantly more likely to report having had sexual

intercourse for the first time before age 13 than females (data not shown).

Contraceptive use also varies significantly by sex. Overall, 68.6 percent of males and 53.9 percent of females reported condom use at last intercourse. Use of a hormonal contraceptive (by self or partner) was less common than condom use and was reported by 18.3 percent of males and 27.4 percent of females. Overall, fewer than 9 percent of adolescents used both a condom and a form of hormonal contraception during last sexual intercourse.

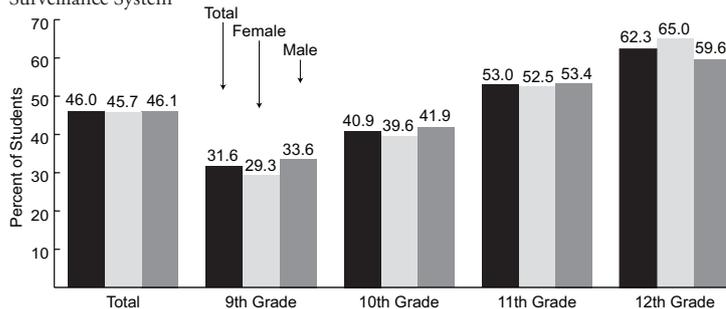
According to data from the National Survey of Family Growth, 96 percent of females and 97 percent of males received some form of for-

mal sex education before the age of 18 (data not shown).<sup>1</sup> This includes information on topics such as how to say no to sex, methods of birth control, sexually transmitted diseases, and/or how to prevent HIV/AIDS. By individual topic, formal sex education on sexually transmitted diseases was the most prevalent (92% of males and 93% of females), while methods of birth control was the least common (62% of males and 70% of females).

*1 Martinez G, Abma J, Copen C. Educating teenagers about sex in the United States. NCHS data brief, no 44. Hyattsville, MD: National Center for Health Statistics. 2010.*

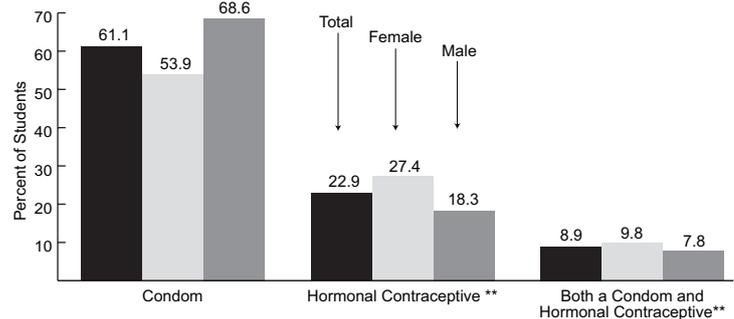
### High School Students Who Have Ever Had Sexual Intercourse, by Grade Level and Sex, 2009

Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



### Contraceptive Method Used\* Among Currently Sexually Active, High School Students, by Sex and Type of Method, 2009

Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



\*Used during last sexual intercourse by student or their partner. \*\*Hormonal contraceptives refers to either birth control pills or Depo-Provera.

## ADOLESCENT CHILDBEARING

According to preliminary data, the birth rate among adolescent females aged 15–19 years decreased to 39.1 per 1,000 females in 2009. This continues the general decline in teen birth rates since the most recent peak in 1991, when the rate was 61.8 per 1,000 females, and represents a decline of nearly 37 percent over that period. The birth rate among adolescents aged 10–14 years was 0.5 births per 1,000 females, the lowest rate ever reported. Teenage birth rates were highest among adolescents aged 18–19 years (66.2 per 1,000), and this age group

experienced the smallest decline since 1991 (30 percent; data not shown).

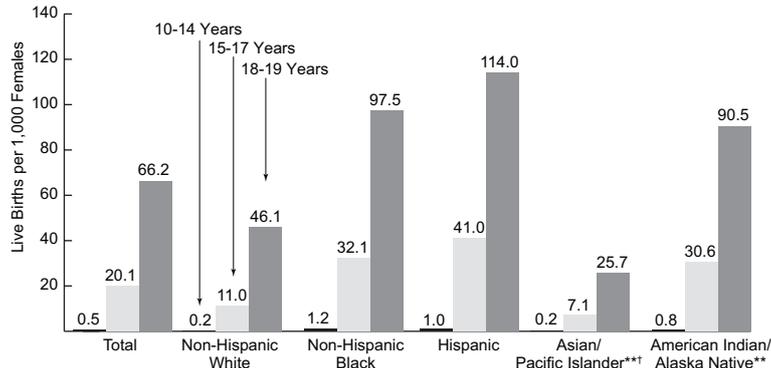
Among adolescents aged 10–14 years, non-Hispanic Black and Hispanic females had the highest birth rates in 2009 (1.2 and 1.0 per 1,000 population, respectively). Non-Hispanic White and Asian/Pacific Islander females had the lowest birth rates among those aged 10–14 years (both 0.2 per 1,000). The birth rate among American Indian/Alaskan Native adolescents aged 10–14 years was 0.8 per 1,000.

Among adolescents aged 15–19 years, Asian/Pacific Islander females had the lowest birth

rate in 2009 (14.6 per 1,000), followed by non-Hispanic White females (25.6 per 1,000). Hispanic females had the highest birth rate in this age group (70.1 per 1,000). However, this estimate represents a 10 percent decline since 2008 and the lowest rate ever reported for this group in the two decades for which rates for Hispanic teenagers are available. Non-Hispanic Black females had the second highest birth rate among those aged 15–19 years (59.0 per 1,000), followed by American Indian/Alaska Native teens (55.5 per 1,000).

### Birth Rates Among Adolescent Females Aged 10-19 Years, by Age and Race/Ethnicity, 2009\*

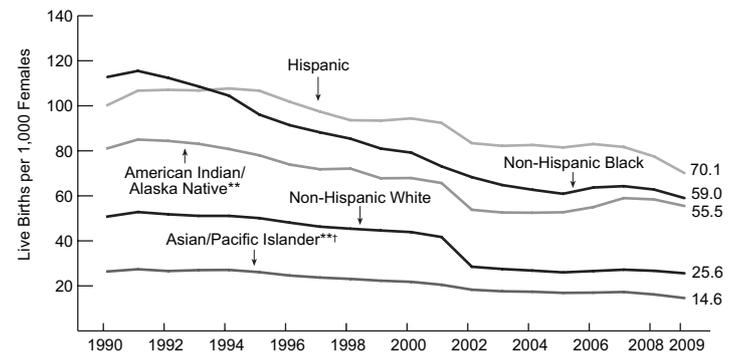
Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary. \*\*May include Hispanics. †Separate estimates for Asians and Native Hawaiians and Other Pacific Islanders were not available.

### Birth Rates Among Adolescent Females Aged 15-19, by Race/Ethnicity, 1990-2009 \*

Source (II.1): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Data for 2009 are preliminary. \*\*May include Hispanics. †Separate estimates for Asians and Native Hawaiians and Other Pacific Islanders were not available.

## SEXUALLY TRANSMITTED INFECTIONS

In general, adolescents and young adults are at much higher risk than older adults of contracting sexually transmitted infections (STIs), such as chlamydia, gonorrhea, and genital human papillomavirus (HPV). Although young people aged 15–24 years represent only one-quarter of the sexually experienced population, they acquire nearly half of all new STIs.<sup>1</sup>

Chlamydia continues to be the most common reportable STI among adolescents and young adults. There were 2,000 chlamydial infections per 100,000 adolescents aged 15-19 years and 2,165 per 100,000 young adults aged 20-24 years in 2009. Gonorrhea was less common, with

rates of 405 and 479 per 100,000 in these age groups, respectively. Rates vary by race/ethnicity: among adolescents aged 15-19 years, the highest rates of chlamydia was reported among non-Hispanic Blacks (6,765 per 100,000), followed by American Indian/Alaska Natives (2,718 per 100,000). Rates of gonorrhea were also highest among these two groups.

Unlike chlamydia and gonorrhea, HPV is not required to be reported to the CDC. However, a recent study indicated that approximately one-quarter of females aged 14–19 years and nearly 45 percent of those aged 20–24 years are infected with HPV.<sup>2</sup> A vaccine for certain types of HPV was approved in 2006 for use in females aged 9–26 years.<sup>3</sup> In 2009, 44.3 percent of females

aged 13–17 years had received at least one dose of the three-dose series.<sup>4</sup>

1 Weinstock H, Berman S, Cates W Jr. Sexually transmitted diseases among American youth: incidence and prevalence estimates, 2000. *Perspect Sex Reprod Health.* 2004;36(1):6-10.

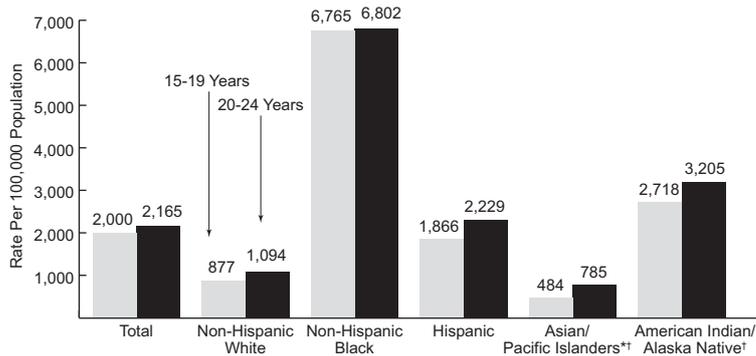
2 Dunne EF, Unger ER, Sternberg M, McQuillan G, Swan DC, Patel SS, Markowitz LE. Prevalence of HPV infection among females in the United States. *JAMA.* 2007 Feb;297(8):876-8.

3 Centers for Disease Control and Prevention, Division of STD Prevention. HPV and HPV vaccines: information for healthcare providers. June 2006. Available at: <http://www.cdc.gov/std/hpv/STDFact-HPV-vaccine-hcp.htm>. Accessed August 2011.

4 Centers for Disease Control and Prevention. National, state, and local area vaccination coverage among adolescents aged 13–17 years—United States, 2009. *MMWR* 2010;59: 1018-23.

### Reported Chlamydia Infections Among Adolescents and Young Adults, by Age and Race/Ethnicity, 2009

Source (II.11): Centers for Disease Control and Prevention, STD Surveillance System

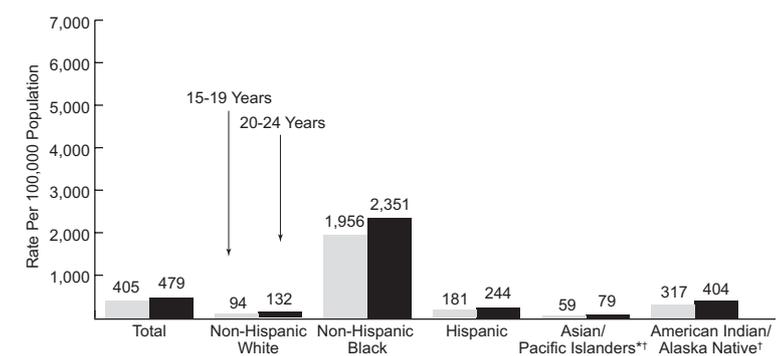


\*Separate estimates for Asians and Native Hawaiian and Other Pacific Islanders not available.

<sup>†</sup>May include Hispanics.

### Reported Gonorrhea Infections Among Adolescents and Young Adults, by Age and Race/Ethnicity, 2009

Source (II.11): Centers for Disease Control and Prevention, STD Surveillance System



\*Separate estimates for Asians and Native Hawaiian and Other Pacific Islanders not available.

<sup>†</sup>May include Hispanics.

## ADOLESCENT AND YOUNG ADULT HIV AND AIDS

Human immunodeficiency virus (HIV) is a disease that destroys cells that are critical to a healthy immune system. Acquired immunodeficiency syndrome (AIDS) is diagnosed when HIV has weakened the immune system enough that the body has difficulty fighting disease and infections. In 2009, an estimated 8,294 people aged 13–24 years were diagnosed with HIV, representing 19.7 percent of all cases. Between 2006 and 2009, the rate of diagnosed HIV infection decreased for younger adolescents (aged 13–14 years) while increasing for those aged 15–24 years. In 2009, the rates of diagnosed HIV infection among adolescents aged 13–14 years and 15–19 years were 0.3 and 12.0 per 100,000 population, respectively. Among young adults aged 20–24 years the rate was 36.9 per 100,000 – the highest rate of any age group (data not shown).

By 2009, an estimated 51,455 adolescents and young adults had been diagnosed with AIDS, representing 4.6 percent of AIDS diagnoses. In 2008, the death rates for adolescents and young adults with AIDS remained stable with an estimated 205 deaths reported for individuals with an AIDS diagnosis in this population. Since the beginning of the epidemic through 2008, an estimated 10,682 persons aged 13–24 years have died with the disease.

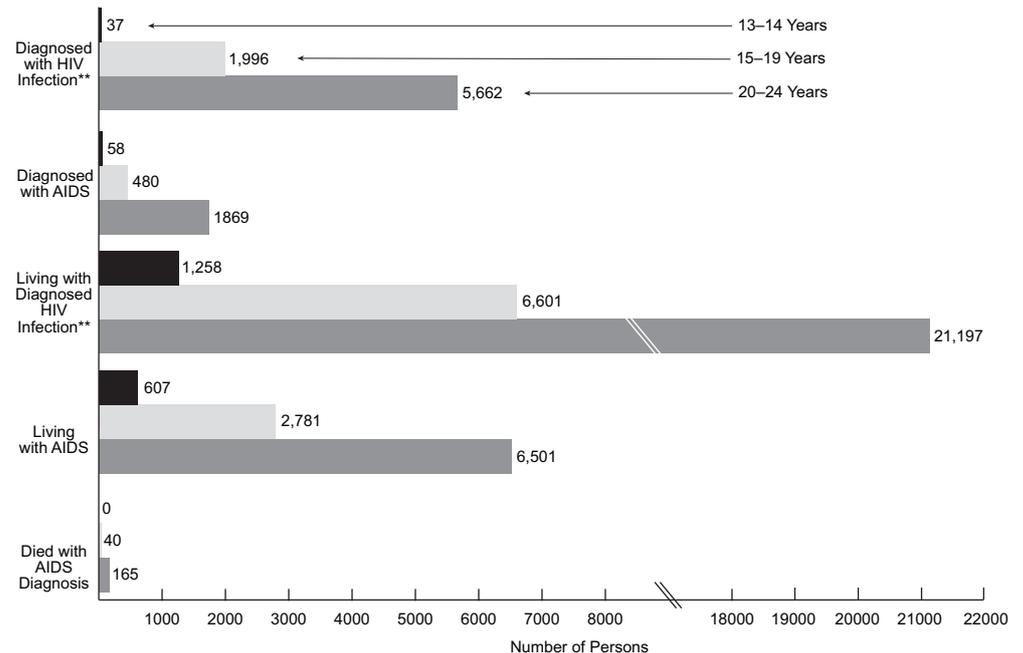
Death rates among adolescents and young adults with a diagnosis of HIV infection or AIDS remained stable between 2006–2008.<sup>1</sup> In 2008, an estimated 29,056 people aged 13–24 years were living with HIV, representing 4.4 percent of all cases. Overall, the number of adolescents and

young adults living with HIV increased nearly 17 percent between 2006 and 2008.

*1 Centers for Disease Control and Prevention. HIV Surveillance Report, 2009; vol. 21. February 2011. Available at: <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/>. Accessed April 2011.*

### Selected Data on HIV\* and AIDS Among Adolescents and Young Adults, by Age, 2008

Source (II.7): Centers for Disease Control and Prevention, HIV/AIDS Surveillance System



\*All HIV estimates reflect diagnoses. \*\*Data from 40 states with confidential name-based HIV infection reporting. Includes persons with a diagnosis of HIV infection regardless of stage of disease at the time of diagnosis.

## PHYSICAL ACTIVITY

Data from the 2009 Youth Risk Behavior Surveillance System showed that 18.4 percent of high school students were physically active for at least 60 minutes on each of the 7 previous days. This is consistent with the U.S. Department of Health and Human Services' recommendation that children and adolescents get one hour or more of physical activity every day, most of which should be moderate- to vigorous-intensity aerobic activity.

Overall, 23.1 percent of students did not participate in 60 or more minutes of physical activity on any day in the preceding week. The rate was higher for females than males (29.9 versus 17.0 percent) and for non-Hispanic Black and Asian children (32.1 and 31.1 percent, respectively) than non-Hispanic Whites (20.3 percent; data not shown).

Participation in recommended levels of physical activity varied by sex and grade level. Among high school students in all grades, a smaller proportion of females reported 60 minutes of physical activity on each of the previous seven days than males. Among 9th graders, 13.6 percent of females met recommended levels of physical activity compared to 28.0 percent of their male counterparts. By 12th grade, only 8.6 percent of females met the recommended levels compared to 21.9 percent of males in the same grade.

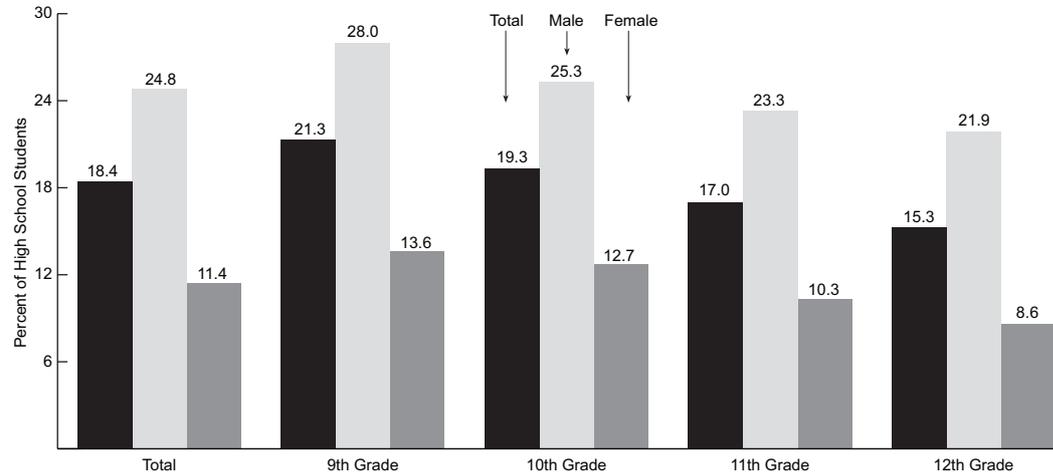
Nationwide, 56.4 percent of high school students attended physical education (PE) classes at least one day per week in 2009. The rate drops dramatically with increasing grade: 72.4 percent of 9th grade students attended PE class, compared to 43.8 percent of 12th grade students. Overall, only 33.3 percent of students attended daily PE classes in 2009 (data not shown).

In 2009, 58.3 percent of high school students reported playing on at least one sports team in the past year. This was more common among younger children than older children (61.6 percent of 9th graders compared to 51.1 per-

cent of 12th graders). Sex differences were also observed in sports participation. Overall, just over half of high-school females reported playing on at least one sports team in the past year, compared to 63.8 percent of high school males. These differences increased with age: while 56.6 percent of 9th grade females reported sports participation in 2009, only 44.1 percent of 12th grade females did so. Among males, the rates of past-year sports team participation declined from 65.9 percent among 9th graders to 57.9 percent among 12th graders (data not shown).

### Physical Activity\* Among High School Students, by Grade Level and Sex, 2009

Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



\*Met recommended levels of physical activity, which is one hour or more of physical activity every day, most of which should be moderate- to vigorous-intensity aerobic activity.



## SEDENTARY BEHAVIORS

The American Academy of Pediatrics recommends that parents limit children's media time to 1-2 hours per day.<sup>1</sup> This includes time spent watching TV or videos as well as time spent playing video games. In 2007, 7.9 percent of children aged 1-5 years did not watch any TV or videos on an average weekday while 37.7 percent watched 1 hour or less, and 54.4 percent watched more than 1 hour. Among school-aged children (6-17 years), 5.8 percent of children did not spend any time on an average weekday watching TV or videos or playing video games while 44.1 percent spent 1 hour or less, and 50.1 percent spent more than 1 hour.

Among preschool aged children, the amount of weekday media use varied by poverty. Children living in households with incomes of less than 100 percent of the Federal poverty level (\$20,650 for a family of four in 2007) were most likely to engage in 4 or more hours of media use per day (19.1 percent) while only 6.6 percent of children living in households with incomes 400 percent or greater of the poverty level reported 4 or more hours of media use per weekday. A similar pattern was observed for school-aged children (data not shown).

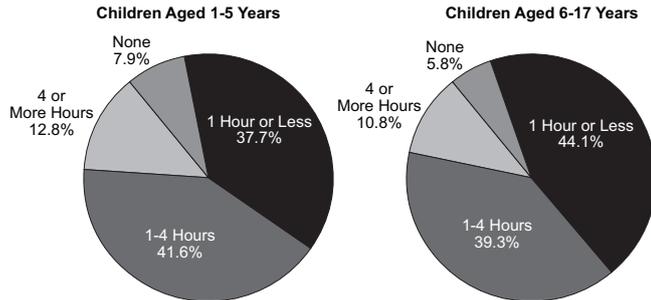
Media use among school-aged children varied by age and sex. While the proportions of

males and females engaged in each level of media use were similar among children aged 6-11 years, females aged 12-17 were more likely to report lower levels of weekday media use than their male counterparts. Nearly 8 percent of 12-17 year old girls did not engage in any weekday media use compared to 4.7 percent of boys of the same age, and males in this age group were more likely than their female counterparts to engage in 4 or more hours of media use (14.7 percent and 10.1 percent, respectively).

*1 Committee on Public Education. Children, Adolescents, and Television. Pediatrics. February 1, 2001;107(2):423-426.*

### Media Use\* Among Children 1-5 and 6-17 Years of Age, 2007

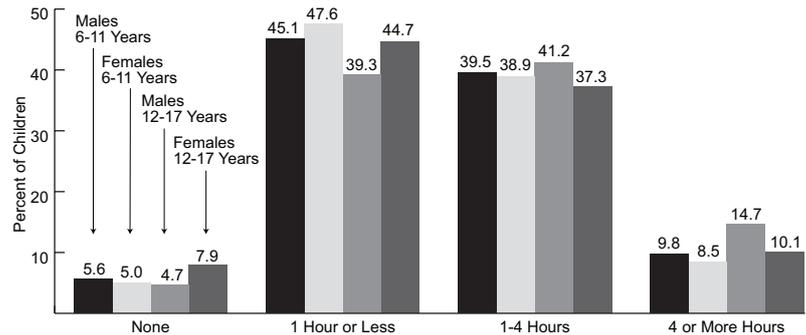
Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*For children 1-5 years of age, this is the number of hours spent watching TV or videos on an average weekday; for children 6-17 years, this is the number of hours spent watching TV or videos or playing video games on an average weekday.

### Media Use\* Among Children Aged 6-17, by Age and Sex, 2007

Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*This is the number of hours spent watching TV or videos or playing video games on an average weekday.

## OVERWEIGHT AND OBESITY

Body mass index (BMI) is the ratio of weight to height, which is used to define weight status. In children, BMI is used in conjunction with age and sex, since both of these factors affect body composition. Children who fall between the 85th and 94th percentile of BMI-for-age are considered overweight, while children who are in the 95th percentile or above are considered obese; those who fall below the 5th percentile are considered underweight. Those between the 5th and 84th percentile are considered to be normal weight. In 2007, 15.3 percent of children aged 10-17 years were overweight and 16.4 percent were obese based on parent-reported height and weight. Obesity is a serious health concern for

children—obese children are more likely to have risk factors for cardiovascular disease, such as high blood pressure, high cholesterol, and Type 2 diabetes. Obese children are also at increased risk of obesity in adulthood, which is associated with a host of serious health consequences.<sup>1</sup>

Weight status among children varies by a number of factors including household poverty.<sup>2</sup> In 2007, 27.4 percent of children living with household incomes below 100 percent of the Federal poverty level (\$20,650 for a family of four in 2007) were obese, compared to only 10.0 percent of children living in households with incomes of 400 percent or more of the Federal poverty level.

The prevalence of obesity among children

increased sharply between 1976 and 2008. The obesity prevalence for male children nearly quadrupled from 5.5 percent in 1976-1980 to 21.0 percent in 2007-2008. For female children, the obesity prevalence tripled from 5.8 percent in 1976-1980 to 17.3 percent in 2007-2008.<sup>3</sup>

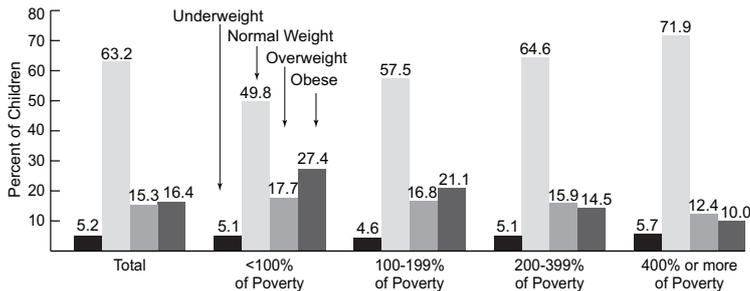
1 Centers for Disease Control and Prevention. *Childhood overweight and obesity*. Available at: <http://www.cdc.gov/obesity/childhood/index.html>. Accessed February 2011.

2 Gopal SK and Kogan MD. *Childhood Obesity in the United States, 1976-2008. A 75th Anniversary Publication*. Health Resources and Services Administration, Maternal and Child Health Bureau. Rockville, MD: US Department of Health and Human Services; 2010.

3 Federal Interagency Forum on Child and Family Statistics. *America's Children in Brief: Key National Indicators of Well-Being, 2010*. Available at: <http://childstats.gov/americaschildren/index.asp>. Accessed June 2011.

### Weight Status\* Among Children Aged 10-17 Years, by Poverty,\*\* 2007

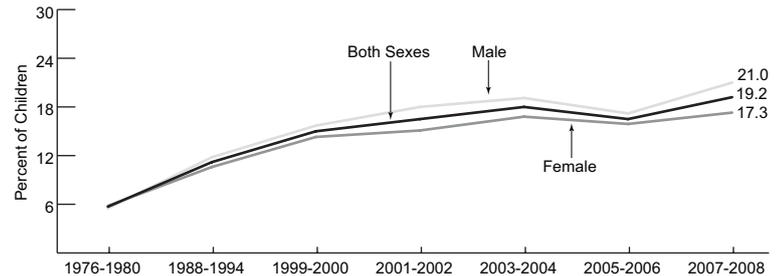
Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



\*Underweight is a BMI-for-age under the 5th percentile, normal weight is a BMI-for-weight between the 5th and 84th percentile, overweight is a BMI-for-age between the 85th and 94th percentile, and obesity is a BMI-for-age in the 95th percentile or above; based on parent-reported height and weight. \*\*The U.S. Department of Health and Human Services poverty level for a family of four was \$20,650 in 2007.

### Obesity\* Among US Children Aged 6-17, by Sex, 1976-2008

Source (II.12): Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey



\*Obesity is a BMI-for-age in the 95th percentile or above; based on parent-reported height and weight.

## MENTAL HEALTH

In 2009, 8.1 percent or 2.0 million adolescents aged 12–17 years experienced at least one major depressive episode (MDE), which is defined as having at least 2 weeks of depressed mood or loss of interest or pleasure in daily activities, plus a majority of specific depression symptoms, such as altered sleeping patterns, fatigue, and feelings of worthlessness.<sup>1</sup> Females were more likely than males to experience MDE (11.7 percent versus 4.7 percent). Occurrence of MDE increased with age, from 3.6 percent among children age 12 years to 10.9 percent among children age 17 (data not shown).

Among adolescents experiencing MDE in

2009, over one-half (1.4 million) also experienced severe impairment defined by the degree to which activities and roles, such as completing chores at home, going to school or work, or maintaining close family relationships are affected. MDE with severe impairment was more common among older adolescents and females (data not shown).

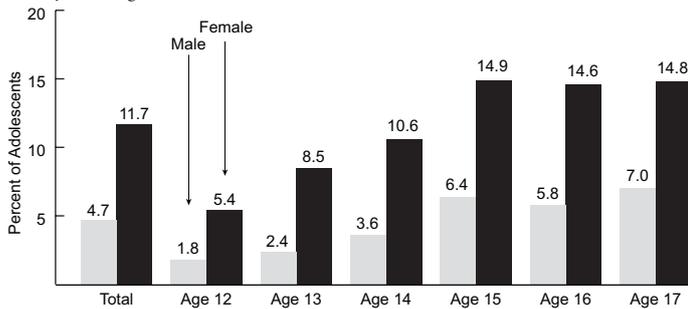
In 2009, adolescents aged 12 to 17 with past-year MDE were more likely than those without MDE to have used illicit drugs in the past year (35.7 compared to 18.0 percent). Adolescents with past-year MDE were also more likely to report daily cigarette and heavy alcohol use in the past month compared with those without past-

year MDE. Among adolescents with past-year MDE who used illicit drugs, nearly one-quarter (24.2 percent) reported using marijuana or hashish and nearly one-fifth (19.2 percent) reported non-medical use of psychotherapeutics, including pain relievers, tranquilizers, stimulants and sedatives. Among adolescents who did not experience past-year MDE, the proportion who reported using these substances was 12.6 percent and 6.6 percent, respectively (data not shown).

*1 Substance Abuse and Mental Health Services Administration. (2010). Results from the 2009 National Survey on Drug Use and Health: Mental Health Findings (Office of Applied Studies, NSDUH Series H-39, HHS Publication No. SMA 10-4609). Rockville, MD.*

### Occurrence of Major Depressive Episode (MDE)\* in the Past Year Among Adolescents Aged 12-17 Years, by Age and Sex, 2009

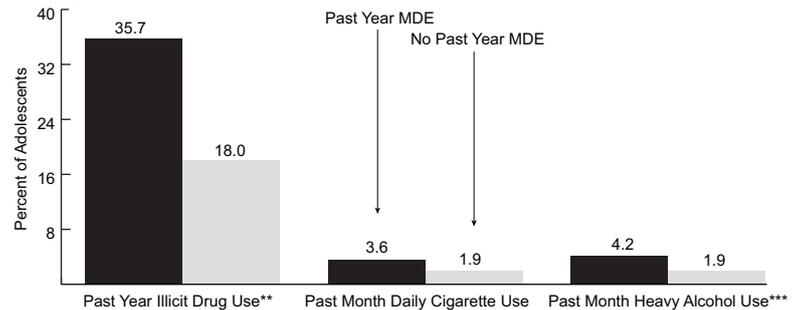
Source (II.13): Substance Abuse and Mental Health Service Administration, National Survey of Drug Use and Health



\*MDE is defined as a period of at least two weeks when a person experienced a depressed mood or loss of pleasure in daily activities and had a majority of specific depression symptoms.

### Substance Use among Adolescents Aged 12-17, by Past-Year Major Depressive Episode (MDE)\*, 2009

Source (II.13): Substance Abuse and Mental Health Service Administration, National Survey of Drug Use and Health



\*MDE is defined as a period of at least two weeks when a person experienced a depressed mood or loss of pleasure in daily activities and had a majority of specific depression symptoms.

\*\*Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used non-medically. \*\*\*Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days.

## SUICIDE

In 2007, the latest year for which mortality data were available, suicide was the third leading cause of death among persons aged 15-24 years, 9.7 deaths per 100,000 population.<sup>1</sup> Suicide mortality among this age group increased by over 70 percent between 1969 and 1994; however, there was a downward trend between the years of 1994 and 2007. The overall rise in suicide rates between 1969 and 2007 occurred disproportionately, with a larger increase among White youth aged 15-24 years than among Black youth.<sup>2</sup>

In 2009, data from the Youth Risk Behavior Surveillance System showed that 13.8 percent of all high school students had considered attempting suicide during the 12 months prior to the survey. Female students in the 9th grade were

the most likely to consider suicide (20.3 percent) while 9th- and 10th-grade males were the least likely (10.0 percent). Female students were significantly more likely to consider suicide as compared to males within each grade level; 13.6 percent of 12th grade females had considered suicide in the prior year. No significant difference by grade level was found among male students.

In 2009, 6.3 percent of high school students reported having attempted suicide in the past 12 months. Overall, females (8.1 percent) were more likely to report at least one suicide attempt than males (4.6 percent; data not shown). The proportion of students who reported having attempted suicide also varied by race/ethnicity. Non-Hispanic Asian and White students were least likely to report attempting suicide (4.0 percent and 5.0

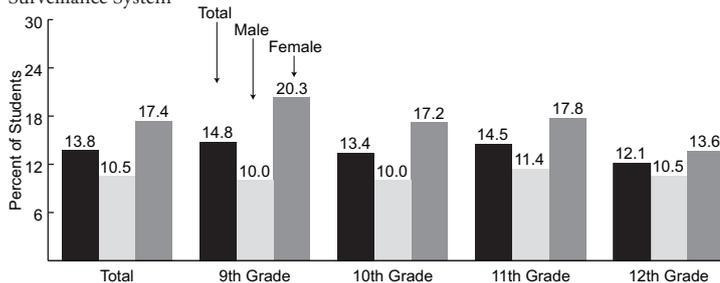
percent, respectively) while non-Hispanic Native Hawaiian/Other Pacific Islander students and non-Hispanic students of more than one race were the most likely to report at least one attempt in the past year (11.9 percent and 12.4 percent, respectively). Female students were significantly more likely to report attempted suicide among non-Hispanic Black, White, and Hispanic students; no sex differences were observed for other racial/ethnic groups (data not shown).

*1 Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Available at: <http://www.cdc.gov/ncipc/wisqars>. Accessed March, 2011.*

*2 Singh GK. Youth Mortality in the United States, 1935-2007; Over Seven Decades of Progress and Disparities. A 75th Anniversary Publication. Health Resources and Services Administration, Maternal and Child Health Bureau. Rockville, Maryland: U.S. Department of Health and Human Services; 2010.*

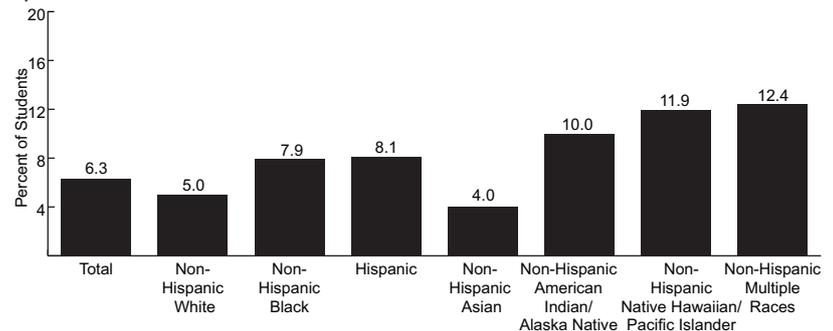
### High School Students Who Considered Attempting Suicide in the Past 12 Months, by Grade Level and Sex, 2009

Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



### High School Students Who Attempted Suicide in the Past 12 Months, by Race/Ethnicity and Sex\*, 2009

Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



## VIOLENCE

Physical violence among adolescents occurs in multiple forms and is a critical public health issue in the United States. Instances of violence include homicide, which was the second leading cause of death among all persons aged 15–24 years in 2007 (the latest year for which data are available).<sup>1</sup>

Results from the Youth Risk Behavior Surveillance System show that, in 2009, 11.1 percent of high school students reported being in a physical fight on school property during the preceding 12 months. Males were more than twice as likely as females to report having been

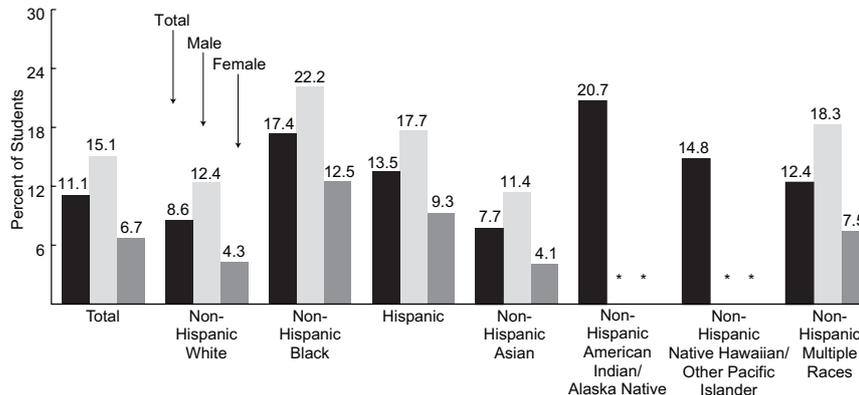
in a fight (15.1 percent versus 6.7 percent). This disparity was most pronounced among non-Hispanic Whites, where males were almost three times as likely as females to have been in a fight (12.4 percent versus 4.3 percent), although significant sex differences were observed across all racial/ethnic groups. Overall, non-Hispanic White and Asian students were least likely to report having been in a fight (8.6 percent and 7.7 percent, respectively) while over one-fifth of non-Hispanic American Indian/Alaska Native students reported having been in a physical fight on school property in the past year.

Approximately 1 out of every 10 high school students reported that they were hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend at least once in the past 12 months. The prevalence of dating violence was similar across grade levels and among males and females, with one exception. Males in the 11th grade were slightly more likely to report having been victims of dating violence (11.5 percent) than females in the same grade level (9.1 percent; data not shown).

*1 Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Available at: <http://www.cdc.gov/ncipc/wisqars>. Accessed July 2011.*

### High School Students in a Physical Fight on School Property in the Past 12 Months, by Sex and Race/Ethnicity\*, 2009

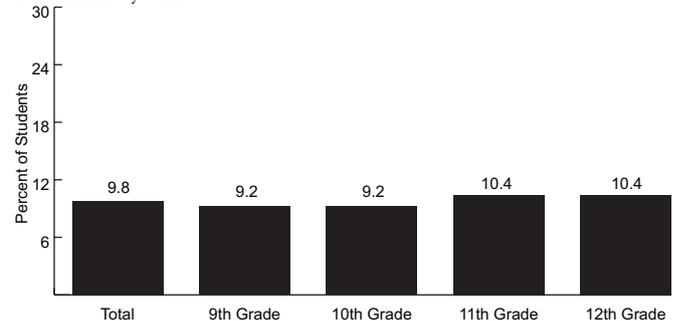
Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



\*Data for American Indian/Alaska Natives and Native Hawaiian/Other Pacific Islanders do not meet standards for reliability or precision.

### High School Students Experiencing Dating Violence\* in the Past 12 Months, by Grade and Sex, 2009

Source (II.10): Centers for Disease Control and Prevention, Youth Risk Behavior Surveillance System



\*Dating violence was defined as having been hit, slapped, or physically hurt on purpose by a boyfriend or girlfriend.

## BULLYING

Bullying is defined as aggressive behavior that is intentional, repeated over time, and involves an imbalance of power or strength. Bullying may damage children's self-esteem, cause higher rates of loneliness and depression, and affect academic success. Bullying can also have physical effects, such as an increase in headaches, sleeping problems, and stomach ailments. Children who engage in bullying may be more likely to get into physical altercations, use drugs and alcohol, and get into trouble with the law. Even children who witness bullying can be negatively affected.<sup>1</sup>

In 2009, 19.9 percent of high school students reported that they had been bullied on school

property in the past year. The likelihood of a child being bullied varied by a number of factors including sex, race/ethnicity, and grade level. Females were more likely than males to have been bullied (21.2 percent versus 18.7 percent) while nearly one-quarter of 9th graders reported being bullied compared to 13.5 percent of 12th graders (data not shown). Overall, non-Hispanic American Indian/Alaska Native children were most likely to report having been bullied (33.8 percent), while non-Hispanic Black children were least likely (13.7 percent).

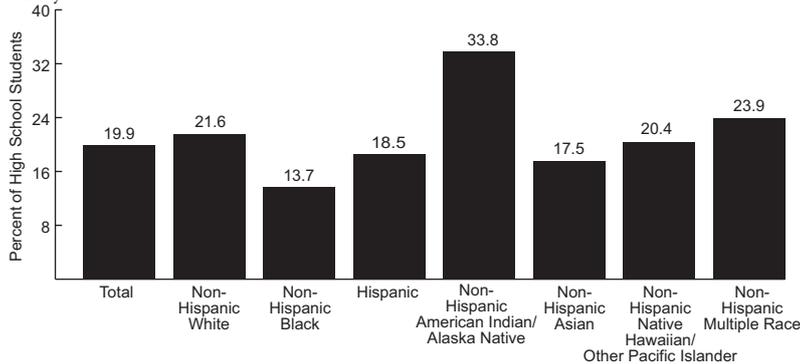
Violence, such as bullying, can prevent children from attending school for fear of their safety. In 2009, 5.0 percent of high school

students reported that they did not go to school on at least one day during the past month because they felt unsafe at school or on their way to or from school. Non-Hispanic American Indian/Alaska Native and Hispanic students were more than twice as likely to miss school because of safety concerns as non-Hispanic White children (8.7 and 8.1 percent, respectively, versus 3.5 percent) while non-Hispanic Native Hawaiian or Other Pacific Islander children were more than three times as likely (10.6 percent).

*1 U.S. Department of Health and Human Services. Stop Bullying Now. Available at: <http://www.stopbullying.gov/>. Accessed March 2011.*

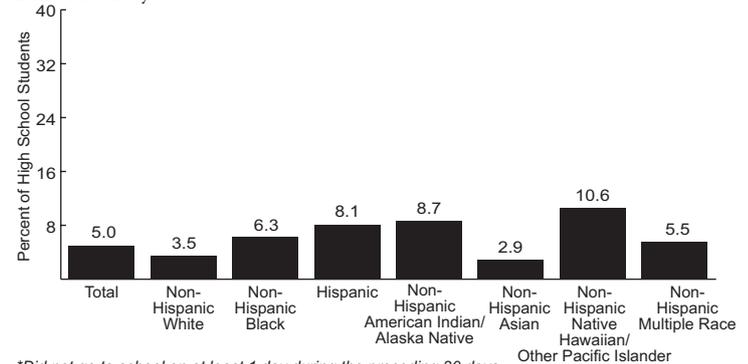
### High School Students Who Were Bullied on School Property in the Past Year, by Race/Ethnicity, 2009

Source (II.10): Centers for Disease Control and Prevention, High School Youth Risk Behavior Survey



### High School Students Who Felt Unsafe at School,\* by Race/Ethnicity, 2009

Source (II.10): Centers for Disease Control and Prevention, High School Youth Risk Behavior Survey



\*Did not go to school on at least 1 day during the preceding 30 days because he/she felt unsafe at school or on the way to or from school.

## SOCIAL SKILLS

Cultivating social skills is a significant component of a child's development and begins at an early age. Social skills include the ability to communicate and empathize with others and remain important throughout a child's lifetime.

Parents of children aged 6-17 years were asked if their child had never, rarely, sometimes, usually, or always exhibited each of the following behaviors in the past month: showed respect for teachers and neighbors; got along well with other children; tried to understand other people's feelings; and tried to resolve conflict with classmates, family, or friends. The preva-

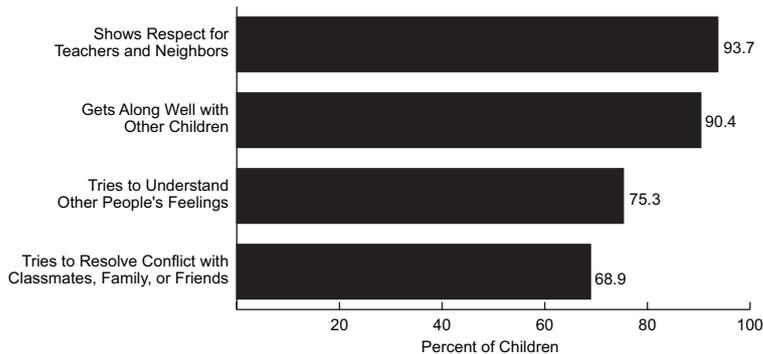
lence of individual social skills varied greatly. Parents of over 90 percent of children reported that they usually or always showed respect for teachers and neighbors, and got along well with other children. In comparison, 75.3 percent of children were reported to have tried to understand other people's feelings, and 68.9 percent were reported to have tried to resolve conflict with classmates, family, or friends. While most children displayed positive social skills to some degree, children were considered to consistently display social skills if parents responded "usually" or "always" to two or more of these ques-

tions. Overall, 93.6 percent of children were reported as having consistently exhibited two or more positive social skills (data not shown).

The display of specific social skills varied by the child's sex. Among children aged 6-17 years, 72.5 percent of females tried to resolve conflicts with classmates, family, or friends compared to 65.4 percent of males; however, this behavior increased in both sexes with age.

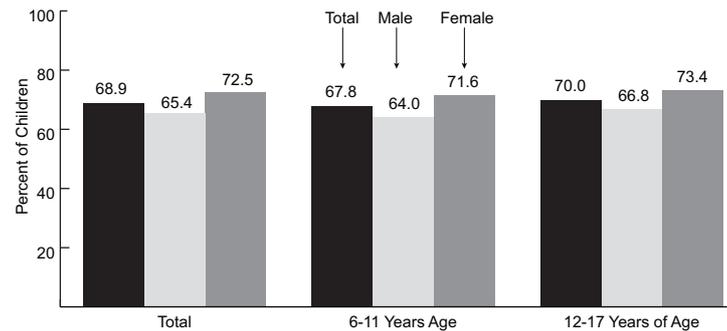
### Children Aged 6-17 Years Usually or Always Exhibiting Social Skills, by Type of Social Skill, 2007

Source (II.14): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



### Children Aged 6-17 Years Who Usually or Always Try to Resolve Conflicts,\* by Age and Sex, 2007

Source (II.2): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



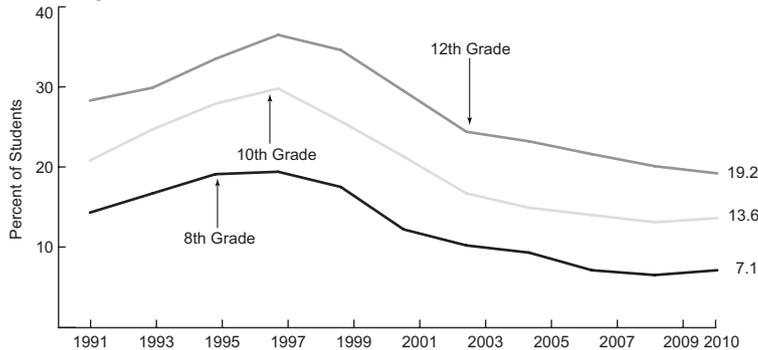
\*With classmates, family, or friends.

## CIGARETTE SMOKING

In 2009, cigarette smoking among adolescents reached the lowest levels recorded in the past 34 years, according to the annual Monitoring the Future study. Between 2009 and 2010, there was a non-significant increase in the overall percentage of high school students to have smoked cigarettes in the past 30 days from 12.7 percent in 2009 to 12.8 percent in 2010. This increase in current cigarette use occurred among both 8th and 10th graders, from 6.5 percent to 7.1 percent and 13.1 percent to 13.6 percent, respectively. During this same period a small decline was observed among 12th graders (20.1 percent to 19.2 percent).<sup>1</sup>

### Cigarette Use Among Students in the Past 30 Days, by Grade Level, 1991-2010

Source (II.15): National Institutes of Health, National Institute on Drug Abuse, Monitoring the Future Study



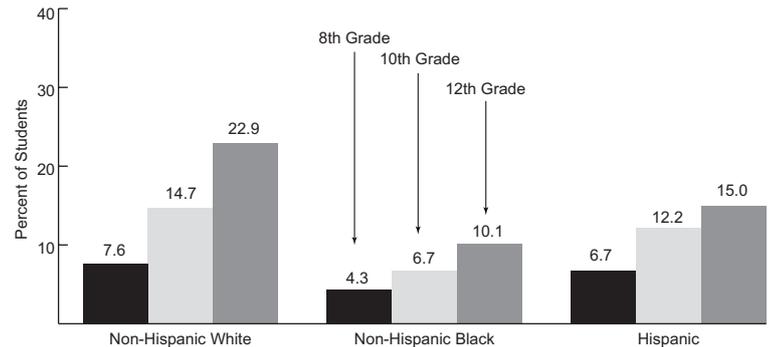
The percent of teens who report smoking in the past month began a rapid increase in the early 1990s, with the rates among 8th and 10th grade students reaching a peak in 1996 (at 21.0 and 30.4 percent, respectively), and the rate among 12th grade students peaking a year later (36.5 percent). These increases occurred in virtually every sociodemographic group: male and female, those with and without plans for college attendance, those living in all four regions of the country, and those of different racial and ethnic groups. Since peaking in the mid-1990s, overall rates of smoking in the past month have dropped 66 percent among 8th grade students, 55 percent among 10th grade students, and 47 percent among 12th grade students.

Despite a population-wide decline, certain subgroups of adolescents were still more likely than others to smoke. In 2009-2010, non-Hispanic White students were the most likely to report smoking in the past month, followed by Hispanic students. Also, males were more likely than females to smoke, and adolescents without plans to attend a four-year college program are more likely to smoke than their college-bound peers (data not shown).

<sup>1</sup> Johnston, LD, O'Malley, PM, Bachman, JG, & Schulenberg, JE (December 14, 2010). "Smoking stops declining and shows signs of increasing among younger teens." *University of Michigan News Service*. 2010. Available at: <http://www.monitoringthefuture.org>. Accessed July 2011.

### Cigarette Use Among Students in the Past 30 Days, by Grade Level and Race/Ethnicity, 2009-2010\*

Source (II.16): National Institutes of Health, National Institute on Drug Abuse, Monitoring the Future Study



\*To derive percentages for each racial subgroup, data for 2009 and 2010 have been combined to increase subgroup sample sizes and thus provide more stable estimates.

## SUBSTANCE ABUSE

In 2009, 10.0 percent of adolescents aged 12–17 years reported using illicit drugs in the past month, representing a significant increase since the previous year. Illicit drug use varied by age, with 3.6 percent of youth aged 12–13 years reporting drug use in the past month, compared to 9.0 percent of youth aged 14–15 years and 16.7 percent of youth aged 16–17 years. There was also variation by race/ethnicity, with rates ranging from 5.5 percent among non-Hispanic Asian youth to 14.6 percent among non-Hispanic American Indian/Alaska Native youth. Rates for non-Hispanic White, non-Hispanic Black, and Hispanic youth were 9.6 percent, 10.8 percent, and 11.4 percent, respectively (data not shown).

Marijuana is consistently the most commonly used illicit drug among adolescents, with 7.3 percent reporting past-month use in 2009. This was followed by nonmedical use of prescription-type psychotherapeutics, such as pain relievers, tranquilizers, stimulants, and sedatives (3.1 percent). Marijuana was the most commonly used drug among adolescents aged 14–15 and 16–17 years (6.3 percent and 14.0 percent, respectively) compared to less than 1 percent among adolescents aged 12–13 years (data not shown).

Illicit drug use is associated with other health risk behaviors. In 2009, 52.8 percent of adolescents who reported cigarette use in the past month also reported illicit drug use, compared to

only 5.9 percent of adolescents who did not report smoking. Adolescents who reported alcohol use in the past month were also more likely to use illicit drugs than adolescents who did not report alcohol use: 70 percent of heavy drinkers (i.e., adolescents who consumed five or more drinks on the same occasion on each of 5 or more days in the past 30 days), also used illicit drugs (data not shown).

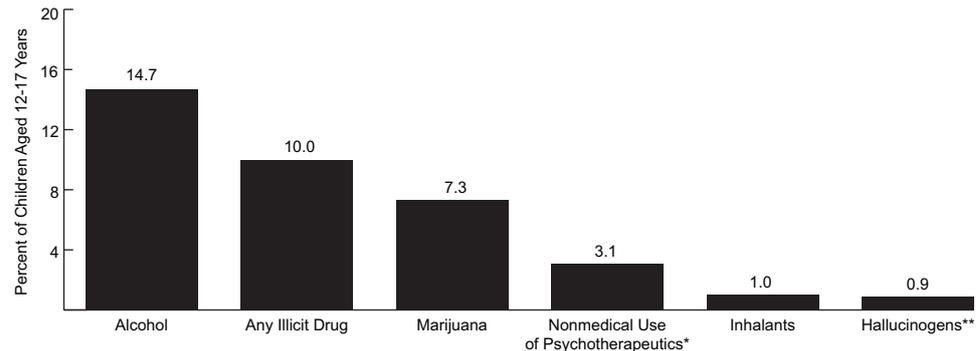
Alcohol continues to be the most commonly used drug among adolescents, with 14.7 percent reporting past-month use in 2009. Rates of past month alcohol use varied by race/ethnicity, with rates ranging from 6.5 percent among non-Hispanic Asian youth to 16.1 percent non-Hispanic White youth (data not shown).

In 2009, 30.7 percent of adolescents perceived smoking marijuana once a month to be a great risk, while 49.5 percent perceived the same risk regarding cocaine use. Smoking one or more packs of cigarettes a day was considered a great risk by 65.8 percent of adolescents. Drinking five or more drinks once or twice per week was considered a great risk by 39.9 percent of adolescents (data not shown).

While 14.3 percent of adolescents were approached by someone selling drugs in the past month, nearly 50 percent reported that marijuana would be fairly or very easy to obtain; 22.1 percent reported the same for crack, 20.9 percent for cocaine, 13.5 percent for LSD, and 12.9 percent for heroin (data not shown).

### Past Month Drug Use Among Adolescents Aged 12-17 Years, by Drug Type, 2009

Source (II.13): Substance Abuse and Mental Health Service Administration, National Survey of Drug Use and Health



\*Includes non-medical use of pain relievers, sedatives, stimulants, and tranquilizers; does not include over-the-counter substances.

\*\*Includes LSD, PCP, and Ecstasy.

## ADOLESCENT MORTALITY

In 2007, the latest year for which data are available, 13,299 adolescents aged 15 to 19 years died of various causes, representing a rate of 61.9 per 100,000. Unintentional injury was the leading cause of death, followed by homicide, suicide, cancer, and heart disease. Together, these causes account for 84.3 percent of deaths in this age group, although nearly half of all adolescent deaths are attributable to unintentional injury.

The mortality rate of males in this age group was notably higher than that of females (86.9 versus 35.7 per 100,000, respectively; data not shown). While unintentional injuries account for about half of deaths among both males and females, the proportion of deaths due to homicide, suicide, and cancer vary by sex. One-fifth of

deaths among adolescent males were homicides, compared to 7.8 percent of deaths among females. Similarly, 12.8 percent of adolescent male deaths were attributed to suicide, compared to 7.4 percent of adolescent female deaths.

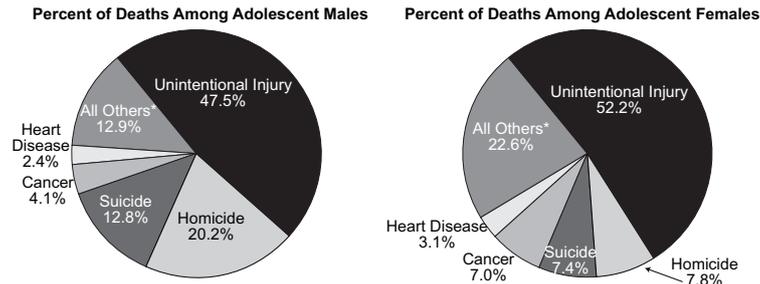
Racial and ethnic disparities also exist, with non-Hispanic Black adolescents experiencing a mortality rate of 85.7 per 100,000, compared to rates of 58.0 and 57.9 per 100,000 among non-Hispanic Whites and Hispanics, respectively (data not shown). In 2007, unintentional injury was the leading cause of death among adolescents of all racial/ethnic groups, except non-Hispanic Blacks. Nearly 45 percent of adolescent deaths among non-Hispanic Blacks were homicides, compared to nearly one-quarter of deaths among

Hispanic adolescents and 4.5 percent of deaths among non-Hispanic White adolescents (data not shown).

Of the 6,493 adolescent deaths in 2007 due to unintentional injuries, motor vehicle traffic was the leading cause death (70.7 percent), followed by poisoning (12.9 percent). However, of the 10,415 deaths due to both unintentional and intentional (or violence-related) injuries, motor vehicle traffic accounted for 44.1 percent of deaths, while homicide by firearm was the second leading cause of injury death, accounting for 18.2 percent of adolescent deaths of this nature. Firearms accounted for 85.3 percent of homicide deaths and 42.5 percent of suicide deaths among adolescents (data not shown).

### Leading Causes of Death Among Adolescents Aged 15-19 Years, by Sex, 2007

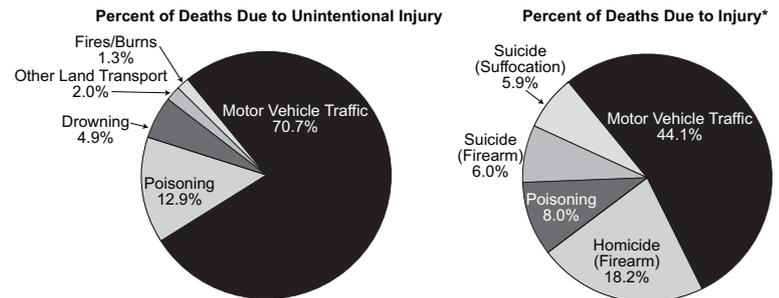
Source (II.17): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Includes congenital anomalies, cerebrovascular diseases, chronic lower respiratory disease (males), pregnancy and childbirth (females), diabetes (males), influenza and pneumonia (females), septicemia, and all other causes not specified.

### Deaths Due to Unintentional and Intentional Injury Among Adolescents Aged 15-19 Years, 2007

Source (II.17): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



\*Includes unintentional injury, intentional injury, such as homicide and suicide, and injury deaths of undetermined intent.