

PRETERM BIRTH AND LOW BIRTH WEIGHT

Babies born preterm (before 37 completed weeks of gestation) or at low birth weight (less than 2,500 grams or 5.5 pounds) are at increased risk of immediate life-threatening health problems as well as long-term complications and developmental delays. Complications that can occur during the newborn period include respiratory distress, jaundice, anemia, and infection. Long-term complications can include learning and behavioral problems, cerebral palsy, lung problems, and vision and hearing loss.^{1,2}

As a result of these risks, preterm birth and low birth weight are leading causes of infant death and childhood disability. Babies who are born the earliest and smallest have the highest risks of morbidity and mortality. For example, infants born very preterm (less than 32 weeks' gestation) or at a very low birth weight (less than 1,500 grams) have 89 and 110 times the risk of dying in the first year of life as their full-term and non-low birth weight counterparts, respectively (see page on infant mortality). In other words, more than half of all infant deaths occur among the less than 2 percent of infants born very preterm or at low birth weight. However, even babies born "late preterm" (34–36 weeks' gestation) or at moderately low birth weight (1,500–2,499 grams) are more likely than full-term and normal birth weight babies to experience morbidity and mortality. Preterm birth and low birth weight exact a heavy societal toll with the annual economic burden related to preterm birth estimated to exceed \$26 billion, including costs for medical care and early intervention as well as lost productivity due to disabling conditions.³

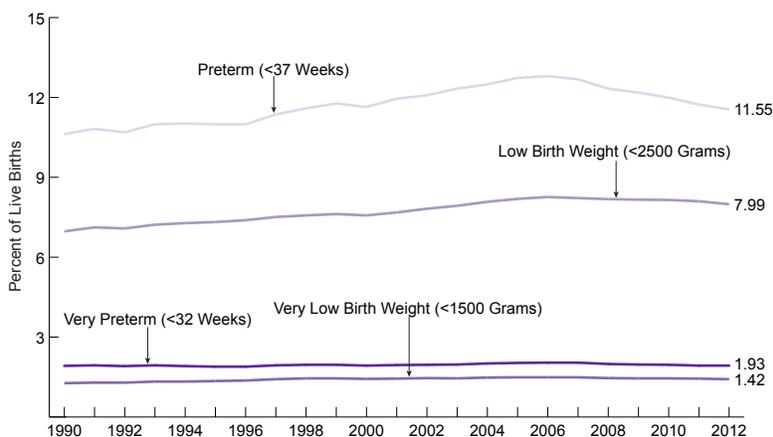
The causes of preterm birth are not well understood but are linked to infection and vascular disease as well as medical conditions, such

as diabetes and hypertension, which may necessitate labor induction or cesarean delivery.^{3,4} The majority of very low birth weight infants are born prematurely, whereas those born at moderately low birth weight include a mix of prematurity as well as fetal growth restriction that may be related to factors such as maternal hypertension, tobacco smoke exposure, and inadequate weight gain during pregnancy.²

In 2012, 11.55 percent of infants were born preterm and 7.99 percent were born at low birth weight. Less than 2 percent were born very preterm (1.93 percent) or at very low birth weight (1.42 percent). Between 1990 and 2006, the preterm birth rate increased more than 20 percent, from 10.62 to 12.80 percent; and the rate of very preterm birth increased by 6 percent, from 1.92 to 2.04 percent (figure 1). Rates of low and very low birth weight also peaked in 2006 at 8.26 and 1.49 percent, respectively, with 19 and 17 percent respective increases over 1990 levels. Reasons for the rise in preterm birth and low birth weight include increases in obstetric interventions, maternal age, and fertility treatments, which are more likely to result in multiple births.^{4,5} Since the 2006 peak, preterm birth declined by 10 percent and very preterm birth declined by 6 percent, while declines in low and very low birth weight were more modest at 3 and 4 percent, respectively. Reasons for these recent declines are not fully known but may be associated with declines in nonmarital childbearing⁶ and obstetric interventions, such as "elective" or non-medically indicated deliveries at less than 39 weeks.⁷

Preterm birth and low birth weight vary by race and ethnicity, with rates typically highest among infants born to non-Hispanic Black women. In 2012, 16.53 percent of babies born to non-Hispanic Black women were preterm and 13.18 percent were low birth weight, rates

Figure 1. Very Preterm, Preterm, Very Low Birth Weight, and Low Birth Weight Rates, 1990–2012

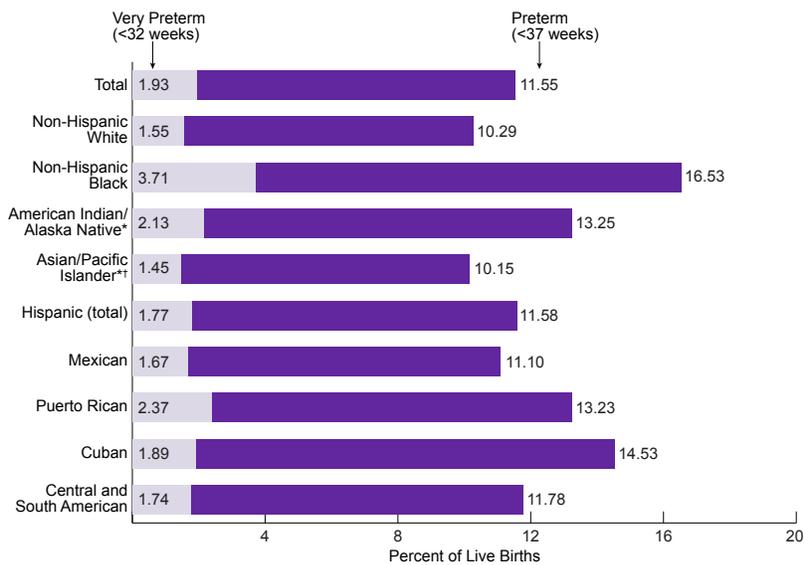


that were respectively 1.6 and 1.9 times that of non-Hispanic White infants (10.29 and 6.97 percent, respectively; figures 2 and 3). The disparity in very preterm and very low birth weight is even greater, with non-Hispanic Black infants being 2.4 and 2.6 times more likely than non-Hispanic White infants to be born very preterm (3.71 versus 1.55 percent, respectively) and very low birth weight (2.94 versus 1.13 percent, respectively). Compared to non-Hispanic White infants, Puerto Rican infants also had higher rates of preterm birth and low

birth weight (13.23 and 9.40 percent, respectively), while Asian/Pacific Islander infants had a higher rate of low birth weight (8.21 percent). Racial and ethnic disparities in birth outcomes may be explained by differences in a variety of socioeconomic, psychosocial, behavioral, and medical risk factors.⁸

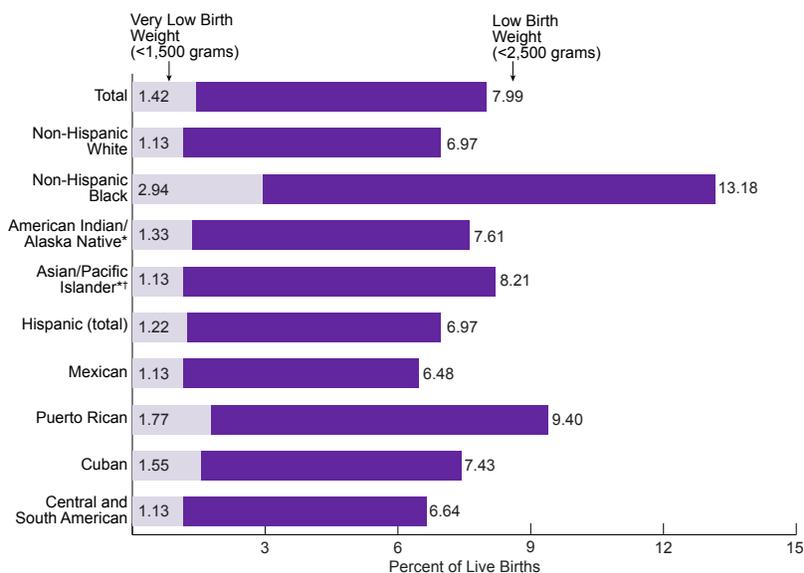
Rates of adverse birth outcomes also vary by maternal age. In 2012, very preterm, preterm, very low birth weight, and low birth weight rates were all highest among mothers less than 20 years of

Figure 2. Very Preterm and Preterm Birth Rates, by Maternal Race/Ethnicity, 2012



*May include Hispanics. **Separate data for Asians, Native Hawaiians, and other Pacific Islanders not available.

Figure 3. Very Low and Low Birth Weight Rates, by Maternal Race/Ethnicity, 2012



*May include Hispanics. **Separate data for Asians, Native Hawaiians, and other Pacific Islanders not available.

age and aged 35 years or older (figures 4 and 5). For example, very preterm birth rates were 2.59 percent among teenaged mothers and 2.22 percent among those aged 35 years and older, compared to 1.72 among 25- to 29-year-olds and 1.75 percent among 30- to 34-year-olds. The higher rates of adverse birth outcomes among teens may be partly explained by socioeconomic disadvantage, while the higher rates among women aged 35 years and older tends to be a function of obstetric and medical complications and a greater probability of multiple births, both naturally and through fertility treatments, which have a substantially higher likelihood of preterm birth and low birth weight.⁸

Preventive interventions to reduce prematurity and low birth weight

include screening and counseling to reduce smoking, alcohol, and substance use in pregnancy; comprehensive care before, during, and between pregnancies to identify and address chronic health conditions and to prevent unintended and rapid repeat pregnancies; place-based initiatives and care models that address social determinants such as housing and employment; and progesterone therapy to help sustain pregnancies among women with prior spontaneous preterm birth or with short cervical lengths.⁸ Other tertiary prevention efforts can reduce morbidity and mortality among infants born prematurely, such as improving access to risk-appropriate neonatal intensive care at delivery and antenatal corticosteroids that can promote fetal lung development prior to imminent premature delivery.⁸

Figure 4. Very Preterm and Preterm Birth Rates, by Maternal Age, 2012

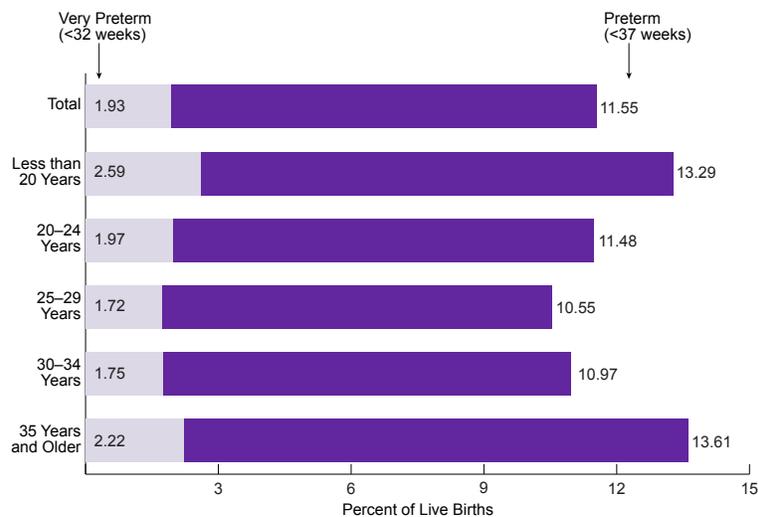
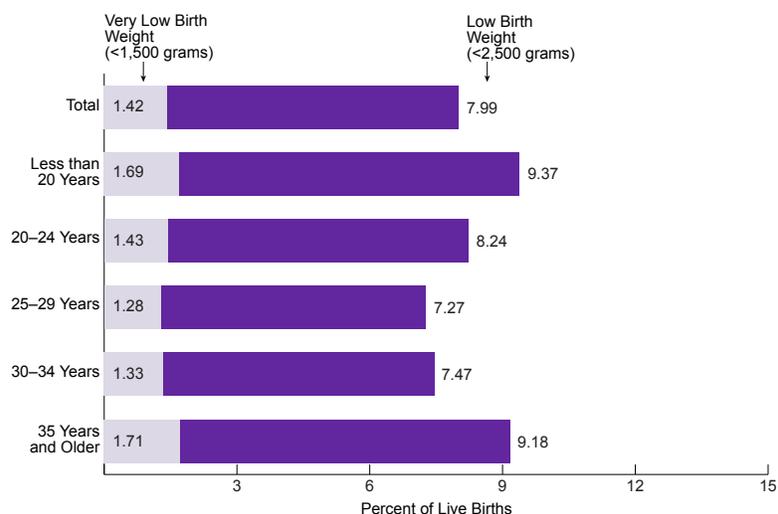


Figure 5. Very Low and Low Birth Weight Rates, by Maternal Age, 2012



Data Sources

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Figure 2 and 3. Martin JA, Hamilton BE, Osterman JK, et al. Births: final data for 2012. National Vital Statistics Reports. 2013;62(9).

Figure 4 and 5. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics. 2012 Natality File. Analyzed by the Maternal and Child Health Bureau.

Endnotes

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