

HEALTH STATUS - INFANTS



BREASTFEEDING

Breastfeeding has been shown to promote the health and development of infants, as well as their immunity to disease. It also confers a number of maternal, societal, and even environmental benefits.¹ The American Academy of Pediatrics 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.²

Breastfeeding initiation rates have increased steadily since the early 1990s. 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 (including being fed expressed breast milk). Children living in households with incomes of 400 percent or more of the Federal poverty level (\$20,650 for a family of four in 2007) were most likely to have been breastfed (83.2 percent), while children living in households with incomes below 100 percent of the Federal poverty level were least likely to have been breastfed (65.7 percent). Initiation of breastfeeding also varies by race/ethnicity, and maternal age and educational achievement.

The percentage of children who are exclusively breastfed for six months is considerably lower than the percent who are ever breastfed. In 2007, the parents of only 12.4 percent of

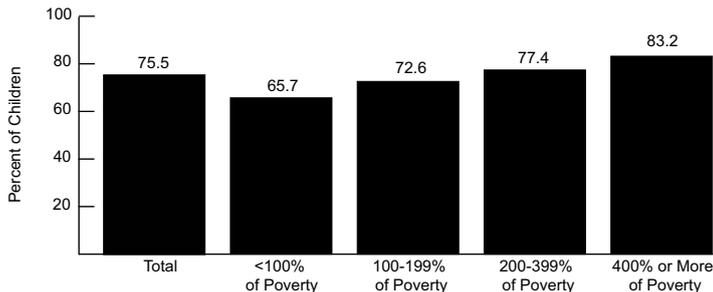
children aged 6 months to 5 years reported that their child was exclusively breastfed for at least the first 6 months of life. The rate of exclusive breastfeeding also varied by family income, with 10.6 percent of children with family incomes below 100 percent of the Federal poverty level being exclusively breastfed through 6 months, compared to 14.7 percent of children with family incomes of 400 percent or more of the Federal poverty level.

1 U.S. Department of Health and Human Services. Benefits of breastfeeding. Available online: <http://www.womenshealth.gov/breastfeeding/benefits/>; accessed July, 2010.

2 American Academy of Pediatrics. Breastfeeding and the use of human milk. Pediatrics 2005 Feb;115(2):496-506.

Breastfeeding* Among Children Aged 0–5 Years, by Poverty Level,** 2007

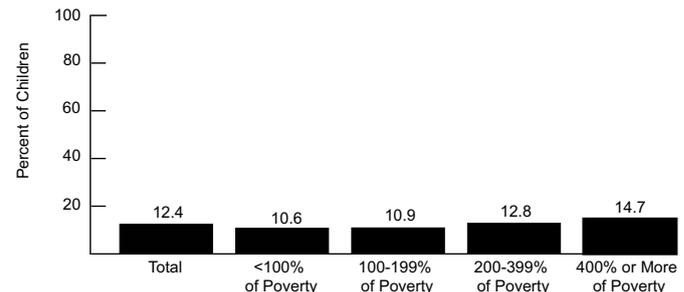
Source (I.7): Health Resources and Services Administration, Maternal and Child Health Bureau and Centers for Disease Control and Prevention, National Center for Health Statistics, National Survey of Children's Health



*Ever fed breast milk. ** The U.S. Department of Health and Human Services establishes poverty guidelines for determining financial eligibility for Federal programs; the poverty level for a family of four was \$20,650 in 2007.

Exclusive* Breastfeeding Among Children Aged 6 Months to 5 Years, by Poverty Level,** 2007

Source (I.7): 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



*Fed only breast milk for the first 6 months of life. ** The U.S. Department of Health and Human Services establishes poverty guidelines for determining financial eligibility for Federal programs; the poverty level for a family of four was \$20,650 in 2007.

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 long-term disability or die during the first year of life than are infants of normal weight.

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 2008; this rate was unchanged from the previous year. 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.

In 2008, the rate of low birth weight was much higher among infants born to non-Hispanic Black women (13.7 percent) than infants born to mothers of other racial/ethnic groups. The second highest rate, which occurred among Asian/Pacific Islanders, was 8.2 percent, followed by a rate of 7.4 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 (7.0 percent). The low birth weight rate remained unchanged over the previous year for infants born to non-Hispanic White mothers, while the rate declined for infants born to non-

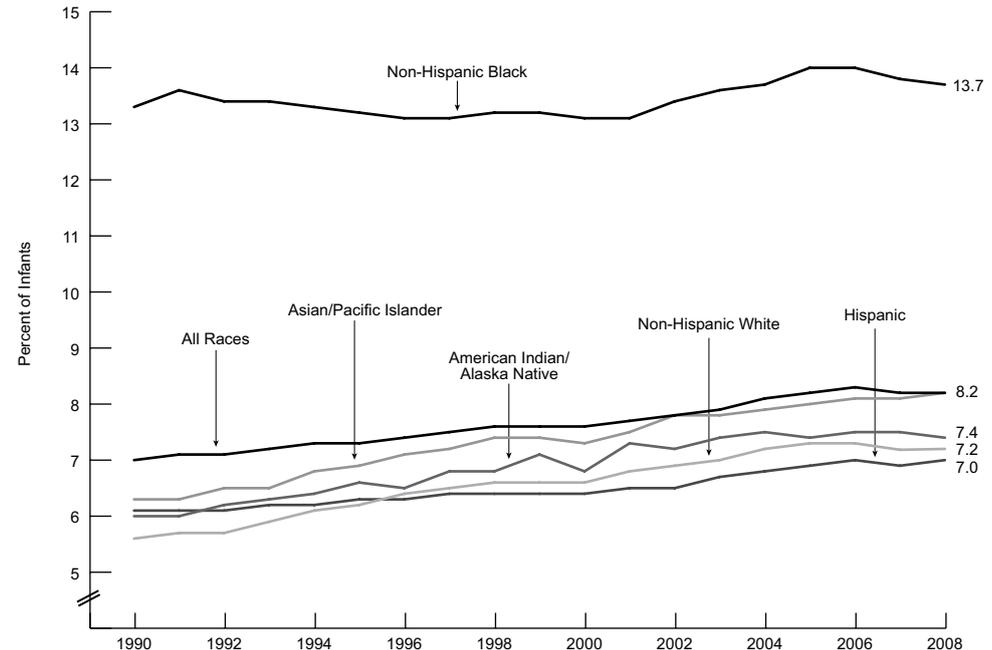
Hispanic Black and American Indian/Alaska Native mothers and increased for infants born to Hispanic and Asian/Pacific Islander mothers.

Low birth weight also varied by maternal age. In 2007 (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 (11.5 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).

Low Birth Weight Among Infants, by Maternal Race/Ethnicity, 1990–2008*

Source (I.8): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



*Data for 2008 are preliminary.

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 2008. 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 approximately 100 times more likely to die in the first year of life than are infants of normal birth weight (above 5 pounds 8 ounces). Very low birth weight infants who survive are at a significantly increased risk of severe problems, including physical and visual difficulties, developmental delays, and cognitive impairment, requiring increased levels of medical, educational, and parental care.

Infants born to non-Hispanic black women are more than 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, 3.0 percent were very low birth weight in 2008, compared to 1.2 percent of infants born to non-Hispanic White, Hispanic, and Asian/Pacific Islander women and 1.3 percent of American Indian/Alaska Native 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. However, non-Hispanic Black infants were the

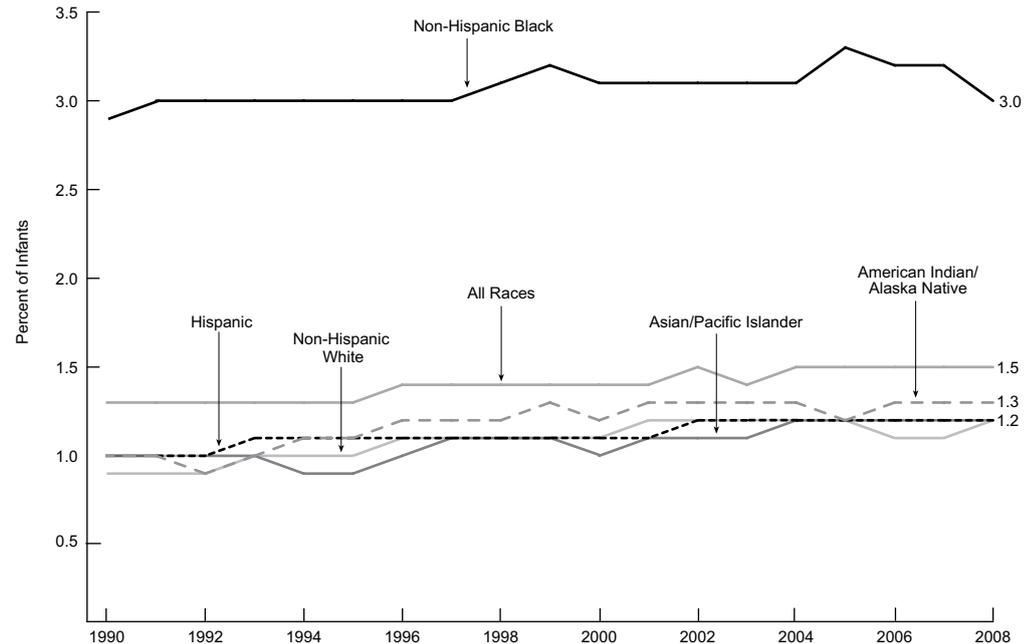
only racial/ethnic group to see a drop in very low birth weight between 2007 and 2008; the rates for all other racial/ethnic groups remained largely unchanged.

In 2007 (the latest year for which data are available), the rate of very low birth weight was

highest among babies born to mothers under 15 years of age (2.8 percent), followed by mothers aged 45–54 years (2.2 percent). The rate was lowest among mothers aged 25–29 years (1.3 percent; data not shown).

Very Low Birth Weight Among Infants, by Race/Ethnicity, 1990–2008*

Source (I.8): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



*Data for 2008 are preliminary.

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 occur during the newborn period can 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 complications.¹

According to preliminary data, 12.3 percent of infants were born preterm in 2008. Overall, 8.8 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, and has declined in the two years since (data not shown).

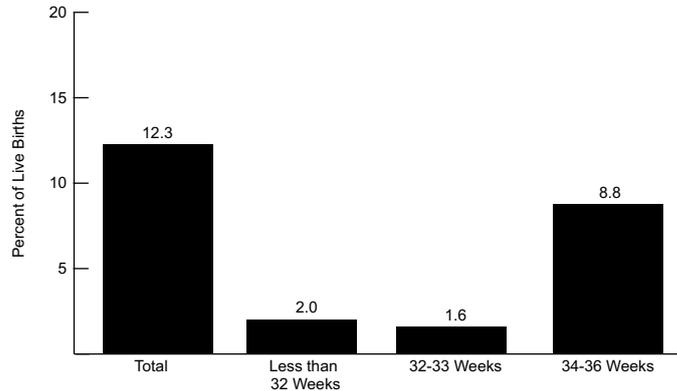
The preterm birth rate varies by race/ethnicity. In 2008, 17.5 percent of babies born to

non-Hispanic Black women were born preterm, compared to 10.7 percent of babies born to Asian/Pacific Islander women. Among babies born to non-Hispanic White women, 11.1 percent were born preterm, while the same was true of 12.1 percent of babies born to Hispanic women and 13.6 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 September 2010.

Preterm Birth Among Infants, by Completed Weeks of Gestation, 2008*

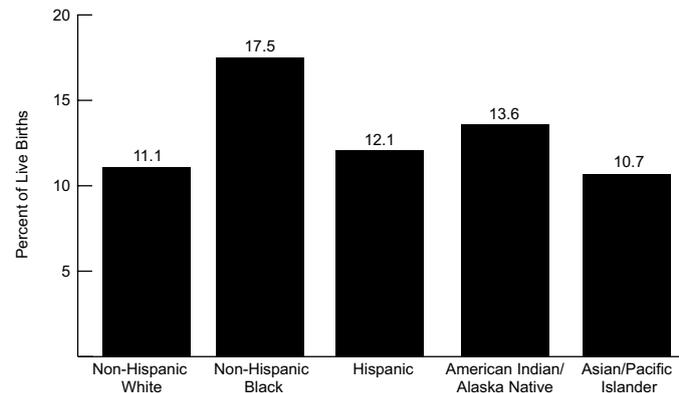
Source (I.8): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



*Preliminary data.

Preterm Birth Among Infants, by Maternal Race/Ethnicity, 2008*

Source (I.8): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



*Preliminary data.

MATERNAL MORTALITY

The rate of maternal mortality in the United States declined dramatically over the last century; however, there has been some reversal of this trend in the last several decades. In 2007, 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. Some of this increase may be due to changes in the coding and classification of maternal deaths.

In 2007, a total of 548 women were reported to have died of maternal causes. This includes

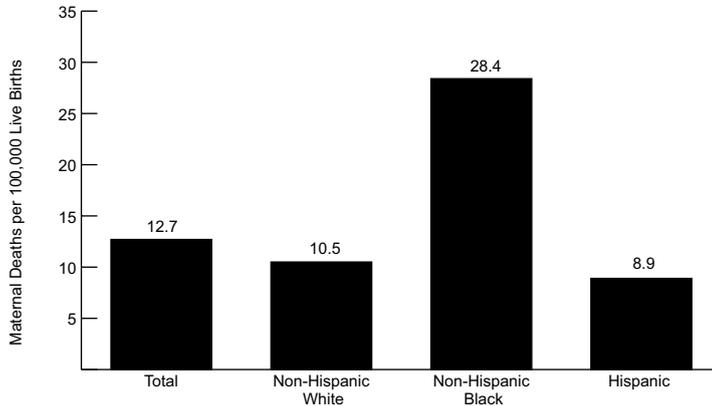
only those deaths due to causes related to or aggravated by pregnancy or pregnancy management, and excludes deaths occurring more than 42 days after the end of the pregnancy and deaths of pregnant women due to external causes (such as injury). The maternal mortality rate among non-Hispanic Black women was 2.7 times the rate for non-Hispanic White women (28.4 versus 10.5 per 100,000).

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 pregnancy, childbirth, and placenta previa (0.9 per 100,000), and pregnancy with abortive outcome (0.5 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.

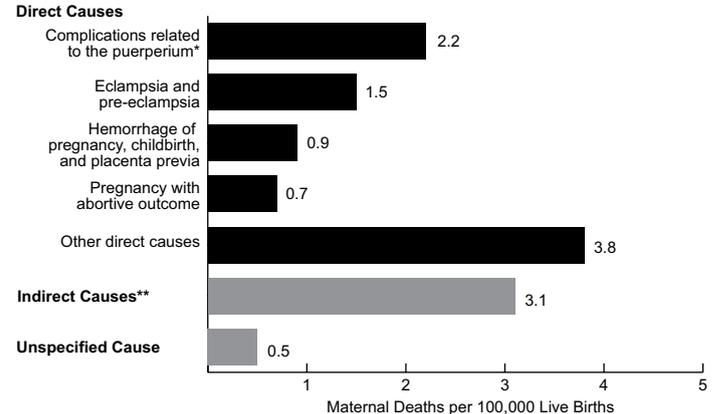
Maternal Mortality Rates, by Race/Ethnicity, 2007

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



Leading Causes of Maternal Mortality, 2007

Source (II.1): 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.

INFANT MORTALITY

In 2007, 29,138 infants died before their first birthday, representing an infant mortality rate of 6.8 deaths per 1,000 live births; this is essentially unchanged from the previous year. The leading cause of infant mortality was congenital malformations, which accounted for approximately 20 percent of deaths, followed by disorders related to short gestation and low birth weight, which accounted for almost 17 percent of deaths (data not shown).

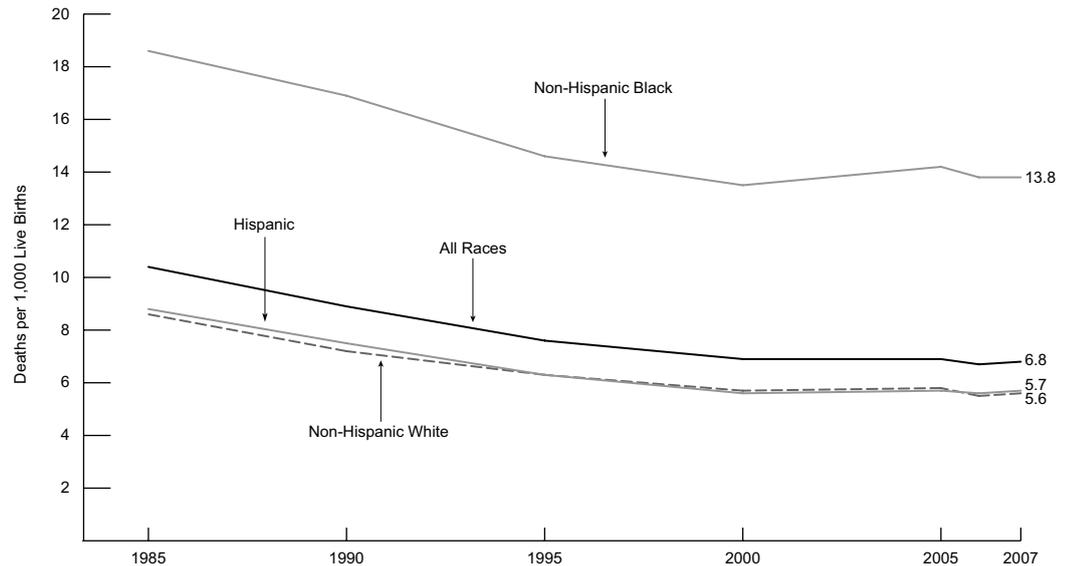
The infant mortality rate began a substantial decline in the late 19th and early 20th century. Some factors in this early decline included economic growth, improved nutrition, new sanitary measures, and advances in knowledge about infant care. More recent advances in knowledge that contributed to a continued decline included the approval of synthetic surfactants and the recommendation that infants be placed on their backs to sleep.

In 2007, the mortality rate among infants born to non-Hispanic Black women was 13.8 deaths per 1,000 live births. This is nearly two and one-half times the rate among infants born to non-Hispanic White and Hispanic women (5.6 and 5.7 per 1,000, respectively). Although the infant mortality rates among both non-Hispanic Whites and non-Hispanic Blacks have declined over the last century, the disparity between the two races remains largely unchanged.

The Maternal and Child Health Block Grant and MCHB's Health 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.

Infant Mortality Rates,* by Maternal Race/Ethnicity, 1985–2007

Source (II.2): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



*Under 1 year of age.

NEONATAL AND POSTNEONATAL MORTALITY

Neonatal. In 2007, 19,058 infants died before reaching 28 days of age, representing a neonatal mortality rate of 4.4 deaths per 1,000 live births. Although this is a slightly lower rate than the previous year (4.5 per 1,000), the 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 birth trauma or infection.

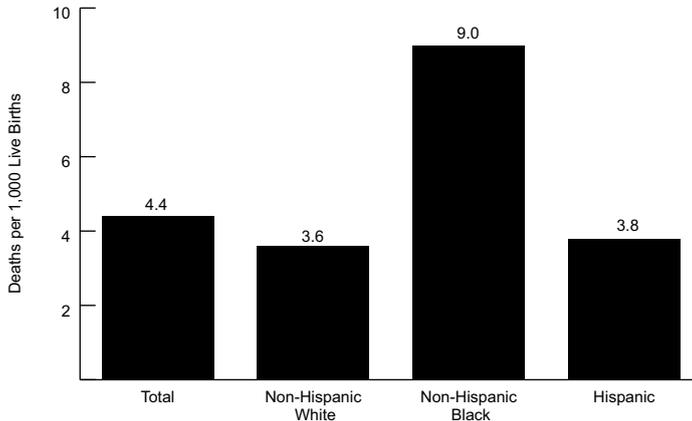
Neonatal mortality rates vary by race and ethnicity. In 2007, the neonatal mortality rate among infants born to non-Hispanic Black women was 9.0 per 1,000 live births, more than twice the rate among infants born to non-Hispanic White and Hispanic women (3.6 and 3.8 per 1,000, respectively).

Postneonatal. In 2007, 10,080 infants died between the ages of 28 days and 1 year, representing a postneonatal mortality rate of 2.3 deaths per 1,000 live births. This is slightly higher than the rate of 2.2 deaths per 1,000 reported in 2006.

Postneonatal mortality is generally related to Sudden Infant Death Syndrome (SIDS), congenital malformations, and unintentional injuries. Postneonatal mortality varies by race and ethnicity. In 2007, the highest rate of postneonatal mortality was reported among infants born to non-Hispanic Black women (4.8 per 1,000). Rates for infants born to non-Hispanic White and Hispanic women were 2.0 and 1.9 per 1,000, respectively.

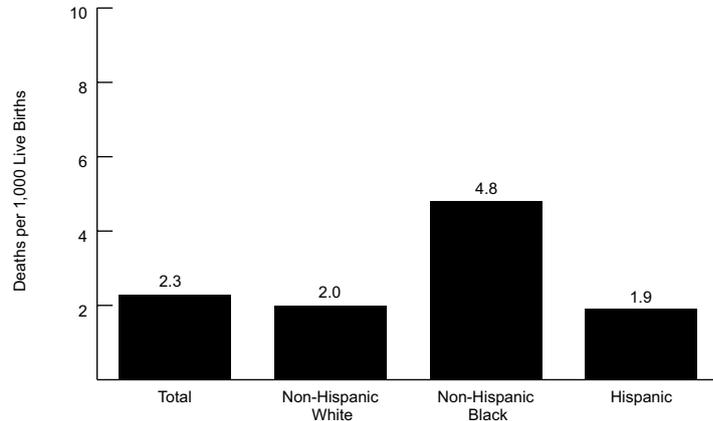
Neonatal Mortality Rates, by Maternal Race/Ethnicity, 2007

Source (II.2): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



Postneonatal Mortality Rates, by Maternal Race/Ethnicity, 2007

Source (II.2): Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



INTERNATIONAL INFANT MORTALITY

In 2006, the U.S. infant mortality rate (6.7 infant deaths per 1,000 live births) was higher than that of many other industrialized nations. This represents a slight decrease from the rate of 6.9 per 1,000 in 2005, and is considerably less than the rate of 26.0 per 1,000 reported in 1960.

Differences in infant mortality rates among industrialized nations may reflect disparities in the health status of women before and during pregnancy, as well as the quality and accessibility of primary care for pregnant women and infants and the medical technology available to infants after birth. However, some of these differences may be due, in part, to the international variation in the definition, reporting, and measurement of fetal and infant deaths.

In 2006, the U.S. infant mortality rate was more than twice that of eight other industrialized countries (Hong Kong, Japan, Singapore, Sweden, Finland, Norway, Portugal, and Czech Republic). Hong Kong had the lowest rate (1.8 per 1,000), followed by Japan and Singapore (2.6 per 1,000).

International Infant Mortality Rates, Selected Countries, 2006

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

