Improving Infant Health

ADDRESSING LOW BIRTHWEIGHT IN GEORGIA

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Acknowledgments

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Executive Summary

The determinants of health and well-being extend far beyond lifestyle and behavior. Social, environmental, economic, and genetic factors all influence health and well-being. Infant birthweight is driven by complex and multiple interactions of factors, including nutrition, maternal health status, maternal smoking, gestational age, and other biological influences.

Recent research has identified sociological factors that also appear to influence birthweight, including neighborhood features, maternal stress, and maternal educational status. The confluence of these and other behavioral factors results in two primary causes of low birthweight (LBW): preterm delivery and intrauterine growth restriction (IUGR), when an infant is smaller than expected for the number of weeks of pregnancy. These multiple factors present a variety of opportunities for prevention.

Unfortunately, the LBW trend is worsening. The rate of LBW infants born in the United States has reached its highest level in almost 30 years at 8.2 percent. The rate in Georgia is among the worst in the nation and has climbed steadily since 2000, reaching 9.5 percent in 2007.

Nearly 70 percent of all infants in the United States and in Georgia who die in the first year of life were LBW (less than 5.5 pounds.) The risk of death dramatically increases as birthweight decreases. The LBW babies who do live face health issues that can reach well into adolescence and result in long-term health care and associated costs.

The estimated charges in Georgia in 2006 for all singleton LBW infants weighing less than 2,500 grams exceeded $300 million. According to one national estimate, raising birthweight by even 500 grams (17.63 ounces) for a LBW infant saves an average of more than $28,000 in first-year medical costs alone.

The incidence of LBW varies widely by race and ethnicity of mother. In Georgia, black babies are twice as likely as white or Hispanic babies to be born LBW. In 2006, 12.3 percent of black infants were born LBW—more than twice the rate of 5.5 percent for white infants. Further, the rates of white and Hispanic LBW have remained similar and stable over the past 13 years, while the rate for black infants has increased during the past three years and significantly contributed to the overall increase. This racial disparity is far worse for the lower weight categories. If the birthweight distribution for black infants mirrored that for white infants, then approximately 250 infant deaths each year might be prevented in Georgia.

Women who live a healthy lifestyle, receive proper care and nutrition before, during, and after pregnancy, and have adequate supports and services are far more likely to give birth to healthy babies. Research findings have identified the work we need to do to help reduce the LBW rate—led by improving women's health.

- Reduce unintended pregnancies.
- Increase birth spacing to 18 to 23 months.
- Reduce maternal smoking.
- Improve nutrition.
- Improve access to health care, including chronic disease management.

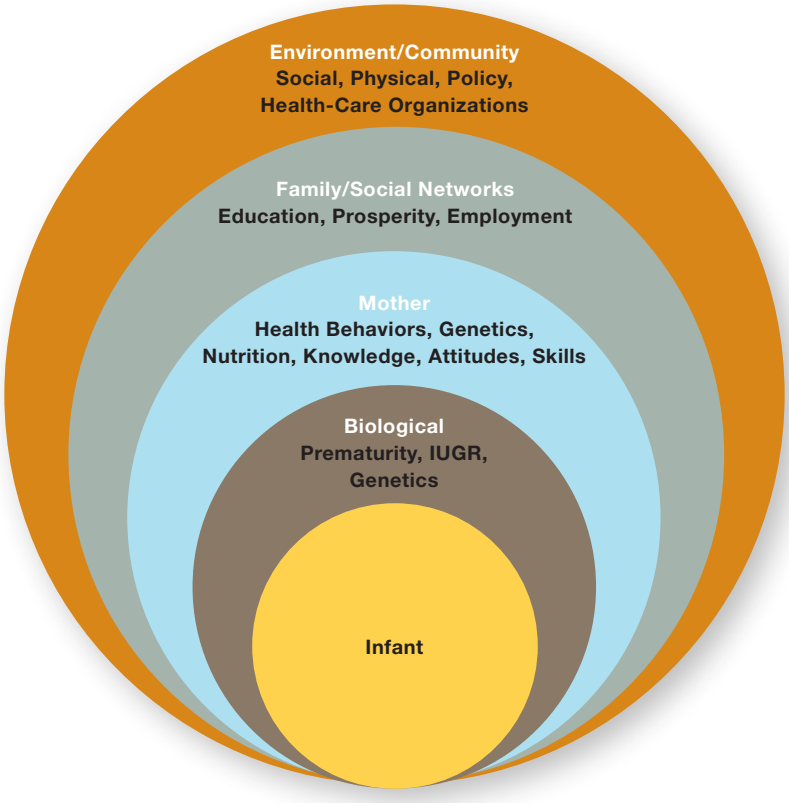
Now is the time to expand use of successful promising practices and to leverage existing health insurance coverage and program financing that will improve women's access to, and use of, quality health-care programs that work to improve birth outcomes.

Introduction

The determinants of health and well-being extend far beyond lifestyle and behavior. The health field model views behavior as an intermediate factor that is shaped by a variety of forces.[1] Social, environmental, economic, and genetic factors all influence health and well-being, providing various opportunities for interventions. The social environment relates to individual health through effects that often are *independent* of individual characteristics.[2] We know that women who live a healthy lifestyle, receive proper care and nutrition before, during, and after pregnancy, and have adequate supports and services are far more likely to give birth to healthy babies. The complex and multiple interactions among these factors that specifically influence the incidence of low birthweight (LBW) are shown in *Figure 1*.

LBW is defined as an infant born weighing less than 2,500 grams (5 pounds, 8 ounces). All LBW babies are either born preterm (before the 37th week of pregnancy) or suffer from delays in fetal development, termed intrauterine growth restriction (IUGR). The usual measure for IUGR is Small for Gestational Age (SGA). A birthweight less than the 10th percentile for all

Figure 1
SOCIO-ECOLOGICAL MODEL FOR LOW BIRTHWEIGHT



births of that gestational age is considered SGA. The examination of risk factors and promising practices to address LBW must consider the factors that impinge on, and result in, IUGR and preterm deliveries.

The rate of LBW infants born in the United States reached its highest level in nearly 30 years—in 2005 at 8.2 percent. Georgia is experiencing a similar increase and is among the nation's highest, with 9.5 percent in 2007. Georgia ranks 43rd out of 50 states according to the national *2008 KIDS COUNT Data Book*.[3] The number of LBW infants born to Georgia residents increased from 9,570 in 1994 to 14,351 in 2007, and the rate has climbed steadily since 2000 from 8.6 percent to 9.5 percent in 2007 (see *Figure 2*).

"The single most important predictor that a baby will die in the first year is that the baby is born small."

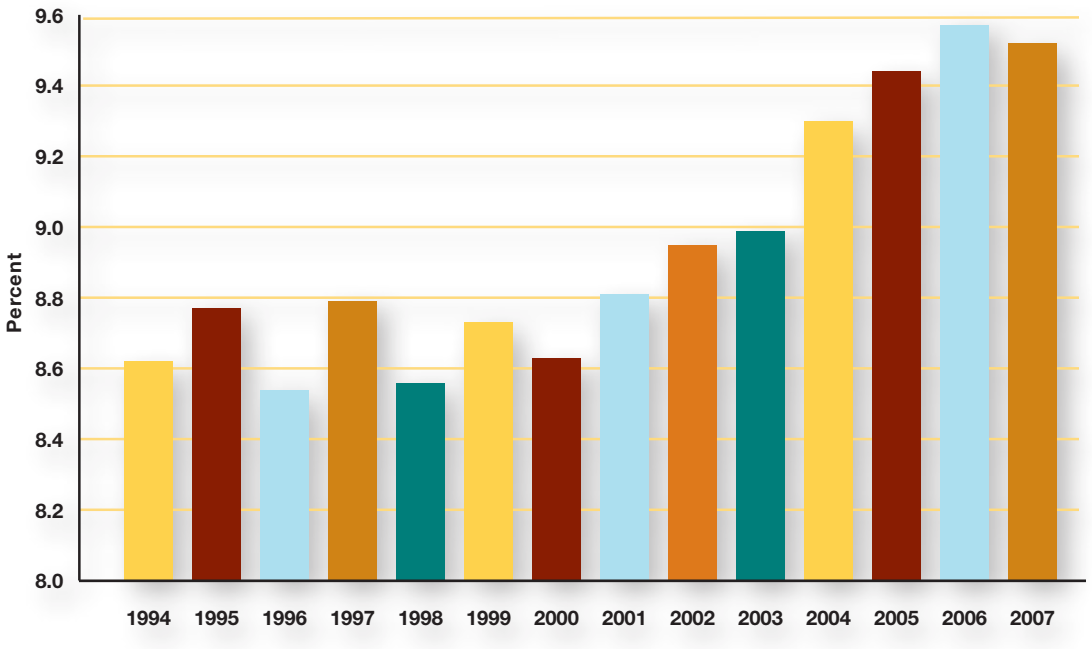
—Juan Acuña, MD, M.Sc.
Professor, Obstetrics and Gynecology
Florida International University

Infant Mortality and Low Birthweight

LBW infants are far more likely to die in the first year of life. Nearly 70 percent of all U.S. infants who die in the first year of life were born weighing less than 5.5 pounds.[4] The national infant mortality rate for LBW infants was 57.3 per 1,000 live births in 2005 and 58.6 per 1,000 in Georgia. Further, the risk of death dramatically increases as the birthweight decreases. *Figure 3* illustrates the infant mortality by birthweight category for Georgia infants born in 2005. The Georgia rate mirrors the national rate; 70 percent of infants who die in their first year of life were born LBW.

Those who survive are more likely to suffer from severe developmental delays such as mental retardation, birth defects such as cerebral palsy, and long-term health challenges, such as asthma, diabetes and heart disease.[5, 6] These problems continue into adolescence and adulthood.[6] Chronic health issues also impact social conditions. LBW individuals are more likely to attain less education and earn less income than their peers.[7] Because LBW

Figure 2
GEORGIA LOW-BIRTHWEIGHT RATE, ALL BIRTHS, 1994 - 2007



remains a significant predictor of infant mortality and poses other developmental issues, it is important to understand the risk factors associated with LBW.

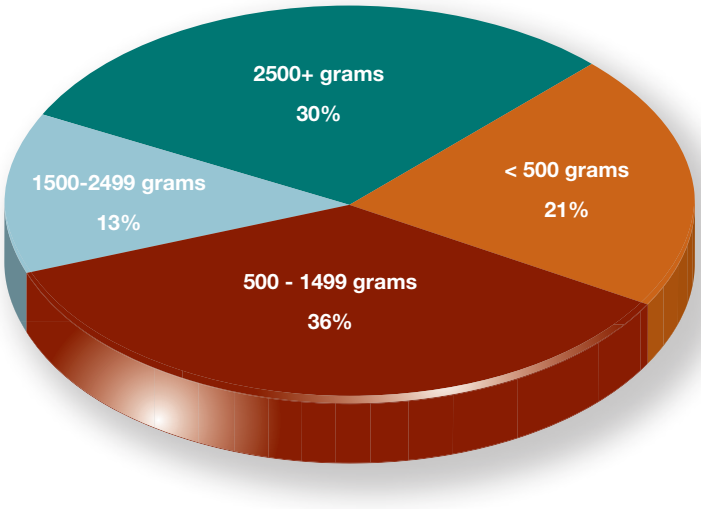
Costs of Low Birthweight

The fiscal and emotional toll of a LBW infant is significant. Costs associated with LBW births often are burdensome for families and the systems that provide the care. There are life-long costs of care to families depending on the severity of the health challenges. LBW infants who live are at an increased risk for disabilities resulting in long-term health care and associated costs. LBW is linked to mental retardation and cerebral palsy, problems with cognition, attention, neuromotor function, and other problems.[8]

Initial hospital costs of care for this vulnerable group also are significant. The hospital charges associated with the immediate birth and care of LBW infants were estimated using the average charges provided through the Georgia Hospital Discharge Data Set (GDDS) linked with the 2006 birth certificates. This preliminary analysis revealed that an infant born at normal birthweight (2,500 grams or more) incurred average hospital charges of $2,500 compared to $11,500 for an infant weighing between 1,500 to 2,499 grams, and $117,500 for an infant weighing 500 to 1,499 grams.

The estimates of average charges can be combined with the total number of LBW infants to calculate an estimate of the charges associated with LBW singleton infants in one year. This assumes that the GDDS charge estimates—based on two-thirds of the births—are representative of all births. The estimated charges in Georgia in 2006 for all singleton LBW infants weighing less than 2,500 grams exceeded $300 million. One national estimate states that raising birthweight by even 500 grams (17.63 ounces) for a LBW infant saves an average of more than $28,000 in first-year medical costs alone.[9]

Figure 3
INFANT DEATHS BY BIRTHWEIGHT, GEORGIA, 2005



Health Disparities—Low Birthweight Risk Factors

"The disparities we observe over a lifetime between African-American and white populations begin at birth . . . so we have many reasons, both in the short term and the long term to be concerned about racial disparity."

—Kathleen Adams, Ph.D.
Emory University
Rollins School of
Public Health

Infant birthweight is driven by a complex combination of factors, including nutrition, maternal health status, maternal smoking, gestational age, and other biological influences. Recent research has identified sociological factors that also appear to influence birthweight, including neighborhood features, maternal stress, and maternal educational status.[10, 12]

Evidence from longitudinal studies suggests that socioeconomic status *drives* much of the differences observed in health status.[11]

Smoking, Alcohol Use, and Drug Use

Many of the risks associated with low birthweight (LBW) have been well documented by research. One of the most well-researched predictors of LBW is maternal smoking. Maternal smoking during pregnancy directly affects fetal development, IUGR and preterm delivery. Numerous studies have proven that smoking during pregnancy is linked with LBW infants.[12, 13, 14, 15, 16, 17, 18] Babies whose mothers smoked during pregnancy are much more likely to be LBW than babies whose mothers did not smoke. Mothers who continue to smoke in the second half have a higher risk of a LBW infant than those who quit during the first half of pregnancy.[14] Smoking also has a dose response on LBW—the more a mother smokes during pregnancy, the higher her odds of giving birth to a LBW baby.[14, 17] A study by Collier and Hogue published in 2006 attributed 6 percent of LBW babies born in Georgia from 1996–1997 to maternal smoking.[19]

Smoking during pregnancy often is associated with alcohol and drug use.[12] Women who use alcohol or drugs during pregnancy are more likely to smoke during pregnancy than women who do not. Studies have shown that LBW is associated with the mother's use of alcohol and illicit drugs.[12] These risks appear to have the same dose effect that smoking does on LBW; that is, the more a mother uses alcohol or drugs during pregnancy, the higher the odds of her having a LBW infant.

Inadequate or Delayed Prenatal Care

Another significant risk factor for LBW is delayed or inadequate prenatal care.[12, 15, 22, 30] In discussing the relationship between prenatal care and LBW, defining "adequate" prenatal care can be difficult. Medical practitioners and researchers often have different ways of measuring adequacy of prenatal care. It can be defined by the number of prenatal visits, the stage of pregnancy at which care was initiated, the source of care (private or public), the spacing of prenatal visits, or the content of those prenatal visits (weight, blood pressure, birth education).[21] Most practitioners and researchers suggest that the content of prenatal visits is vital in preventing LBW babies, not just receiving prenatal care.

Prenatal care may be inadequate or delayed for many reasons. It may be a reflection of lower socio-economic status and limited access to health insurance and health care providers,[22] or it may signify an unexpected or unwanted pregnancy.[17] Late pregnancy registration (after 12 weeks gestation) also is associated with an increased risk for LBW.[17] In Georgia, 4 percent of all LBW births between 1996 and 1997 were attributed to unwanted pregnancy.[19]

Lack of proper nutrition and prenatal vitamins also are associated with LBW.[18] Failure to consume adequate folic acid through multivitamins or diet can contribute to LBW risk.[13, 23] Folate depletion is especially significant for mothers with short interpregnancy intervals, as there is a negative association between short pregnancy intervals and fetal growth.[23] One study found that iron supplementation can actually reduce the risk of a LBW infant in mothers who are not anemic.[24]

Race and Ethnicity

The incidence of LBW varies widely by race and ethnicity of the mother. Black women are at higher risk of having a LBW infant than white or

Hispanic women.[22, 25, 26] In Georgia, black babies are twice as likely as white or Hispanic babies to be born LBW. Further, the rates of white and Hispanic LBW have remained similar and stable over the past 13 years, while the rate for black infants has increased during the past three years and significantly contributed to the overall increase. For the past 13 years, the rate for black infants has been twice that for white infants. In 2006, 12.3 percent of black infants were born LBW—more than twice the rate of 5.5 percent for white infants (see *Figure 4*).

This racial disparity is far worse for the lower weight categories. In Georgia, a black infant is almost three times more likely to be very LBW (500 to 1,499 grams) than a white infant and four times more likely to be less than 500 grams (see *Figure 5*). This is a critical factor in the black/white infant mortality disparity. Controlling for birthweight, there is little difference between the survival rates of LBW black and white infants. The difference in infant deaths is due to the increased number of black infants born at LBW. In fact, if the birthweight distribution for black infants mirrored that for white infants, then approximately 250 infant deaths each year might be prevented in Georgia.

Maternal Education and Marital Status

The mother's educational status is an important predictor of a LBW infant. As maternal educational level increases, the risk of a LBW infant decreases[18, 22, 27, 28] making maternal education a protective factor for LBW. Several studies suggest that paternal education also plays a role in LBW.[27, 28] The educational level of the father also is inversely related to LBW, though it is not as significant a predictor as maternal education. Parents' marital status is relevant to LBW outcomes.[15, 22] Studies suggest that married parents are less likely than unmarried couples or those who do not live together to have a LBW infant.

Figure 4
LOW-BIRTHWEIGHT RATE OF SINGLETON BIRTHS IN GEORGIA BY RACE AND ETHNICITY

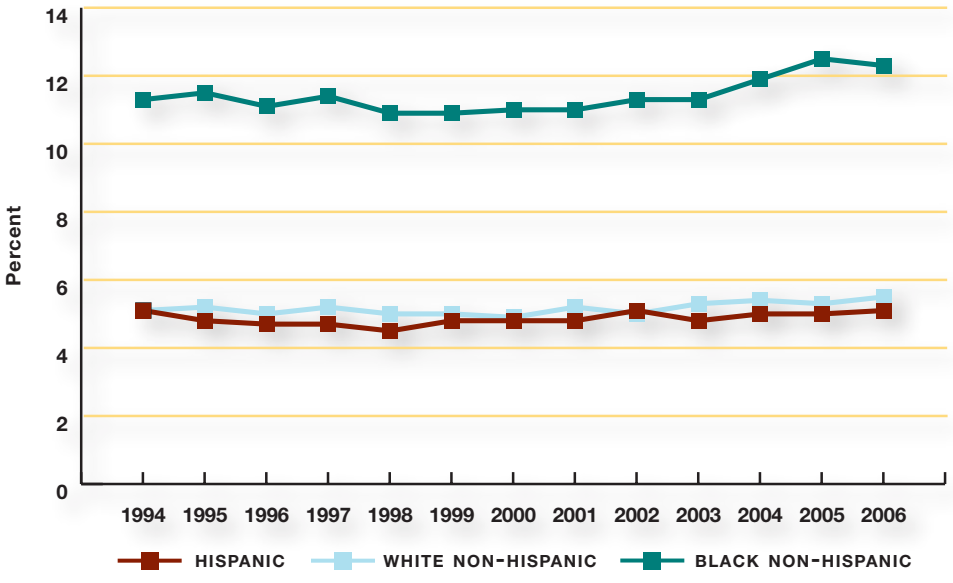
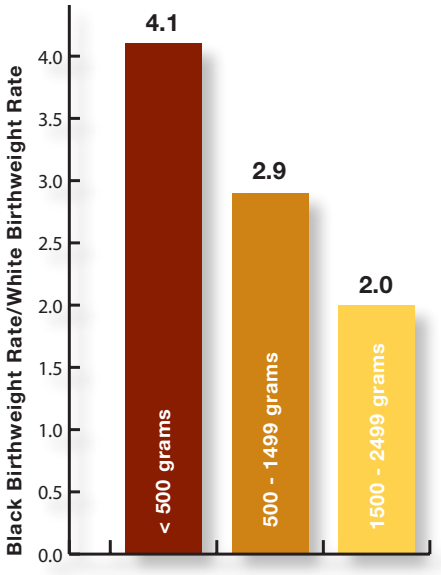


Figure 5
BIRTHWEIGHT SPECIFIC BLACK/WHITE RISK RATIO, GEORGIA, 1994-2006



Maternal Age and Health at Conception and During Pregnancy

Maternal age and health are significant predictors of birth outcomes. Extreme maternal age—under 20 or over 35—often is associated with LBW.[16,18, 29, 30] Chronic diseases such as diabetes,[16] anemia,[24] and hypertension[15] have been associated with LBW. High levels of maternal stress, unintended pregnancy or physical abuse can increase the risk of having a LBW infant.[12,13] Previous abortions, both induced and spontaneous miscarriage, are associated with LBW.[31, 32] The risk of LBW is directly related to the number of induced abortions and miscarriages, with risk increasing as the number of either increases.[31] In addition, previous preterm or LBW births may indicate increased risk for LBW.[15, 16]

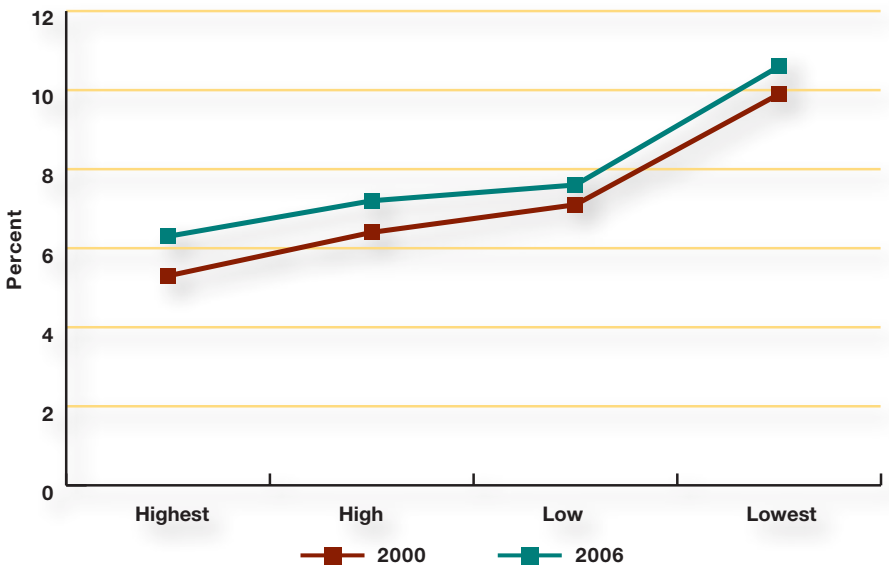
Socioeconomic Status

Research has shown that socioeconomic status (SES) directly and indirectly influences the three major determinants of health: access to health care, environmental exposure, and health behavior.[33] The implicit assumption is that poverty is associated with other environmental and behavioral factors that influence birth outcomes. If behavior is a function of underlying SES factors, then interventions like health education, by themselves, will not produce the desired behavior change.

Medicaid payment status, U.S. Census and other population-based data have been used to create an ecological variable that can be applied to individuals within a specific geographic area. The Georgia Division of Public Health, Health Planning and Assessment Unit (HPAU) has adapted an SES typology of four major categories and 18 SES clusters at the Census Block Group level. In the analysis, an SES status is assigned to each infant based on the reported geo-coded residence. SES cluster one represents the wealthiest group, cluster two is characterized by a group positioned to join prosperous families in the next decade, cluster three is a predominantly white, middle class rural cluster dominated by married families with children, and cluster four represents lower income families that are primarily black and new immigrants, including Hispanics, with a high percentage of singles and single-parent families who work in service jobs and earn wages more than 30 percent below the state average.

Research shows that there is a graded relationship between SES measures and the behavior and health outcomes.[34] Analysis with Georgia data yields similar findings (see *Figure 6*). There is a gradual increase in LBW rate with decreasing SES from cluster one through three, but the 2006 cluster four rate is 40 percent higher than the cluster three rate. The increase in cluster four is associated with a high proportion (more than 60 percent) of black infants whose LBW rate is at least twice the white rate.

Figure 6
LOW-BIRTHWEIGHT RATE BY SOCIOECONOMIC STATUS CLUSTER, GEORGIA 2000 AND 2006



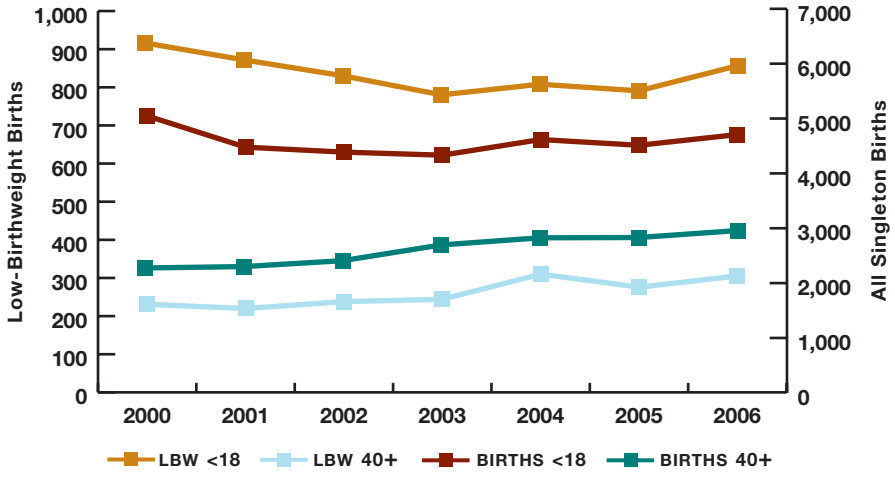
Dispelling the Myths

There are a number of commonly held myths regarding the increasing incidence of low birthweight. A look at Georgia data helps to dispel these myths.

Myth: **The increase in low birthweight (LBW) is due primarily to an increase in older women and teens having babies.**

Reality: Although the incidence of LBW is higher in teens and women over age 40, births to these age groups do not account for the rise in the incidence of low birthweight (LBW). In fact, the number of singleton births to mothers under age 18 declined from 2000 to 2006, with 371 fewer births to teen mothers (see *Figure 7*). During this same time period, the number of LBW singleton births to these mothers decreased by 49 births (see *Figure 7*). Births to women age 40 and older have increased over the past seven years with 766 more births in 2006 than in 2000, but the number of LBW infants in this age group only increased by 74 during the same time period. Further, the rate of LBW in both age groups changed only slightly—for teen mothers from 11.4 in 2000 to 11.3 in 2006, and for older mothers from 10.1 in 2000 to 10.3 in 2006. Together these two age groups account for less than 10 percent of the overall increase in LBW since 2000. LBW is increasing in many groups, including singleton births in women over 18 and under 40.

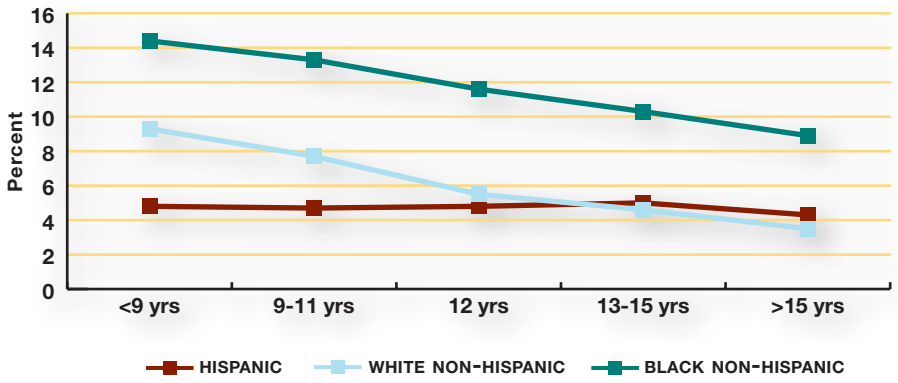
Figure 7
HIGH-RISK AGE GROUP TRENDS, GEORGIA, 2000-2006



Myth: **The black/white disparity in LBW rates disappears for women who achieve higher education.**

Reality: Women of all races with higher education have fewer LBW babies. Women with more than 15 years of education have the lowest percentage of LBW babies. However, within this group, black women still have a disproportionate rate of LBW babies (see *Figure 8*). Black women have an average of 9.5 percent babies born at LBW compared to 4.2 percent for white women. The racial disparity in LBW persists regardless of educational level.

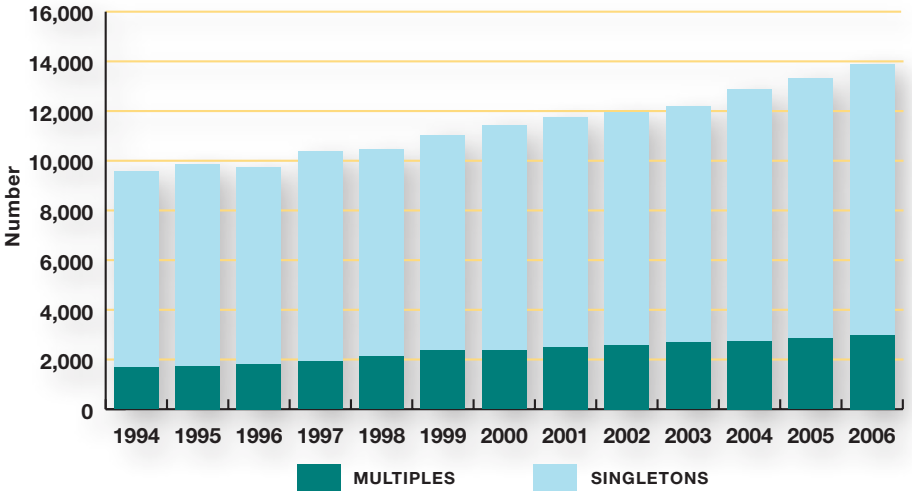
Figure 8
LOW-BIRTHWEIGHT RATE BY MATERNAL EDUCATION AND RACE, GEORGIA SINGLETON BIRTHS, 1994-2006



Myth: **The increase in LBW is due primarily to an increase in assisted reproduction technologies resulting in multiple births.**

Reality: Although the application of assisted reproductive technology contributes to an increase in multiple births, it does not explain the general increasing LBW rate. Multiple birth babies are at a much higher risk of being LBW. *Figure 9* shows there were 3,001 more singleton infants born LBW in 2006, a 38 percent increase from 1994, and 1,324 more multiple LBW infants, a 79 percent increase. From 2000 to 2006, the singleton rate has steadily increased, except during 2003. The twin LBW rates have been higher each of the past three years than any time during the preceding decade. While multiple births do contribute to an increasing LBW rate, so does the increasing singleton LBW rate.

Figure 9
LOW-BIRTHWEIGHT BIRTHS, BY PLURALITY, GEORGIA, 1994-2006



What We Can Do to Improve Birth Outcomes

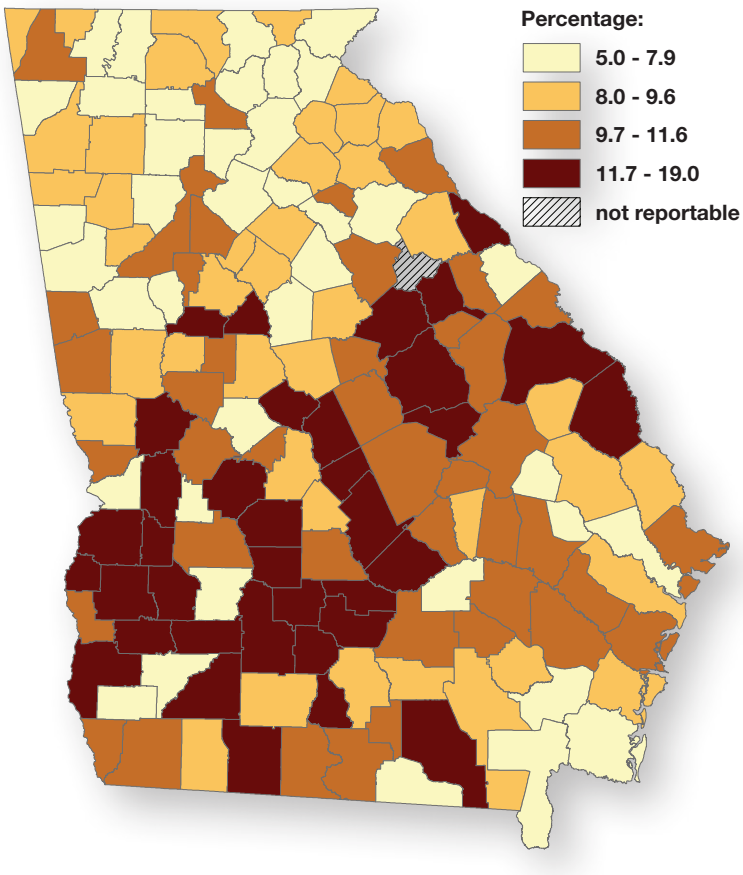
"There are four preventable actions to lower the rate of low-birthweight babies, and three of these occur before pregnancy."

—Carol Hogue, Ph.D., M.P.H.
Emory University, Rollins School of Public Health

A variety of factors influence the occurrence of low birthweight (LBW). Given these complexities, a multifaceted approach is required to address biological, social, and environmental determinants, and the most significant predictor of LBW—maternal health and wellness. Increasing birth spacing, decreasing unintended pregnancies, accessing quality prenatal care beginning in the first trimester, avoiding tobacco and alcohol, and improving nutrition are promising practices experts have identified that measurably reduce the rate of LBW.[35] Biological and behavioral factors that impact LBW are all presented through the mother. A healthy woman is the number one method for ensuring a healthy pregnancy and a healthy infant.

Figure 10 shows the LBW rate across Georgia by county. This map can act as a

Figure 10
LOW-BIRTHWEIGHT RATE BY COUNTY, GEORGIA, 2004-2006



SOURCE:

Georgia Department of Human Resources, Division of Public Health, Office of Health Information and Policy

guide that directs where efforts should be concentrated. More than 100 Georgia counties have a rate well above the national average, and six counties have a rate almost twice the national average. The good news is there are promising practices concentrated in South Georgia. These data support the critical need in this region and can help counties and organizations further focus their work on the areas with the highest rates of LBW infants.

"Prepare for your pregnancy . . . just like preparing for a race, it takes time, thought, and effort, and the results pay off."

—Carol Hogue, Ph.D., M.P.H.
Emory University
Rollins School of
Public Health

Preconception Health

Preconception care is part of a broader health-care model that promotes healthier women, infants, and families.

For years, LBW prevention efforts focused only on improving prenatal care. Now, many experts agree that prenatal care, although a critical component of prevention should be supported by preconception care.[36] This new approach shifts attention to better primary health care for women in their childbearing years, including better interconception and preconception care. According to the experts, this approach should complement, not replace, improvements in prenatal care and high-quality care during pregnancy.

This additional emphasis on preconception and interconception care demands increased and better attention to overall women's health, access to quality health care and improvements in neighborhoods and quality of life. Only by taking a more comprehensive prevention approach can we begin to decrease the incidence of LBW and its all too-often tragic consequences. Preconception care provides health promotion, screening, and interventions for women of reproductive age in order to reduce the risk factors that might affect future pregnancies.[37]

The Centers for Disease Control (CDC) issued a set of 10 recommendations in 2006 directly related to improving preconception care and overall women's health.[37]

The CDC's recommendations focused on four primary goals:

- Improve the knowledge, attitudes, and behaviors of men and women related to preconception health.
- Use evidence-based approaches to assure that all women of childbearing age receive effective screening, health promotion, and interventions that will enable them to enter pregnancy in optimal health.
- Reduce risks indicated by a previous adverse birth outcome through interventions during the interconception period to help minimize health problems for the mother and future children.
- Reduce the disparities in adverse pregnancy outcomes.

CDC's recommendations provide solid guidance for improving women's health and birth outcomes. They also point to the need to address a number of key health-care issues, including smoking, chronic conditions, and nutrition before and during pregnancy.

Maternal smoking is the single most preventable risk factor for LBW. The earlier a woman stops smoking the more likely she is to enjoy enhanced health and a healthy pregnancy. While some studies found smoking cessation during pregnancy "modestly effective," [38] other research shows that smoking cessation prior to or early in a pregnancy has significant beneficial effects.[19] About one in five women of childbearing age in Georgia is a smoker.[39] Recent research found that smoking prevention and cessation could reduce the rate of LBW by as much as 6 percent in this state.[19]

Chronic health conditions are common in women of childbearing age and present serious

health complications for themselves and their future children. Nationally chronic hypertension was present in 10.4 per 1,000 live births.[40] Hypertension has been linked with fetal growth retardation leading to LBW.[41] Approximately one-third of women of child-bearing age have undiagnosed diabetes.[42] Diabetes in a pregnant woman can cause miscarriage, as well as cause the baby to have birth defects, be born early with LBW, be stillborn, or grow extra large and have a difficult delivery.[43] Emerging research also has linked mother's periodontal disease to a premature infant birth.[36]

Obesity and poor nutrition before pregnancy places a burden on a woman and her unborn child. Nutritional inadequacy during pregnancy is known to impair fetal growth. In 2005 in Georgia, 53 percent of adult women suffered from obesity.[44] Infants born to obese mothers have "a higher prevalence of birth defects than do offspring of normal-weight women".[45]

Studies show that participating in the special supplemental nutrition program for women, infants, and children (WIC) raised birthweight. Specific micronutrients are also linked to improvements in birth outcomes. For example, taking folic acid before and during pregnancy can help prevent major birth defects of the brain and spine. Collective research findings have shown that controlling diabetes, maintaining a healthy weight, reducing periodontal disease, eliminating smoking, and having a healthy, balanced diet will greatly improve a woman's chance of having a normal birthweight infant.

Promising Practices for Preconception and Interconception Care

It is well established that women who enter their pregnancies healthy are far more likely to have a healthy birth and a healthy child. Therefore, improving women's health between pregnancies—interconception care—is critical to preventing LBW babies. One of the most promising findings relates to the timing of the next pregnancy. For all women, the optimum time to wait before becoming pregnant again is a minimum of 18 to 23 months. An interval of less than six months increases the risk of LBW in the next pregnancy by 40 percent.[19]

Preconception care is focused on providing "well-woman" care to all women of child-bearing age. A promising policy that has been supported by research is the extension of Medicaid eligibility to all women, ages 15 – 44, who would qualify during pregnancy, regardless of their pregnancy status. This expanded coverage has resulted in cost savings, fewer unintended pregnancies and improved use of family planning.[46]

Other research-supported policy recommendations include intensive case management for two years following the birth of a very LBW child[47] and an increase in the duration of Medicaid coverage following the birth of every child. Medicaid births account for more than 50 percent of births in Georgia. An improvement in birth outcomes for these families would have a significant effect on birth costs and child outcomes across the state.

Three home visitation programs designed to provide emotional support, linkage, and referral to mothers have shown promising findings in improving birth outcomes and reducing the incidence of LBW. These programs support families with children and are designed to affect the health and well-being of the young child as well as any future children. Families receive parenting education, child assessments, support, referral, linkage, and monitoring of overall family well-being.

Healthy Families

www.preventchildabusega.org/html/healthyfamilies

Healthy Families Georgia (HFG), a collaborative effort between Prevent Child Abuse Georgia and the Governor's Office of Children and Families, is a continuum of services consisting of short-term support for all new families through the First Steps program (hospital based identification, referral and linkage) and long-term voluntary home visitation for more vulnerable families of newborns. HFG offers expectant and new parents of all socio-economic backgrounds the opportunity to participate in a range of services designed to give their babies the best start in life. The program is unique because it brings together an initial connection with all parents and voluntary home visitation for higher-risk new families.

National research with Healthy Families sites found participants are more likely to seek prenatal care, leading to fewer birth complications and low birthweight (LBW) babies than individuals who did not receive services.[50] Research from the Healthy Families New York site (HFNY) had significant positive findings. The program was particularly effective in reducing LBW among black and Hispanic mothers, groups that persistently experience high levels of poor birth outcomes. For example, black mothers who were assigned to the HFNY group were 70 percent less likely than black mothers in the control group to deliver LBW babies (3.1 percent vs. 10.2 percent). In addition, the earlier in their pregnancies women were offered HFNY, the greater the impact of the program on LBW. Among women who entered the study at a gestational age of 16 weeks or less, the rate of LBW the HFNY group experienced was one-quarter as high as the rate for the control group (3.6 percent versus 14.1 percent).[51]

The Healthy Families Georgia model supports families in 21 counties in Georgia: Chattooga, Clarke, Crisp, DeKalb, Dooly, Floyd, Fulton, Glynn, Gordon, Hall, Macon, Madison, McIntosh, Murray, Oconee, Oglethorpe, Polk, Schley, Sumter, Tift, and Whitfield.

Healthy Start

www.healthystartassoc.org

The Healthy Start program funds communities to eliminate the causes of infant mortality and LBW and racial disparities in perinatal outcomes among their own residents. Each Healthy Start project is mandated to develop a local consortium composed of neighborhood residents, medical providers, social service agencies, faith-based representatives, and the business community. This consortium guides and oversees the design and implementation of the local Healthy Start project. The model emphasizes the importance of community-based approaches to solving these problems, and the need to develop comprehensive interventions that include health, social, and economic services.

The initiative began in 1991 nationwide in 15 communities that had very high rates of infant mortality. Researchers found that three Healthy Start program sites had significantly lower rates of low and very low-birthweight babies than their comparison sites.[48] The Healthy Start program was associated with a significantly lower preterm birth rate in four program sites (with decreases ranging from 1.3 percent to 2.9 percent). The differences in the preterm birth rate in the other 11 sites were not statistically significant.

Four Healthy Start sites in Georgia serve a number of counties throughout the state.

- **Center for Black Women's Wellness, Atlanta Healthy Start**
  www.cbww.org/programs_start.html
- **Augusta Partnership for Children**
  www.arccp.net/HealthyStartWP3.asp

- **Enterprise Community Healthy Start**
  www.echealthystart.org
- **Heart of Georgia Healthy Start**
  www.heartofgeorgiahealthystart.org

Parents as Teachers

www.parentsasteachers.org
GeorgiaPATnetwork.org

The Parents as Teachers model is designed to provide parents with child development knowledge and parenting support. The four-part intervention model known as Born to Learn delivers its mission-based program through parent educators to the parents. Meld, one of the center's programs, is a facilitated group model that draws on peer support. The Parents as Teachers National Center is an organized affiliation of organizations that supports the Born to Learn and Meld models, delivers training and support to professionals working with parents, and advocates with both public and private sectors to promote positive policies for young families.

A number of research projects have found significant positive outcomes for the children and families involved in Parents as Teachers[49] and the model is identified as a promising practice by the RAND Corporation Promising Practice Network. The Parents as Teachers model is implemented in Georgia in 58 sites in nearly 40 counties across the state.

Promising Practices for Enhanced Prenatal Care

Prevention of low birthweight (LBW) and other adverse birth outcomes has for years focused only on prenatal care. It is now clear that prenatal care alone is not sufficient. However quality prenatal care is still crucial to improving birth outcomes. One of the reasons for the inconsistent findings related to birth outcomes and prenatal care may be that prenatal care varies widely, both in quality services and interventions as well as settings.

Two models of enhanced prenatal care have shown promising findings in reducing the incidence of LBW.

Centering Pregnancy

www.centeringpregnancy.org/components.html

A nurse-midwife piloted Centering Pregnancy from 1993 to 1995 in a hospital clinic, a community health center, and a private health provider's office. Today there are sites in almost all 50 states and some foreign countries.

Centering Pregnancy is a model for delivery of prenatal care with three core components: assessment, education, and support. These components are provided within a group facilitated by a credentialed health provider and a co-facilitator. The Centering model outcomes include:

- empowerment and community building,
- increased satisfaction with care,
- reduction in preterm birth, and
- increased breastfeeding.

A randomized controlled trial with Centering Pregnancy found that women assigned to group care were significantly less likely to have preterm births compared with those in standard care, with no differences in age, parity, education, or income between the study conditions.[52]

Three Centering Pregnancy sites in Georgia—Athens Regional Nurse Midwifery Practice, Dougherty County Health Department,

and Emory University NMW/Grady Hospital—serve counties in the Athens area northeast of Atlanta, Fulton, and DeKalb counties, and the counties surrounding Albany in the southwest.

Prenatal Health Partners

www.sehdph.org

The Prenatal Health Partners program is built on a provider-based approach aimed at improving perinatal health outcomes by enabling health-care providers to provide comprehensive multi-level health care. This approach includes earlier identification of high-risk prenatal and interconceptual patients, care coordination, and intensive in-home nursing case management. Services include postpartum visits with appropriate referrals to community services, as well as public health services such as WIC, Children's Medical Services, and Family Planning.

Recent evaluation of the Prenatal Health Partners program in Georgia's Southeast Health District found improvements in birthweight and gestational age, resulting in few LBW infants in the study population.[53]

The Prenatal Health Partners program serves Appling, Atkinson, Bacon, Brantley, Candler, Charlton, Clinch, Coffee, Evans, Jeff Davis, Pierce, Tattnall, Ware, and Wayne counties in southeast Georgia.

Community-based Doula Project

www.gcapp.org/doula-project

This Community-based Doula Project provides first-time pregnant teens ages 10 to 19 with a trained birth assistant—a doula—to provide social and emotional support during pregnancy, labor, and post delivery. Promoting positive development of mother and infant, this national model has demonstrated encouraging medical outcomes, lower incidence of complications during pregnancy, and an increase in bonding between mother and child—a measure that reduces risk of child abuse and neglect. As implemented by the Georgia Campaign for Adolescent Pregnancy Prevention in Georgia (G-CAPP), doulas conduct weekly home visits with expectant teen mothers, provide support during the labor and delivery processes, and assist with post-partum needs.

The 2008 program evaluation documents that only 7 percent of births to Doula teen clients were of LBW, compared to 13.5 percent of births to Georgia teens, saving at least $14,500 per birth. The Project also documented further evidence of healthier outcomes for infants. For instance, 79 percent of Doula teen clients initiated breastfeeding compared with 56 percent of U.S. teens.[54]

The G-CAPP Doula project is implemented in partnership with Families First and serves parenting teens in Fulton and DeKalb counties.

Summary

Georgia is a progressive state that has the resources to care for our children and young families. The existence of many promising practices by a variety of partners across Georgia demonstrates tremendous potential and promise. This is the time to expand use of these promising practices and to leverage existing health insurance and program financing that can improve women's access to, and use of, quality evidence-based programs that work to improve infant health. The work we need to do is clear:

- improve women's health;
- reduce unintended pregnancies;
- increase birth spacing;
- reduce maternal smoking;
- improve nutrition before and during pregnancy; and
- improve access to health care for all women, including postnatal care.

To truly make progress in improving birth outcomes, Georgia needs to take a collaborative

"The need for complete community work and interaction between different types of communities, the scientific, public health, health-care providers and community members is very important and cannot be stressed enough."

Juan Acuña, M.D., M.Sc.
Professor, Obstetrics and Gynecology
Florida International University

approach at the state and local levels. At the local level, counties are encouraged to support implementation of these programs and policy improvements that can improve Georgia's ranking in LBW—43rd in the nation—according to the national *2008 KIDS COUNT Data Book*.[3] Acting now can save millions of dollars in caring for these vulnerable children, but more importantly, we can improve the health outcomes of Georgia's children and families, and the vitality and future of our state.

Endnotes/References

1. LaLonde, M. (1974). *A New Perspective on the Health of Canadians.* Ottawa: Government of Canada.
2. Finch, B.K. (2003). Early Origins of the Gradient: The Relationship between Socioeconomic Status and Infant Mortality in the United States. *Demography, 40,* 4.
3. Annie E. Casey Foundation. (2008). *2008 KIDS COUNT Data Book.* Baltimore, MD.
4. *National Vital Statistics Reports.* (2008, July 30). Centers for Disease Control and Prevention.
5. Hovi, P., et al. (2007). Glucose Regulation in Young Adults with Very Low Birth Weight. *New England Journal of Medicine, 356,* 2053-2063.
6. Ingelfinger, J. (2007). Prematurity and the Legacy of Intrauterine Stress. *New England Journal of Medicine, 356,* 2093-2095.
7. Black, S.J., Devereuix, P. J., and Salvanes, K. (2007). From the Cradle to the Labor Market? The Effect of Birth Weight on Adult Outcomes. *Quarterly Journal of Economics, 122*(1), 409-439.
8. Hack, M., Klein, N., and Taylor, H. G. (1995, Spring). Long-Term Developmental Outcomes of Low Birth Weight Infants. *Future of Children, 5*(1), 176-187.
9. Rogowski, J. A. (1998, July). Cost-Effectiveness of Care for Very Low Birth Weight Infants, *Pediatrics, 102*(1), 35-43.
10. Kramer, M., and Hogue, C. (2008, September-October). Place Matters: Variation in the Black/White Very Preterm Birth Rate Across U.S. Metropolitan Areas, 2002-2004. *Public Health Reports, 123*(5), 576-585.
11. Chandola, T., Bartley, M., Sacker, A., Jenkinson, C., and Marmot, M. (2003). Health Selection in the Whitehall II Study, UK. *Social Science and Medicine, 56,* 2059-72.
12. Goodwin, M.M., et al. (1994). Behavioral Risk Factors Before and During Pregnancy. *Reproductive Health of Women, From Data to Action: CDC's Public Health Surveillance for Women, Infants, and Children,* 93-104.
13. D'Angelo, D., et al. (2007, December). Preconception and Interconception Health Status of Women Who Recently Gave Birth to a Live-Born Infant—Pregnancy Risk Assessment Monitoring System (PRAMS), United States, 26 Reporting Areas, 2004. *MMWR Weekly, 56* (SS-10).
14. Chan, D., and Sullivan, E. A. (2008, April 7). Teenage Smoking in Pregnancy and Birthweight: A Population Study, 2001-2004. *Medical Journal of Australia, 188*(7), 392-396.
15. Ngui, E., Cortright, A., and Blair, K. (2009, July). An Investigation of Paternity Status and Other Factors Associated with Racial and Ethnic Disparities in Birth Outcomes in Milwaukee, Wisconsin. *Journal of Maternal and Child Health, 13*(4), 467-478.
16. Vahdaninia, M., Tavafian, S.S., and Montazeri, A. (2008, April 19). Correlates Of Low Birth Weight In Term Pregnancies: A Retrospective Study From Iran. *BMC Pregnancy and Childbirth, 8*(12).
17. Suzuki, K., et al. (2008). Is Maternal Smoking during Early Pregnancy a Risk Factor for All Low Birth Weight Infants? *Journal of Epidemiology, 18*(3), 89-96.
18. Isaranurug, S., Mo-suwan, L., and Choprapawon, C. (2007). A Population-Based Cohort Study of Effect of Maternal Risk Factors on Low Birthweight in Thailand. *Journal of the Medical Association of Thailand, 90(*12), 2559-64.
19. Collier, S. and Hogue, C. (2007). Modifiable Risk Factors for Low Birth Weight and Their Effect on Cerebral Palsy and Mental Retardation. *Maternal and Child Health Journal, 11,* 65-71.
20. Heaman, Maureen, et al. (2008, May 1). Inadequate Prenatal Care and Its Association with Adverse Pregnancy Outcomes: A Comparison of Indices. *BMC Pregnancy and Childbirth, 8*(15).
21. Alexander, G., and Korenbrot, C. (1995). The Role of Prenatal Care in Preventing LBW. *Future of Children 5*(1), 103-120.
22. Hillemeier, M., Weisman, C., Chase, G., and Dyer, A. (2007). Individual and Community Predictors of Preterm Birth and Low Birthweight Along the Rural-Urban Continuum in Central Pennsylvania. *Journal of Rural Health, 23(*1), 42-48.
23. van Eijsden, M., Smits, L., van der Wal, M., and Bonsel, G. (2008). Association Between Short Interpregnancy Intervals and Term Birth Weight: The Role Of Folate Depletion. *American Journal of Clinical Nutrition, 88,* 147-53.
24. Palma, S., et al. (2008). *Iron But Not Folic Acid Supplementation Reduces The Risk Of Low Birthweight In Pregnant Women Without Anemia: A Case Control Study. Journal of Epidemiology and Community Health, 62,*120-124.
25. Hamilton, B., and Ventura, S. (2003, May 3). Characteristics of Births to Single-and Multiple-Race Women: California, Hawaii, Pennsylvania, Utah, and Washington, 2003. *National Vital Statistics Reports, 55*(15).
26. Dominguez, T. P. (2008). Race, Racism, and Racial Disparities in Adverse Birth Outcomes. *Clinical Obstetrics and Gynecology, 51*(2), 360-370.
27. Mortensen, L.H., et al. (2008). Social Inequality in Fetal Growth: A Comparative Study of Denmark, Finland, Norway, And Sweden in the Period of 1981-2000. *Journal of Epidemiology and Community Health, 62,* 325-331.
28. Li, C.Y., and Sung, F.C. (2008). Socio-Economic Inequalities in Low-Birth Weight, Full-Term Babies from Singleton Pregnancies in Taiwan. *The Journal of the Royal Institute of Public Health, 122,* 243-250.

Endnotes/References

29. Reichman, N., Hamilton, E., Hummer, R., and Padilla, Y. (2008, March). Racial and Ethnic Disparities in Low Birthweight Among Urban Unmarried Mothers. *Journal of Maternal and Child Health, 12*(2), 204-215.

30. Badshah, S., et al. (2008, June 4). Risk Factors for Low Birthweight in the Public-Hospitals at Peshawar, NWFP-Pakistan. *BMC Public Health, 8,* 197.

31. Brown, J.S., Adera, T., and Masho, S.W. (2008). Previous Abortion and the Risk of Low Birth Weight and Preterm Births. Journal of *Epidemiology and Community Health, 62,* 16-22.

32. Voight, M., et al. (2008). The Influence of Previous Pregnancy Terminations, Miscarriages and Still-Births on the Incidence of Babies with Low Birth Weight and Premature Births as well as a Somatic Classification of New Borns. *Zeitschrift für Geburtshilfe und Neonatologie, 212,* 5-12.

33. Wilkinson, R. (1996). *Unhealthy Societies: The Affliction of Inequality.* London: Routledge.

34. Marmot, M., Kogevinas, M., and Elson, M. A. (1987). Social/Economic Status and Disease. *Annual Review of Public Health, 8,* 111-135.

35. Cordero, J. (2008). Child Policy Experts Answer Your Questions about *Preventing Low Birth Weight.* Promising Practices Network on Children, Families and Communities. RAND Corporation. www.promisingpractices.net/experts/experts_lowbirthweight.asp#q1

36. *Healthy Women, Healthy Babies.* (2008, June). Washington, DC: Trust for America's Health.

37. Johnson, K., et al. (2006, April 21). Recommendations to Improve Preconception Health and Health Care—United States. *MMWR Reports and Recommendations, 55*(RR-6), 1-23.

38. Lu, M.C., Tache, V., Alexander, G.R., Kotelchuck, M., and Halfon, N. (2003, June 1). Preventing Low Birth Weight: Is Prenatal Care the Answer? *Journal of Maternal-Fetal and Neonatal Medicine, 13*(6), 362-380.

39. *Premature Birth Report Card.* (2008, November). March of Dimes.

40. U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. (2008). *Women's Health USA 2008.* Rockville, Maryland. mchb.hrsa.gov/whusa08/

41. Reichman, N. E. (2005, Spring). Low Birth Weight and School Readiness. *The Future of Children, 15*(1), 91-116.

42. Women and Diabetes. (2009, February). *North Carolina Diabetes Prevention and Control Fact Sheet.* North Carolina Division of Public Health, Diabetes and Prevention Control.

43. *Diabetes and Pregnancy Frequently Asked Questions,* Centers for Disease Control and Prevention, National Center on Birth Defects and Developmental Disabilities. www.cdc.gov/ncbddd/bd/diabetespregnancyfaqs.htm

44. Georgia Department of Human Resources, Division of Public Health. (2005, April). *Overweight and Obesity in Georgia, 2005.* Publication Number: DPH05.023HW.

45. Siega-Riz, A. M., and King, J. C. (2009, May). Position of the American Dietetic Association and American Society for Nutrition: Obesity, Reproduction, and Pregnancy Outcomes. *Journal of the American Dietetic Association,109*(5), 918-927.

46. Kaiser Family Foundation. (2007, October). *Update on Women's Health Policy, Medicaid's Role for Women:* Issue Brief. Menlo Park, CA: The Henry J. Kaiser Family Foundation.

47. Dunlop A. L., Dubin, C., Raynor, B.D., Bugg Jr., G.W., Brann Jr., A. W., and Schmotzer B. (2008, July). Interpregnancy Primary Care and Social Support for African-American Women at Risk for Recurrent Very-low-birthweight Delivery: A Pilot Evaluation. *Maternal and Child Health Journal. 12*(4), 461-468.

48. Devaney, B., Howell, E. M., McCormick, M., and Moreno, L. (2000, July). *Reducing Infant Mortality: Lessons Learned from Healthy Start, Final Report.* Princeton, NJ: Mathematica Policy Research, Inc.

49. Wagner, M., Cameto, R., and Gerlach-Downie, S. (1996). *Intervention in Support of Adolescent Parents and Their Children: A Final Report on the Teen Parents as Teachers Demonstration.* Menlo Park, CA: SRI International.

50. *Healthy Families America: A Program That Works.* (2002). www.healthyfamiliesamerica.org/downloads/hfa_that_works.pdf

51. DuMont, K., Mitchell-Herzfeld, S., Greene, R., Lee, E., Lowenfels, A., Rodriguez, M., and Dorabawila, V. (2008). Healthy Families New York (HFNY) Randomized Trial: Effects on Early Child Abuse and Neglect. *Child Abuse & Neglect: The International Journal, 32*(3), 295-315.

52. Ickovics, J. R., Kershaw, T. S., Westdahl, C., Magriples, U., Massey, Z., Reynolds, H., and Rising, S. S. (2007, August). Group Prenatal Care and Perinatal Outcomes: A Randomized Controlled Trial. *Obstetrics and Gynecology, 110,* (2, Part 1), 330-339.

53. O'Steen, Greta. (2008, December 19). *Promising Practice—Prenatal Health Partners.* Presentation at the Georgia Division of Public Health, Infant Mortality Summit, Atlanta, Georgia.

54. Georgia Campaign for Adolescent Pregnancy Prevention. (2008). *Doula Project.* www.gcapp.org/doula-project

Resources on Low Birthweight and Related Indicators

Georgia Data

Georgia KIDS COUNT
www.gafcp.org/kidscount

The database tracks 49 indicators of child, family, and community well-being for the entire state, and by county, region, and school district.

Georgia's Online Analytical Statistical Information System (OASIS)
oasis.state.ga.us

OASIS is maintained by the Office of Health Information and Policy to access the Georgia Division of Public Health's standardized health data repository and to provide aggregate birth and death data by counties and by years.

National Data

Centers for Disease Control Vital Stats
www.cdc.gov/nchs/VitalStats.htm

The Web site allows users to access and create data tables, charts, and maps for more than 100 birth variables on topics of low birthweight, maternal characteristics, prenatal care, perinatal and infant mortality.

Child Trends DataBank
www.childtrendsdatabank.org

This continuously updated online data resource serves as a one-stop shop for the latest national trends and research on nearly 110 key indicators of child and youth well-being, including low birthweight.

Data Resource Center for Child and Adolescent Health: NSCH CHSCN
www.childhealthdata.org

The National Survey of Children's Health (NSCH) and the National Survey of Children with Special Health Care Needs (CSHCN) provide estimates for the nation, the District of Columbia, and for each of the 50 states for a broad set of health and well-being measures for all children ages 0–17, and for those with special health-care needs and conditions.

Kaiser Family Foundation, State Health Facts
www.statehealthfacts.org

The Web site accesses state-level estimates in the areas of demographics and the economy, health status, health coverage, health costs, and features on children's, women's, and minority health.

KIDS COUNT Data Center
www.kidscount.org/datacenter

This online data system contains national, state, and city-level estimates for more than 100 indicators of child well-being, including low birthweight. Data are available for each of the 50 states and the District of Columbia, and when available, Puerto Rico and the U.S. Virgin Islands.

March of Dimes Peristats
www.marchofdimes.com/peristats

The Web site provides infant and maternal health data at the city, county, state, and national levels.

State Agencies

Georgia Department of Community Health (DCH)
dch.georgia.gov

This lead agency is charged with providing access to affordable, quality health care in communities, encouraging responsible health planning and use of health-care resources, and promoting healthy behaviors and improved health outcomes. The agency oversees the state health benefit plan, Georgia Medicaid, PeachCare for Kids, Georgia Families, and Georgia Health Information.

Georgia Division of Family and Children Services (DFCS)
dfcs.dhr.georgia.gov/portal/site/DHR-DFCS

As part of the Department of Human Resources, DFCS investigates child abuse; finds foster homes for abused and neglected children; helps low-income, out-of-work parents get back on their feet; assists with childcare costs for low-income parents who are working or training for a job; and provides numerous support services, including Women, Infants and Children nutritional programs, and innovative programs to help troubled families.

Georgia Division of Public Health (DPH)
health.state.ga.us

This agency is entrusted with the ultimate responsibility for the health of communities and the entire population.

Georgia DPH, Office of Birth Outcomes
health.state.ga.us/programs/family/index.asp

A component of the Georgia Division of Public Health, this office provides information, programs, and services on pre-pregnancy health, prenatal and maternal health, infant health, and early childhood health and development to advance maternal and child health from birth to age 5. Its goal is to promote the physical, mental, spiritual, and social well-being of children and families through partnerships with communities.

Georgia Office of Child Fatality Review (OCFR)
www.gacfr.dhr.georgia.gov

OCFR provides direction, oversight, and training for each of the 159 Child Fatality Review Committees. Each local OCFR Committee provides a confidential forum to review and determine the cause and circumstances around child deaths, and reviews and identifies opportunities for prevention and education.

Governor's Council on Maternal and Infant Health
health.state.ga.us/programs/maternalinfant

The Council has been a driving force in advocating for quality health care for Georgia's mothers and babies for more than 30 years. Appointed by the governor and confirmed by the Senate, its members include physicians, nurses, hospital administrators, educators and consumers. The Council is charged with advising the governor and state agencies in matters relating to maternal and infant health.

Governor's Office for Children and Families (GOCF)
children.ga.gov/02/gov/gocf/home/0,2790,113927404,00.html

GOCF funds a spectrum of prevention, intervention, and treatment services for all children.

Associations and Organizations

Georgia

Amerigroup Health Insurance of Georgia
www.georgia-health-insurance.org/carriers_amerigroup.php?source=google

Amerigroup focuses on meeting the needs of low-income individuals, and coordinating physical and behavioral health care to educate patients while lowering costs and maintaining high-quality care.

Center on Black Women's Wellness
www.cbww.org

This nonprofit organization provides free and low-cost health services and programs to improve the mental, physical, and spiritual growth of women and their families, and the economic growth of communities.

Georgia Campaign for Adolescent Pregnancy Prevention (G-CAPP)
www.gcapp.org

G-CAPP is committed to helping youth achieve a healthy, productive future free of early pregnancy. The Web site provides information on programs, resources, advocacy, and tools that empower youth to make positive, successful life decisions.

Georgia Chapter American Academy of Pediatrics
www.gaaap.org

The Georgia Chapter promotes events, training, and other activities in its commitment to the health of all children in the state.

Georgia Children's Health Alliance
www.choa.org/default.aspx?id=8037

This public-private partnership is working to improve the health of Georgia's children by fostering a culture of statewide collaboration and addressing three key health issues: healthy births, childhood obesity, and child abuse and neglect.

Georgia Perinatal Association (GPA)
www.georgiaperinatal.org

GPA is a multi-disciplinary organization concerned with health-care issues that improve pregnancy and infant outcomes. The membership works to promote perinatal health through education, collaboration, and influence of state public policy.

Georgia Public Health Association
www.gapha.org

This nonprofit corporation is comprised of public health professionals and organized for the purpose of promoting the public and personal health of the citizens of Georgia.

Georgia Rural Health Association
www.garuralhealth.org

This nonprofit network of individuals and organizations is united by a commitment to improve health and health care for rural Georgians; to serve as advocates for rural health by promoting improved health status and an improved health-care system for rural Georgians; and to encourage the development of appropriate health-care resources for residents of rural Georgia.

Healthy Mothers Healthy Babies Coalition of Georgia (HMHBGa)
www.hmhbga.org

HMHBGa works to improve the health status of Georgia's families through education, public forums, advocacy, and direct service programs, and to increase access to prenatal and preventative health care for the thousands of low-income and uninsured families throughout the state.

Georgia (continued)

Prevent Child Abuse Georgia
www.preventchildabusega.org/html/home.html

This affiliate of Prevent Child Abuse America aims to prevent child abuse and neglect in all forms by valuing children, strengthening families, and engaging communities.

National

American Academy of Pediatrics (AAP)
www.aap.org

An organization of 60,000 pediatricians committed to attaining optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults. From asthma to immunization, the Web site provides information on what AAP recommends for children's health.

Promising Practices Network
www.promisingpractices.net

Promising Practices Network on Children, Families, and Communities provides easy-to-understand information on research and practices that work to improve outcomes for children and their families.

RAND
www.rand.org/research_areas/children

RAND Child Policy serves as a gateway to RAND research on children's issues from prenatal to age 18, and provides easy access to objective information that will help improve policy and decision-making. RAND research on child policy is conducted by multiple research divisions, and draws upon the expertise of more than 140 researchers and consultants.

Trust for America's Health
healthyamericans.org

This nonprofit, non-partisan organization is dedicated to saving lives by protecting the health of every community and working to make disease prevention a national priority.

U.S. Department of Health and Human Services (HHS), Office of Minority Health (OMH)
www.omhrc.gov

OMH's mission is to improve and protect the health of racial and ethnic minority populations by developing health policies and programs that will eliminate health disparities. One effort underway to end health disparities is A Healthy Baby Begins with You, a national campaign to raise awareness about infant mortality with an emphasis on the African-American community.

Foundations and Grantmakers

Georgia

Aflac Foundation
www.aflac.com/us/en/aboutaflac/communityinvolvement.aspx

Health is one of the four areas the Aflac Foundation funds. Giving is primarily in the Columbus area.

AMERIGROUP Georgia
The Foundation serves Medicaid and SCHIP members, and makes small grants available to assist communities in access to health care, healthy neighborhoods, and safe and healthy children and families.

Georgia Health Foundation
www.gahealthfdn.org
The Foundation awards grants to address unmet health needs that have front-line impact. Applications from community-based and rural organizations are encouraged.

Healthcare Georgia Foundation
www.healthcaregeorgia.org

The Foundation's mission is to advance the health of all Georgians and to expand access to affordable, quality health care for underserved individuals and communities. Grantmaking priorities are addressing health disparities, strengthening nonprofit health organizations, and expanding access to primary health care.

Kaiser Permanente—Georgia
xnet.kp.org/ga/giving/CGPoverview.html

Kaiser Permanente provides grants in counties it serves, including 28 in metro Atlanta. Grants programs include General Grants in line with its priorities (coverage for low-income people, community health, safety-net partnerships, and health knowledge dissemination), and Ounce of Prevention Grants focusing on safety net partners and Healthy Eating and Active Living.

March of Dimes—Georgia Chapter
www.marchofdimes.com/georgia

March of Dimes offers grants to organizations that increase access to, and quality of, health care for women and infants; availability of prevention services; and availability of genetic services.

National

Allen Foundation, Inc.
www.allenfoundation.org/commoninfo/aboutus.asp

One priority of the Foundation is to support programs that educate and train mothers during pregnancy and after the birth of their children, so they can form good nutritional habits at an early age.

AMA Foundation
www.ama-assn.org/ama/pub/about-ama/our-people/affiliated-groups/ama-foundation.shtml

The Foundation's mission is to improve the health of Americans through philanthropic support of quality programs in public health and medical education. The Foundation supports public education campaigns and community service efforts across the country that support its mission.

National (continued)

AMERIGROUP Foundation
www.amerigroupcorp.com/about/vision/Pages/Foundation.aspx

Helping to create healthy communities is the cornerstone of the Foundation's mission. AMERIGROUP's objective is to serve as a national resource that fosters an environment where there is a continuum of education, access, and care, all of which improve the health and well-being of the financially vulnerable and uninsured Americans.

Kaiser Permanente—National
nfo.kp.org/communitybenefit/html/index.html

Kaiser Permanente's mission is to improve the health of the communities it serves. Program priorities are care and coverage for low-income people, community health, partnerships with safety-net organizations, and developing and disseminating knowledge about health.

March of Dimes—National
www.marchofdimes.com

The national March of Dimes organization provides grants for research to prevent birth defects, and for public policy research on issues relating to pregnant women, infants, and children.

Robert Wood Johnson Foundation
www.rwjf.org/about

Funded program areas include public health, quality/equality, and vulnerable populations.

We at Georgia Family Connection Partnership, the Promising Practices Network, and RAND Corporation are alarmed by the increasing percentage of babies born at low birthweight in this state. We are engaged in a collaborative low-birthweight initiative to:

- **increase awareness** of low-birthweight trends in Georgia,
- **highlight the promising practices** known to reduce the incidence of low birthweight in our state, and
- **inform and encourage communities** to engage local partners in addressing this critical public health issue.

This compendium—just one of the products of this collaboration—provides a useful tool for health professionals, communities, and state and local partners to use in their sphere of influence to make a difference for Georgia's children, families, and communities.

FOR MORE INFORMATION, VISIT:
gafcp.org/lbw/LBWoverview.htm

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