

## Adverse Birth Outcomes

The period of gestation is a crucial determinant of an infant's health and survival for years to come. Two measures that may be used to understand the quality of an infant's gestation are 1) length of gestation (pregnancy length) and 2) birth weight. Normal term pregnancies last between 37 and 41 completed weeks, allowing for more complete development of an infant's organs and systems.<sup>1</sup> Preterm birth is defined as a live birth before 37 completed weeks of gestation.<sup>1</sup> Birth weight is determined by two factors: length of gestation and fetal growth (the rate at which an infant develops and increases in size). Low birth weight infants are defined as weighing less than 2,500 grams (about 5 pounds, 8 ounces).<sup>2</sup> Infants may be born with a low birth weight because they were born early, because their growth while in utero has been restricted, or both. Because they have had sufficient time to develop, infants born at term with low birth weight are usually considered growth restricted. Because birth weight alone does not always indicate whether an infant's fetal growth has been restricted, other measurements such as birth length, head circumference, and abdominal circumference are also used.

Other adverse birth outcomes that are not discussed here include post-term birth, high birth weight, neonatal mortality, and birth defects, a specific group of adverse birth outcomes that include structural and functional abnormalities.

Preterm and low birth weight infants are at greater risk for mortality and a variety of health and developmental problems. As a result, the birth of a preterm or low birth weight infant can have significant emotional and economic effects on the infant's family.<sup>3</sup> Conditions related to preterm birth and low birth weight are the second leading cause of infant death in the United States (after birth defects).<sup>4</sup> The infant mortality rate for low birth weight infants is about 25 times that of the infant mortality rate for normal weight babies. Likewise, the infant mortality rate for late preterm babies (34–36 weeks of gestation) is about three times the infant mortality rate for term babies, and the infant mortality rate for very preterm babies (less than 32 weeks of gestation) is 75 times that of term babies.<sup>4</sup> Preterm infants may experience complications such as acute respiratory, gastrointestinal, immunologic, and central nervous system problems. Longer-term effects of preterm birth, including motor, cognitive, visual, hearing, behavioral, social-emotional, health, and growth problems, may not become apparent for years and may persist throughout a child's life into adulthood. It is important to recognize that not all infants born before 37 completed weeks have the same risk of adverse health outcomes. As gestational age decreases, the risk of morbidity and mortality increases greatly. Also, recent research suggests that even early term births, those at 37 or 38 weeks, are at increased risk of respiratory and other adverse neonatal outcomes.<sup>5-7</sup>

Because many of the effects of low birth weight are due to being born immature and unprepared for life outside the womb, morbidities associated with low birth weight often overlap with those of preterm birth. Low birth weight infants are more likely to have underdeveloped lungs and breathing problems; heart problems (which can lead to heart failure); immature and improperly functioning livers; too many or too few red blood cells

(polycythemia or anemia); inadequate body fat, leading to trouble maintaining a normal body temperature; feeding problems; and increased risk of infection.<sup>2</sup> Furthermore, the process of growth restriction may exert its own negative effects aside from often producing low birth weight infants. Data suggest that fetuses with a declining growth rate may make adaptations, such as preserving brain growth, in order to survive adverse intrauterine conditions. Such adaptations can have physiological costs, and may have effects on fetal brain development, cardiac and renal function, and adult health.<sup>8</sup> The theory of fetal origins of adult disease postulates that certain types of chemical, nutritional, or stress-related exposures in utero can alter the programming of fetal cells in ways that are not apparent at birth, but are predictive of disease risk later in life. Birth weight and measures of growth restriction are used as proxies for these changes and have been associated with diseases in adulthood, including cardiovascular disease, obesity, metabolic disorders, and cancer.<sup>9</sup>

For many years, the rates of both preterm birth and low birth weight have been increasing;<sup>10</sup> however, starting in 2006 this pattern seems to be partially reversing as the rate of preterm birth is now declining. A number of factors may contribute to increasing rates of preterm birth and low birth weight, including increases in maternal age, rates of multiple births (e.g., twins, triplets), use of early Cesarean sections and labor inductions, changes in neonatal technology, and use of assisted reproductive technologies (e.g., *in vitro* fertilization).<sup>3</sup> Multiple births run a higher risk of preterm birth and low birth weight, and the rates of multiple births have increased in recent decades. The rate of twin births increased 70% from 1980–2004, but has been essentially stable since that time. The rate of triplet and higher-order births increased 400% from 1980 to 1998, but since that time has been trending downward.<sup>11</sup> Advances in medical technology that allow for resuscitation of infants born at increasingly early gestational ages may also contribute to the increase in percentage of births that are preterm, since many of those infants would not have survived previously and thus would have been characterized as fetal deaths. Other factors linked to preterm birth and low birth weight include birth defects; chronic maternal health problems (e.g., high blood pressure); maternal use of tobacco, alcohol, and illicit drugs; maternal and fetal infections; placental problems; inadequate maternal weight gain; and socioeconomic factors (e.g., low income and poor education).<sup>12-16</sup>

Rates of low birth weight and preterm birth can vary greatly by maternal race/ethnicity. Black women have consistently had higher rates of preterm and low birth weight babies.<sup>17</sup> While it has been suggested that race is a proxy for differences in socioeconomic status (SES), most studies that have controlled for differences in SES continue to find persistent birth outcomes differences between Black and White women.<sup>17-20</sup> Similarly, studies that have adjusted for other risk factors, such as risky behavior during pregnancy and use of prenatal care, have found these persistent Black-White differences in birth outcomes as well.<sup>4,21,22</sup>

While maternal characteristics and obstetric practices play an important role in preterm birth and low birth weight, other factors—including environmental contaminants—may also contribute to adverse birth outcomes.<sup>23</sup> A growing number of studies have examined the possible role that exposure to environmental contaminants may play in the causation of preterm birth and low birth weight. The evidence is particularly strong for environmental

tobacco smoke (ETS) and lead. The Surgeon General has determined that exposure of pregnant women to ETS causes a small reduction in mean birth weight, and that the evidence is suggestive (but not sufficient to infer causation) of a relationship between maternal exposure to environmental tobacco smoke during pregnancy and preterm delivery.<sup>24</sup> The National Toxicology Program has concluded that maternal exposure to lead is known to cause reduced fetal growth, and that there is limited evidence of an association with preterm birth.<sup>25</sup>

In recent years, the potential effects of common air pollutants on adverse birth outcomes have received more attention. A number of large epidemiological studies (many with 10,000+ participants) from several countries have identified potential links between elevated levels of exposure to particulate matter (PM), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and carbon monoxide (CO) exposure and outcomes such as decreased fetal growth, low birth weight, and preterm birth.<sup>26-40</sup> Several of these studies have identified such links to adverse birth outcomes even in regions with relatively low ambient air pollution levels.<sup>27,29,33,36</sup> In such epidemiological studies, researchers make an effort, when data are available, to adjust for other factors that may also lead to an increased risk of low birth weight or preterm birth, such as mother's age, smoking status, race, and income.<sup>41</sup> Articles reviewing the findings from these studies have generally concluded that these air pollutants likely have an adverse effect on birth outcomes, although methodological inconsistencies across studies have made definitive conclusions difficult.<sup>42-45</sup> In addition, studies have reported associations between elevated levels of exposure to airborne polycyclic aromatic hydrocarbons (PAHs), generated largely by fossil fuel combustion, and reduced birth weight and fetal growth restriction, especially when in combination with ETS exposure.<sup>46-49</sup> Other studies have reported associations between living in proximity to traffic during pregnancy and increased risk of preterm birth and low birth weight, although an extensive review study concluded that there is inadequate and insufficient evidence to infer a causal relationship.<sup>50-54</sup>

In addition to air pollutants, several other environmental chemicals have been studied for possible roles in contributing to adverse birth outcomes. A handful of studies with typical population-level exposure levels have reported associations between prenatal exposure to some phthalates and preterm birth, shorter gestational length, and low birth weight; however, one study reported phthalate exposure to be associated with longer gestational length and increased risk of delivery by Cesarean section.<sup>55-59</sup>

A limited number of studies suggest that prenatal exposure to another class of chemicals, polychlorinated biphenyls (PCBs), may lead to preterm birth and low birth weight or otherwise restrict fetal growth.<sup>60-63</sup> One study examining women from the Danish National Birth Cohort reported that elevated exposure to PCBs from fatty fish consumption was associated with lower birth weight. The study found that infants born to highly exposed women weighed, on average, about 5.5 ounces less than infants born to women with relatively low PCB exposure.<sup>64</sup> Another study looked at a historical cohort of women who were pregnant prior to the 1979 ban of PCBs, and did not observe any relation between levels of PCB exposure and low birth weight or shorter pregnancy length.<sup>65</sup> Some human health studies have reported associations between prenatal exposure to perfluorinated compounds (PFCs)—particularly perfluorooctane sulfonic

acid (PFOS) and perfluorooctanoic acid (PFOA)—and a range of adverse birth outcomes, such as low birth weight, decreased head circumference, reduced birth length, and smaller abdominal circumference.<sup>66-70</sup> However, there are inconsistencies in the results of these studies, and two other studies did not find an association between prenatal PFC exposure and birth weight.<sup>71,72</sup> The participants in all of these studies had PFC blood serum levels comparable to levels in the general population. Studies of disinfection byproducts in drinking water as possible causes of adverse birth outcomes are also conflicting, with recent evidence indicating that there may be no effect on preterm birth.<sup>73-75</sup> Studies of arsenic in drinking water and birth outcomes have produced similarly mixed results.<sup>76-78</sup> For the following environmental contaminants, there is some evidence from animal studies and a limited number of studies in humans of possible associations with adverse birth outcomes, particularly reduced fetal growth: benzene,<sup>79</sup> herbicides,<sup>80</sup> bisphenol A (BPA),<sup>81</sup> dioxins and dioxin-like chemicals,<sup>82</sup> and manganese.<sup>83</sup>

This section presents two indicators of adverse birth outcomes: Indicator H12 presents the rate of preterm birth, and Indicator H13 presents the rate of term low birth weight. These two indicators were chosen because for each there is a wealth of quality data available.

## Indicator H12: Percentage of babies born preterm, by race/ethnicity, 1993–2008

## Indicator H13: Percentage of babies born at term with low birth weight, by race/ethnicity, 1993–2008

**About the Indicator:** Indicator H12 shows the percentage of babies born preterm, and Indicator H13 shows the percentage of babies who are born at term with low birth weight. Both graphs show separate lines for the different race/ethnicity groups. The data come from a national data system that collects data from birth certificates for virtually every baby born in the United States each year. Indicators H12 and H13 show the change in preterm and term low birth weight over time.

### The National Vital Statistics System

The National Vital Statistics System (NVSS), operated by the National Center for Health Statistics (NCHS), provides national data on gestational ages and birth weights. The NVSS data are provided through contracts between the NCHS and vital registration systems operated in each state, which are legally responsible for the registration of vital events including births, deaths, marriages, divorces, and fetal deaths. The collection and publication of this information is mandated by federal law. Together NCHS and the states have developed standard forms and procedures to use for the data collection. The NVSS captures virtually all of the births occurring in the United States. The most current NVSS data available are for 2008.

Birth certificates provide information on characteristics of both the infant and his/her parents, including the weight of the infant and the length of gestation. Length of gestation is recorded in completed weeks, so for example a pregnancy of 36 weeks and 6 days would be recorded as 36 weeks, and would therefore be considered preterm.<sup>3</sup> Pregnancy duration is most often estimated from the date of a woman's last menstrual period. Many factors, including age, levels of physical activity, and body mass, can cause variation in menstrual cycle timing, making this method of estimating gestational length subject to some error.<sup>3</sup> NVSS data report pregnancy duration based on a clinical estimation, often determined using ultrasound, if information on last menstrual period is unavailable or is inconsistent with the reported birth weight. Because ultrasound measurements tend to give lower gestational age estimates than last menstrual period,<sup>3</sup> the slight increase in use of ultrasound data in recent years could contribute to any increase in the rate of preterm birth.

### Data Presented in the Indicators

Indicator H12 displays the trend in the percentage of preterm births for all births (singletons, as well as multiples), with a separate line for each maternal race/ethnicity group and a single line for all maternal races and ethnicities combined for the years 1993–2008.

Indicator H13 displays the trend in the percentage of low birth weight births at term among all births (singletons, as well as multiples), with a separate line for each maternal race/ethnicity

group and a single line for all maternal races and ethnicities combined for the years 1993–2008. Presentation of low birth weight data for only term births (babies with a gestational age of 37 completed weeks or more) is intended to identify trends in growth restriction separate from trends in gestational duration. This indicator does not include all infants with low birth weight, nor does it include all infants who are growth-restricted; therefore, it is designed as a surveillance tool and not as a way to identify a group of infants that are particularly at risk for adverse health effects.

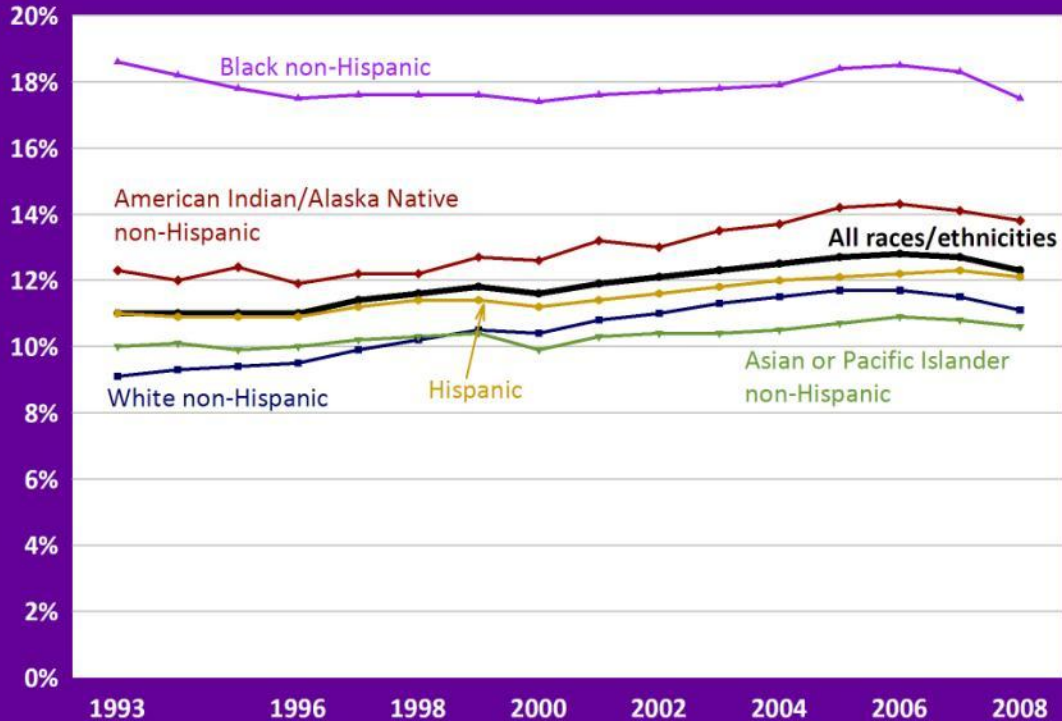
Five maternal race/ethnicity groups are presented in these indicators: White non-Hispanic, Black non-Hispanic, Hispanic, American Indian/Alaska Native non-Hispanic, and Asian Pacific Islander non-Hispanic. Prior to the year 1993, not all states recorded Hispanic origin on birth certificates; for this reason, both Indicator H12 and H13 begin with data from 1993. Birth certificates do not include information on family or maternal income, so it is not possible to examine differences or trends by income level.

The indicator graphs show data for all births, singletons and multiples combined. The rates for singletons and multiples are provided in supplemental data tables. Additional supplemental tables highlight differences in rates of preterm birth and term low birth weight by age of the mother.

Please see the Introduction to the Health section for discussion of statistical significance testing applied to these indicators. The NVSS records virtually all births in the United States—approximately 4 million per year. Because of this very large sample size, differences in birth outcomes that appear to be small in magnitude may be found to be statistically significant. Extensive research has been conducted with NVSS data to assess the presence of statistically significant trends and demographic differences, including analyses with much more detail than the one conducted here.<sup>23,84,85</sup>

Indicator H12

## Percentage of babies born preterm, by race/ethnicity, 1993-2008



Data: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

*America's Children and the Environment, Third Edition*

#### Data characterization

- Data from this indicator are obtained from a database maintained by the National Center for Health Statistics.
- The database collects information from birth certificates for virtually all births in the United States.
- Length of gestation is recorded on each birth certificate.

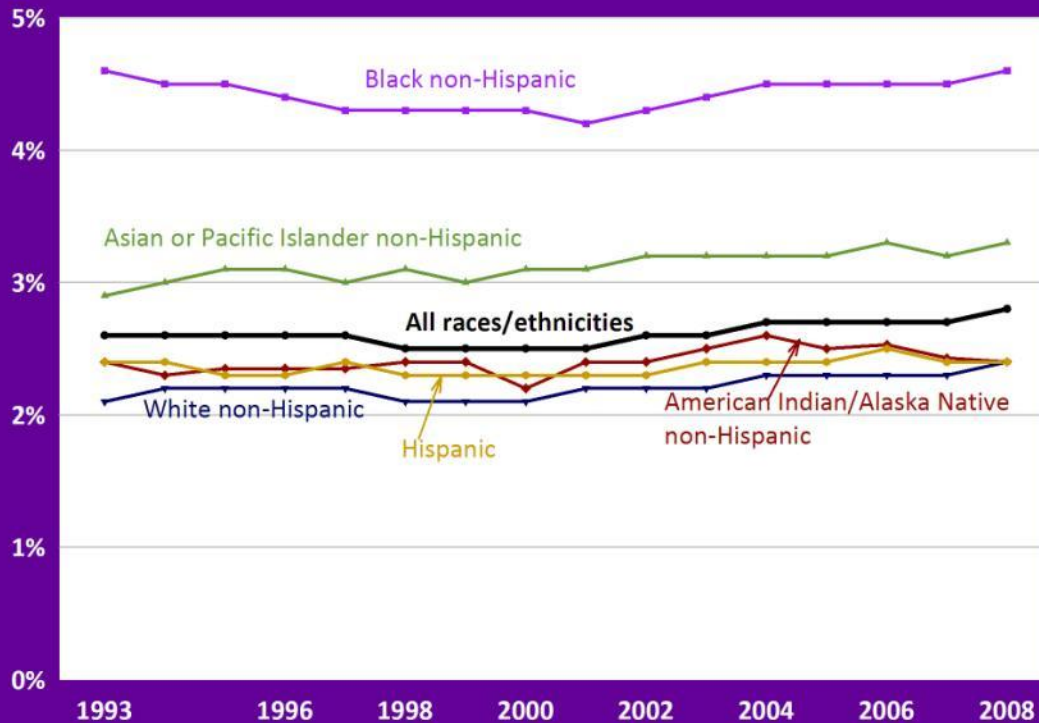
- Between 1993 and 2008, the rate of preterm birth showed an increasing trend, ranging from 11.0% in 1993 to its highest value of 12.8% in 2006. This increasing trend was statistically significant.
- In 2008, Black non-Hispanic women had the highest rate of preterm birth, compared with women of other races/ethnicities. More than 1 in 6 infants born to Black non-Hispanic women were born prematurely in that year.

- The difference between the rate of preterm birth for Black non-Hispanic women and the rates for the other race/ethnicity groups was statistically significant.
- Between 1993 and 2008, the preterm birth rate showed an increasing trend for each race/ethnicity group except Black non-Hispanic women. The preterm birth rate for Black non-Hispanic women stayed relatively constant, ranging between 17% and 19%.
  - The increasing trend in the rate of preterm birth was statistically significant for White non-Hispanic, Hispanic, American Indian/Alaska Native non-Hispanic, and Asian or Pacific Islander non-Hispanic women.
- The preterm birth rate varies depending on the age of the mother. Women ages 20 to 39 years have the lowest rate of preterm birth, compared with women under 20 years and women 40 years and older. The rates of preterm birth for women ages 20 to 39 years and women 40 years and older showed an increasing trend between 1993 and 2008; however, the increase for women ages 20 to 39 years was smaller. (See Table H12a.)
  - The differences between the preterm birth rates for the different age groups were statistically significant. The increasing trends in the rate of preterm birth for women ages 20 to 39 years and women 40 years and older were statistically significant as well.
- Twins, triplets, and other higher-order multiple birth babies are more than 5 times as likely to be born preterm compared with singleton babies (60.4% vs. 10.6% in 2008). The preterm birth rates for both singletons and multiples showed an increasing trend from 1993 to 2008; however, the increase for multiples was larger than for singletons. (See Table H12b.)
  - The increasing trend for both singleton and multiple births was statistically significant.



## Indicator H13

## Percentage of babies born at term with low birth weight, by race/ethnicity, 1993-2008



Data: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System  
*America's Children and the Environment, Third Edition*

**Data characterization**

- Data from this indicator are obtained from a database maintained by the National Center for Health Statistics.
- The database collects information from birth certificates for virtually all births in the United States.
- Birth weight and length of gestation are recorded on each birth certificate.

- Between 1993 and 2008, the rate of term low birth weight for all races/ethnicities stayed relatively constant, ranging between 2.5% and 2.8%. The rates of term low birth weight for infants born to White non-Hispanic mothers and Asian or Pacific Islander non-Hispanic mothers showed increasing trends between 1993 and 2008, while the rates of term low birth weight for infants born to mothers of the other race/ethnicity groups stayed relatively constant.

- The rate of term low birth weight varies by race/ethnicity. In 2008, the rate was highest for infants born to Black non-Hispanic mothers, and next highest for infants born to Asian or Pacific Islander non-Hispanic mothers. The rate of term low birth weight is lowest for infants born to White non-Hispanic mothers, Hispanic mothers, and American Indian/Alaska Native non-Hispanic mothers.
  - The rate of term low birth weight for Black non-Hispanic women was statistically significantly higher than for all other race/ethnicity groups. The rate of term low birth weight for Asian or Pacific Islander non-Hispanic women was significantly lower than for Black non-Hispanic women but significantly higher than the other race/ethnicity groups.
- Term low birth weight rates vary by the age of the mother. In 2008, women ages 20 to 39 years had the lowest rate of term low birth weight infants, while women under 20 years had the highest rate of term low birth weight infants. These differences were statistically significant. (See Table H13a.)
- Between 1993 and 2008, the rate of term low birth weight for women 40 years and older showed an increasing trend, ranging from 2.9% to 3.4%. This increasing trend was statistically significant. (See Table H13a.)
- Twins, triplets, and other higher-order multiple birth babies are more than 5 times as likely to be born at term with low birth weight compared with singleton babies (12.6% vs. 2.4% in 2008). The rate of term low birth weight for singleton and multiple babies stayed relatively constant over the period of 1993–2008. (See Table H13b.)

## Health

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## Adverse Birth Outcomes

Table H12: Percentage of babies born preterm, by race/ethnicity, 1993-2008

1993-2000								
	1993	1994	1995	1996	1997	1998	1999	2000
All Races/ Ethnicities	11.0	11.0	11.0	11.0	11.4	11.6	11.8	11.6
White non- Hispanic	9.1	9.3	9.4	9.5	9.9	10.2	10.5	10.4
Black or African- American non- Hispanic	18.6	18.2	17.8	17.5	17.6	17.6	17.6	17.4
Asian or Pacific Islander non- Hispanic	10.0	10.1	9.9	10.0	10.2	10.3	10.4	9.9
American Indian or Alaska Native non-Hispanic	12.3	12.0	12.4	11.9	12.2	12.2	12.7	12.6
Hispanic	11.0	10.9	10.9	10.9	11.2	11.4	11.4	11.2
Mexican	10.6	10.6	10.6	10.5	10.8	11.0	11.1	11.0
Puerto Rican	13.3	13.4	13.4	13.2	13.7	13.9	13.7	13.5
Unknown Ethnicity	10.1	11.0	10.5	9.8	10.7	10.5	10.5	10.8

2001-2008								
	2001	2002	2003	2004	2005	2006	2007	2008
All Races/Ethnicities	11.9	12.1	12.3	12.5	12.7	12.8	12.7	12.3
White non- Hispanic	10.8	11.0	11.3	11.5	11.7	11.7	11.5	11.1
Black or African- American non- Hispanic	17.6	17.7	17.8	17.9	18.4	18.5	18.3	17.5
Asian or Pacific Islander non- Hispanic	10.3	10.4	10.4	10.5	10.7	10.9	10.8	10.6
American Indian or Alaska Native non-Hispanic	13.2	13.0	13.5	13.7	14.2	14.3	14.1	13.8
Hispanic	11.4	11.6	11.8	12.0	12.1	12.2	12.3	12.1
Mexican	11.2	11.4	11.7	11.8	11.8	11.8	11.9	11.6
Puerto Rican	13.7	14.0	13.8	14.0	14.3	14.4	14.5	14.1
Unknown Ethnicity	11.3	11.2	12.8	12.8	13.2	13.1	13.6	13.9

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Table H12a. Percentage of babies born preterm, by mother's age, 1993-2008

1993-2000								
	1993	1994	1995	1996	1997	1998	1999	2000
Ages < 20 years	14.3	14.2	13.8	13.6	13.8	14.0	14.1	13.9
Ages 20 to 39 years	10.4	10.5	10.5	10.5	10.9	11.2	11.3	11.2
Ages 40+ years	13.2	13.7	13.7	13.8	14.4	14.9	15.2	15.1
2001-2008								
	2001	2002	2003	2004	2005	2006	2007	2008
Ages < 20 years	14.1	14.0	14.3	14.5	14.7	14.8	14.6	14.1
Ages 20 to 39 years	11.6	11.7	12.0	12.1	12.4	12.4	12.3	12.0
Ages 40+ years	15.6	16.0	16.3	16.6	16.8	17.0	17.2	17.1

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Table H12b. Percentage of babies born preterm, by all births, singletons, and multiples, 1993-2008

1993-2000								
	1993	1994	1995	1996	1997	1998	1999	2000
All births	11.0	11.0	11.0	11.0	11.4	11.6	11.8	11.6
Singletons	9.9	9.9	9.8	9.7	10.0	10.1	10.3	10.1
Multiples	53.1	54.0	54.6	55.6	57.3	58.4	59.4	58.7
2001-2008								
	2001	2002	2003	2004	2005	2006	2007	2008
All births	11.9	12.1	12.3	12.5	12.7	12.8	12.7	12.3
Singletons	10.4	10.4	10.6	10.8	11.0	11.1	11.0	10.6
Multiples	59.4	60.1	61.2	61.4	62.1	61.9	61.6	60.4

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System



Table H13: Percentage of babies born at term with low birth weight, by race/ethnicity, 1993-2008

1993-2000								
	1993	1994	1995	1996	1997	1998	1999	2000
All Races/Ethnicities	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5
White non-Hispanic	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.1
Black or African-American non-Hispanic	4.6	4.5	4.5	4.4	4.3	4.3	4.3	4.3
Asian or Pacific Islander non-Hispanic	2.9	3.0	3.1	3.1	3.0	3.1	3.0	3.1
American Indian or Alaska Native non-Hispanic	2.4	2.3	2.3	2.3	2.3	2.4	2.4	2.2
Hispanic	2.4	2.4	2.3	2.3	2.4	2.3	2.3	2.3
Mexican	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.2
Puerto Rican	3.4	3.2	3.3	3.3	3.3	3.4	3.1	3.2
Unknown Ethnicity	2.5	2.6	2.4	2.4	2.4	2.2	2.5	2.2
2001-2008								
	2001	2002	2003	2004	2005	2006	2007	2008
All Races/Ethnicities	2.5	2.6	2.6	2.7	2.7	2.7	2.7	2.8
White non-Hispanic	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4
Black or African-American non-Hispanic	4.2	4.3	4.4	4.5	4.5	4.5	4.5	4.6
Asian or Pacific Islander non-Hispanic	3.1	3.2	3.2	3.2	3.2	3.3	3.2	3.3
American Indian or Alaska Native non-Hispanic	2.4	2.4	2.5	2.6	2.5	2.5	2.4	2.4
Hispanic	2.3	2.3	2.4	2.4	2.4	2.5	2.4	2.4
Mexican	2.2	2.2	2.2	2.3	2.3	2.4	2.2	2.3
Puerto Rican	3.2	3.2	3.4	3.2	3.3	3.4	3.4	3.3
Unknown Ethnicity	2.2	2.3	2.5	2.6	2.3	2.8	2.9	3.1

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Table H13a. Percentage of babies born at term with low birth weight, by mother's age, 1993-2008

1993-2000								
	1993	1994	1995	1996	1997	1998	1999	2000
Ages < 20 years	3.4	3.5	3.5	3.6	3.6	3.5	3.5	3.5
Ages 20-39 years	2.5	2.5	2.4	2.5	2.4	2.4	2.4	2.4
Ages 40+ years	2.9	3.1	3.1	3.1	3.1	3.0	3.1	3.2
2001-2008								
	2001	2002	2003	2004	2005	2006	2007	2008
Ages < 20 years	3.5	3.5	3.6	3.7	3.7	3.7	3.6	3.7
Ages 20-39 years	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.6
Ages 40+ years	3.2	3.2	3.2	3.4	3.4	3.4	3.3	3.4

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

**Table H13b. Percentage of babies born at term with low birth weight, by all births, singletons, and multiples, 1993-2008**

1993-2000								
	1993	1994	1995	1996	1997	1998	1999	2000
All births	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5
Singletons	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2
Multiples	13.4	13.0	13.1	13.0	12.3	12.1	11.9	12.0
2001-2008								
	2001	2002	2003	2004	2005	2006	2007	2008
All births	2.5	2.6	2.6	2.7	2.7	2.7	2.7	2.8
Singletons	2.2	2.3	2.3	2.3	2.3	2.4	2.4	2.4
Multiples	12.2	12.1	12.0	12.0	12.0	12.3	12.3	12.6

DATA: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System