

Healthy Moms, Healthy Kids:

A Series on Maternal and Child Health in Colorado

Healthy Pregnancies

A woman's behaviors during pregnancy can have a significant influence on her baby's healthy development. Women who smoke or drink alcohol during pregnancy, go without prenatal care or suffer from poor nutrition are more likely to experience complications during pregnancy or childbirth, and their babies are at increased risk for developing a number of health problems. Regular prenatal care presents a key opportunity to inform expectant mothers about healthy behaviors during pregnancy and recognize risk factors associated with the leading causes of infant mortality in the U.S. and Colorado.

"Healthy Pregnancies" is one in a series of six briefs published by the Colorado Children's Campaign addressing maternal and child health topics titled *Healthy Moms, Healthy Kids: A Series on Maternal and Child Health in Colorado*. Other topics in the series include domestic violence, maternal depression, family structure and teen motherhood, social determinants of health and nutrition. We wish to thank Kaiser Permanente for its generous support of this project.



Low Birthweight

The average weight for a newborn baby in the United States is about seven pounds.¹ Approximately one in 12 U.S. babies, however, is born with low birthweight, classified as weighing less than five pounds, eight ounces at birth.² The complications associated with low birthweight are numerous and can be severe. According to the Centers for Disease Control, complications related to low birthweight are a leading cause of infant mortality in the United States.³ Low birthweight also puts newborn babies at increased risk for a variety of acute health complications after birth, including respiratory distress syndrome and heart problems. Very low birthweight babies (those born weighing less than three pounds, four ounces) may suffer from long-term neurological and developmental disabilities.⁴

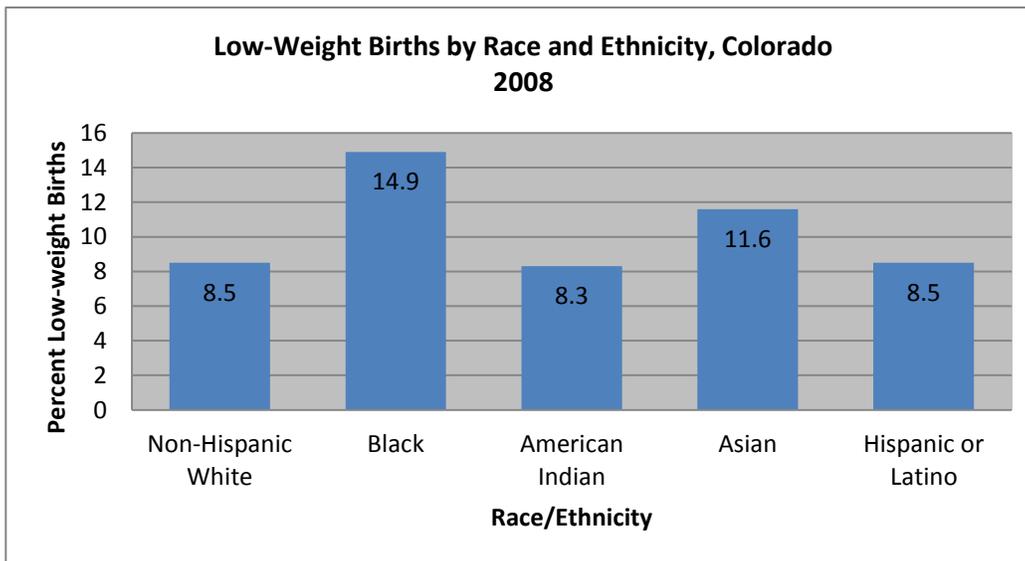
The two primary reasons babies are born with low birthweight are premature birth (defined as a birth taking place before 37 full weeks of pregnancy) or a fetal growth restriction – a problem that occurs when a baby does not grow in the womb at a normal rate.^{5,6} A number of risk factors increase the likelihood that a woman will give birth to a low birthweight baby, including smoking, drinking or using illicit drugs during pregnancy, inadequate maternal weight gain during pregnancy or chronic maternal health problems such as high blood pressure or diabetes.⁷ Additionally, women giving birth to multiples are more likely to have a low birthweight baby than women with single-baby births. Research shows that more than half of multiple birth babies are born with low birthweight, compared to six percent of single birth babies.⁸



Research has uncovered a number of disparities in the prevalence of low-weight births among women from different racial, socioeconomic and educational backgrounds. The low-weight birth rate among black women is particularly troubling, for a variety of reasons that researchers have yet to comprehend. In 2009, the rate of low-weight births for black women in the U.S. was nearly twice as high as the rate for non-Hispanic white women.⁹ Low-income women, women under the age of 17 and women lacking education also face an increased risk of giving birth to a low birthweight baby.¹⁰

Nationally, low birthweight babies represented 8.2 percent of all live births in 2008.¹¹ In the same year, low birthweight babies represented 8.9 percent of all live births in Colorado, giving the state the 12th highest rate of low-weight births in the country.¹² Consistent with the national trend, the percentage of low birthweight babies among black women in Colorado is disproportionately high, with nearly 15 percent of all live births in 2008 resulting in low birthweight babies.¹³

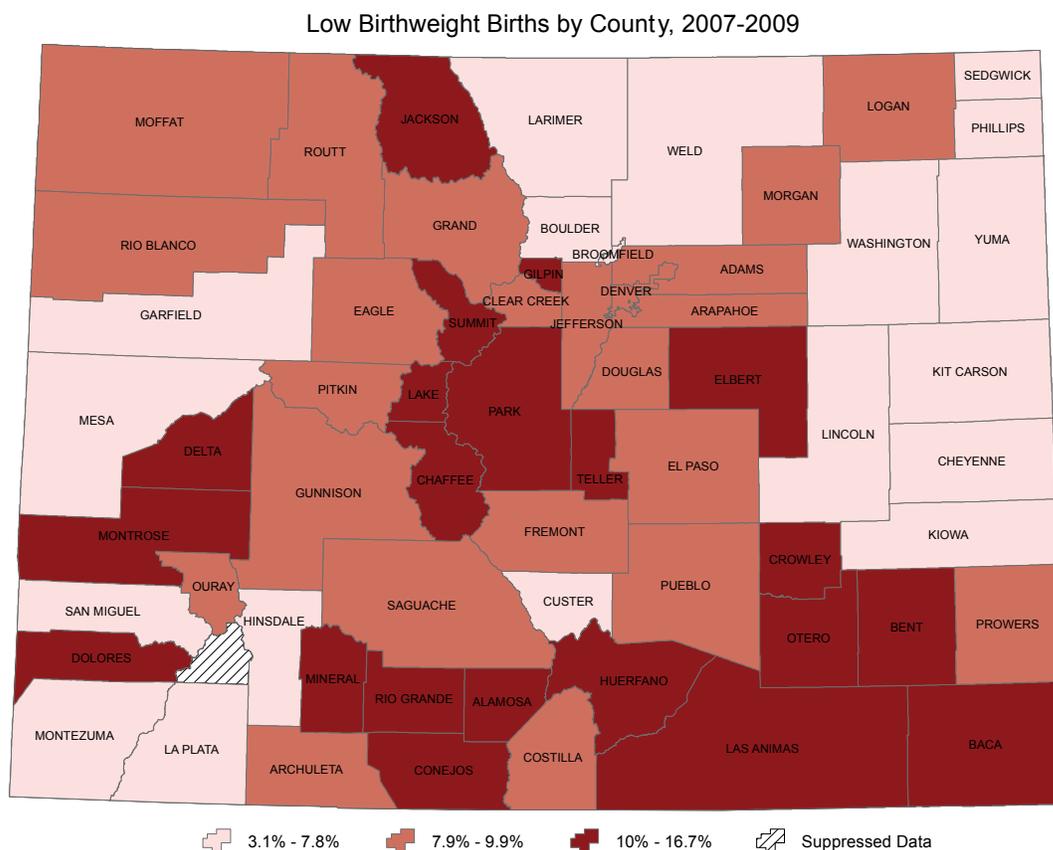




Source: Centers for Disease Control and Prevention, National Center for Health Statistics.

One factor that may contribute to the relatively high number of low-weight births in Colorado is altitude. Research indicates that living at higher altitudes can increase the probability that a woman will give birth to a baby with low birthweight. In fact, each 1,000 foot increase in altitude between 3,000 feet and 11,000 feet above sea level is associated with a decrease of about one ounce of weight at birth.¹⁴

In addition to variations based on race and ethnicity, geographical differences in low-weight births also are observed throughout Colorado. Between 2007 and 2009, only 30 percent of Colorado counties met the Healthy People 2020 target of 7.8 percent low-weight births or less.^{15,16}



Source: Colorado Children's Campaign. 2011 KIDS COUNT in Colorado!

Alcohol Use Before and During Pregnancy

Drinking alcohol during pregnancy can increase the risk of preterm delivery and stillbirths, hinder fetal growth and cause a number of fetal alcohol spectrum disorders (FASD), including fetal alcohol syndrome (FAS).¹⁷ Newborns affected by FASD exhibit abnormal facial features, small head size, shorter than average length, low body weight, vision and hearing problems and poor coordination.¹⁸ Later in life, a child may exhibit behavioral health problems associated with FASD, including hyperactive behavior, difficulty paying attention and poor reasoning or judgment skills.¹⁹ Children with fetal alcohol syndrome – the most severe condition on the FASD spectrum – may suffer from severe mental retardation, learning disabilities or heart, lung and kidney defects.²⁰

Because there is no safe amount of alcohol that can be consumed during pregnancy, early identification of potential alcohol use during pregnancy is essential to reducing a baby's FASD risk. Research suggests that a woman's level of alcohol use level prior to becoming pregnant is a strong predictor of alcohol use during pregnancy. The Centers for Disease Control and Prevention reports that many women of childbearing age who drink alcohol before becoming pregnant continue to drink during the early weeks of pregnancy because they do not realize that they are pregnant. In fact, only about 40 percent of women realize that they are pregnant at four weeks of gestation, a critical period for organ development, and one in 20 women reports drinking excessively before finding out about her pregnancy.^{21,22}

Experts agree that monitoring the consumption of alcoholic beverages among women of childbearing age is important in order to reduce the number of alcohol-exposed pregnancies and children born with FASD.²³ According to the 2009 Behavioral Risk Factor Surveillance Survey, 10.6 percent of Colorado women ages 18-44 reported binge drinking (classified as having four or more drinks on any occasion) during the last 30 days. More troubling is the fact that in 2009, 10.5 percent of Colorado women reported drinking alcohol during the last three months of their pregnancy.²⁴

Though it can be difficult to ascertain exactly how many children are affected by FASD, Colorado is one of four states that received funding from the Centers for Disease Control to establish a population-based fetal alcohol syndrome surveillance program. According to the most recent data available, it is estimated that 0.3 cases of fetal alcohol syndrome occur for every 1,000 live births in Colorado.²⁵

Smoking and Secondhand Smoke Exposure During Pregnancy

It has been well-established that smoking and secondhand smoke exposure during pregnancy threaten the health of a mother and her unborn baby.^{26,27} Smoke from tobacco contains at least 250 toxic chemicals, including 50 that are known carcinogens, and tobacco use is the leading cause of preventable death in the United States and in Colorado.²⁸ Women who smoke while pregnant face an increased risk of various pregnancy complications, including premature birth, giving birth to a baby with low birthweight and stillbirth. Furthermore, babies born to mothers who smoke during pregnancy are more likely to have birth defects such as a cleft lip or palate and are up to three times more likely to die from Sudden Infant Death Syndrome (SIDS).^{29,30}

While it is imperative for women to abstain from smoking while they are pregnant in order to lessen the probability that these complications will occur, research also demonstrates the importance of not exposing a baby to cigarette smoke after he or she is born. Studies have shown that babies exposed to secondhand smoke face a heightened risk of developing a number of respiratory problems, including asthma, pneumonia, ear infections and slow lung growth.³¹

Data indicates that women from certain populations are more likely to smoke during pregnancy than their peers. For example, women on Medicaid are three times more likely to smoke during their third trimester than women covered by private insurance. American Indian and non-Hispanic white women also report disproportionately high levels of smoking during pregnancy.³² Utilizing screening tools and developing interventions targeted to these high-risk populations is particularly important in preventing birth defects among these groups.



In recent years, Colorado has fared better than average with respect to the percentage of pregnant women reported to have smoked during the last three months of their pregnancy. According to the Pregnancy Risk Assessment Monitoring System, the number of women reporting no tobacco use during the last three months of their pregnancy has remained at or near 90 percent from 2000 through 2008. In 2008, nearly 92 percent of Colorado women reported abstaining from smoking during their last trimester, placing the state third out of 29 states that collected data in this category.³³

Promoting Healthy Behaviors During Pregnancy: Best Practices

Regular Prenatal Care

Timely, high-quality prenatal care throughout pregnancy is essential to making sure expectant mothers know how to take care of themselves and their babies. Early and regular prenatal care has also been shown to reduce the incidence of low-weight births and pre-term deliveries.³⁴

During prenatal care visits, health care providers will perform regular checkups to monitor a baby's growth, educate women on healthy behaviors during pregnancy and perform tests to detect any potential complications as early as possible. The recommended frequency of prenatal care exams during pregnancy are:

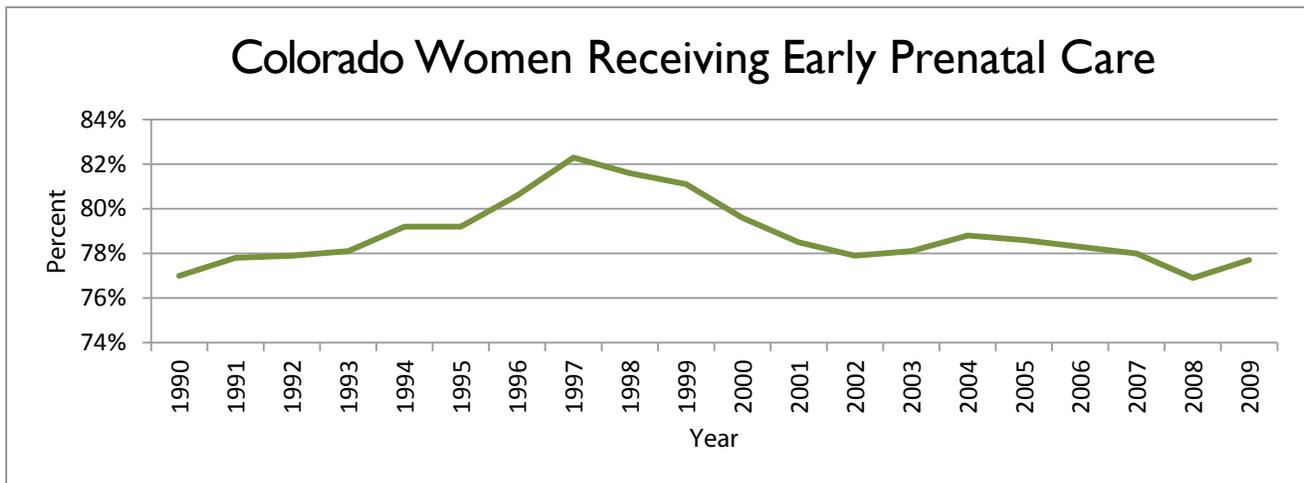
- Once per month for weeks four through 32;
- Twice a month for weeks 32 through 36; and
- Once weekly for weeks 36 to birth.

Women who are older than 35 or have been identified as having a high-risk pregnancy should see their health care provider more often.³⁵

Given its importance to the health of expectant mothers and their babies, ensuring that women access prenatal care early in their pregnancies is essential. In 2009, however, only 77.7 percent of pregnant women in Colorado received early prenatal care – a slight increase over the previous year.³⁶

According to the Colorado Department of Public Health and Environment, the most common barrier to receiving early prenatal care was a financial limitation or lack of health insurance.³⁷ Adequate health coverage for pregnant women is essential to ensuring they do not go without the regular prenatal care that is vital to their health and the health of their babies. Research shows that uninsured women are more likely than women with insurance to delay the initiation of prenatal care past the first trimester.³⁸ Efforts to improve access to health coverage among pregnant women are central to making sure expectant mothers can obtain timely prenatal care.





Source: Colorado Children's Campaign. 2011 KIDS COUNT in Colorado!

Screening for Alcohol Use during Pregnancy

Although the consequences of alcohol use during pregnancy can be severe or even fatal for a child, alcohol-related birth defects are entirely preventable. Women who are pregnant, trying to become pregnant or suspect they may be pregnant should abstain completely from alcohol to eliminate the risk of giving birth to a child with FASD. Moreover, research calls for timely screening and interventions designed to target women who may be at risk for alcohol-exposed pregnancies. A handful of screening tools, including T-ACE and TWEAK, have been determined to be effective at identifying pregnant and nonpregnant women with risky drinking behaviors and are simple to administer in a clinical setting.³⁹

Smoking Cessation Programs for Pregnant Women

Smoking cessation programs can serve as valuable supports for expectant mothers trying to give up smoking. In Colorado, pregnant women qualify for a free service through Colorado QuitLine, which provides personal coaching calls and text messages from a qualified trainer during pregnancy and after the baby is born, a reward card that can be used to purchase items for the mother or her baby and various other services designed to support pregnant women in their effort to quit smoking.⁴⁰



Nurse Home Visitor Programs

Colorado's Nurse Home Visitor Program is an important tool for educating first-time mothers about healthy behaviors during pregnancy. First-time mothers with incomes at or below 200 percent of the federal poverty level are eligible to receive services through the program during their pregnancy and until their child's second birthday. Women enrolled in the program receive weekly or bi-weekly home visits from trained nurses who provide information on topics ranging from prenatal health care to the importance of abstaining from smoking and drinking during pregnancy.⁴¹

Special Supplemental Nutrition Program for Women, Infants and Children (WIC)

The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) is a federally-funded program that provides nutrition education, supplemental healthy foods and health care referrals to low-income pregnant or postpartum mothers, infants and children who are deemed to be at nutrition risk. Since the foods a woman eats during pregnancy serve as the main source of nutrients for her baby, promoting healthy eating habits among expectant mothers – especially those at risk for poor nutrition – is essential to healthy child development.⁴² Additionally, counseling expectant mothers on healthy eating and expanding access to nutritious foods can help ensure that women experience healthy, appropriate weight gain during their pregnancy.

Acknowledgements:

We wish to acknowledge Dr. Steve Federico of the Colorado Chapter of the American Academy of Pediatrics for the time, input and expertise he dedicated to this publication.

Multiple staff members of the Colorado Children's Campaign contributed to the publication of this report. Project management was facilitated by Sarah Hughes. For more information or to request a presentation on this topic, please visit www.coloradokids.org.

End Notes

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COLORADO CHILDREN'S CAMPAIGN

1580 Lincoln Street, Suite 420 ● Denver, CO 80203

Phone: 303.839.1580 ● Fax: 303.839.1354 ● coloradokids.org