Improving Infant Health

ADDRESSING LOW BIRTHWEIGHT IN GEORGIA

SECOND EDITION

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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.

Research shows that in addition to biological factors, a number of socio-environmental factors 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 showing little improvement. The rate of LBW infants born in the United States reached its highest level in almost 30 years at 8.3 percent in 2006 and has only slightly declined to 8 percent in 2015. The rate in Georgia is among the worst in the nation and has increased since 2000 from 8.6 percent to 9.5 percent in 2015.

Nearly 70 percent of all infants in the United States and in Georgia who die in the first year of life are 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 2015 for all singleton LBW infants weighing less than 2,500 grams exceeded $500 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 2015, 14 percent of black infants were born LBW—twice the rate of 7.1 percent for white infants. Further, 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 170 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 evidence-based and 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 and related support programs that work to improve birth outcomes.

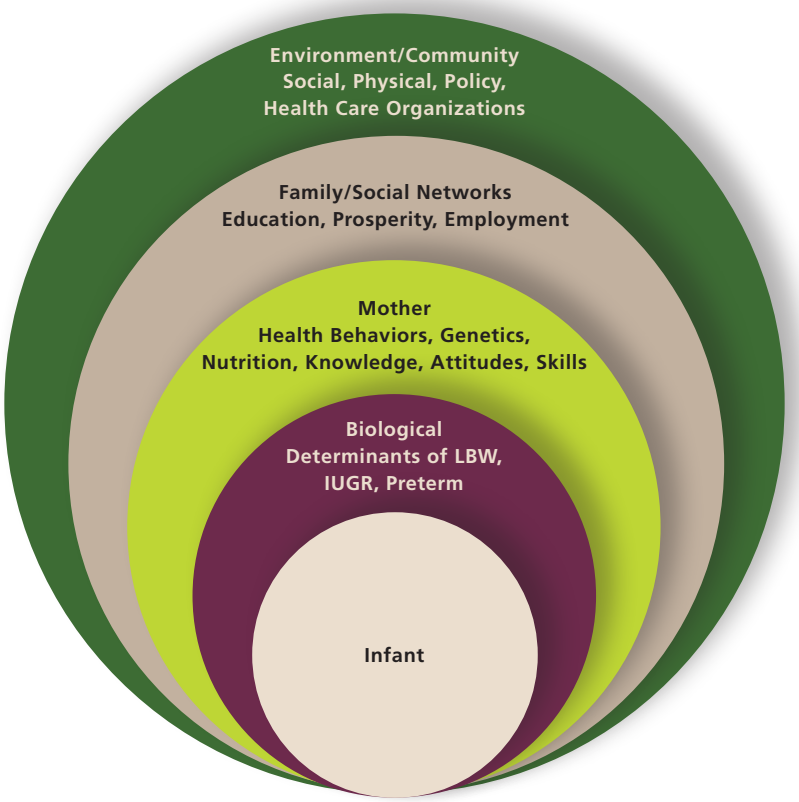
Introduction

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 are shown in *Figure 1*.

Low birthweight 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 births of that gestational age is considered SGA. The examination of risk factors and promising practices to address

Although less than 10 percent of infants born in Georgia weigh less than 5½ pounds, close to 70 percent of the infants who die before their first birthday were born at this low birthweight.

Figure 1
SOCIO-ECOLOGICAL MODEL FOR LOW BIRTHWEIGHT



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

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

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 2006 at 8.3 percent. Georgia is experiencing a similar increase and is among the nation's highest, with 9.5 percent in 2015. Georgia ranks 47th out of 50 states, according to the national *2016 Kids Count Data Book*.[3] The number of LBW infants born to Georgia residents increased from 11,416 in 2000 to 12,489 in 2015, and the rate climbed steadily from 2000 with 8.6 percent to 9.6 percent in 2006, and remained close to this rate through 2015 (see *Figure 2*).

Infant Mortality and Low Birthweight

Nearly 70 percent of all U.S. infants who die before their first birthday are born weighing less than 5.5 pounds.[4] The national infant mortality rate for LBW infants was 58.2 per 1,000 live births in 2015 and 55.3 per 1,000 in Georgia. 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 remains a significant predictor of infant mortality and poses other developmental issues, it is important to understand the risk factors associated with LBW.

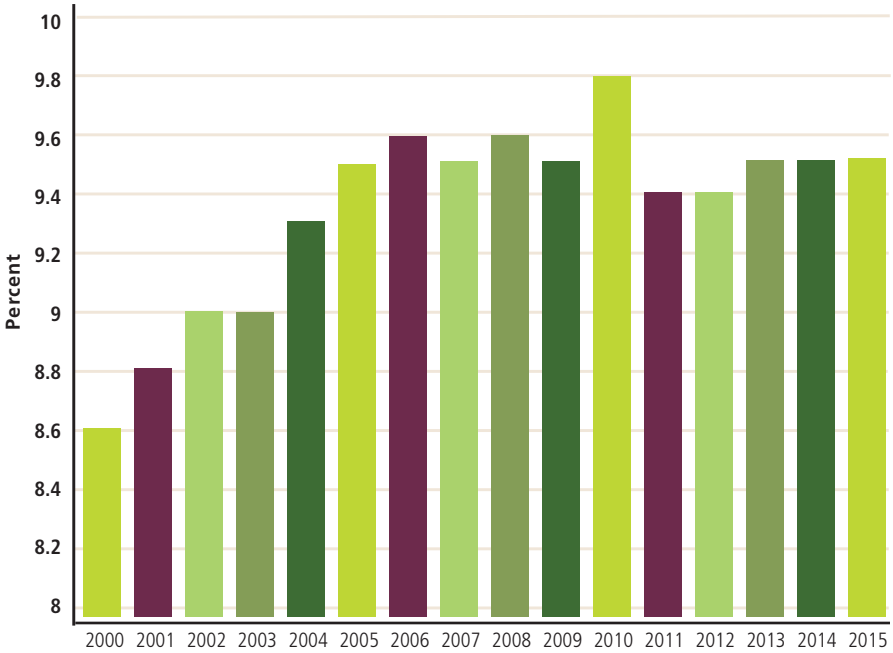
Costs of Low Birthweight

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. Those 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]

Analyses conducted in 2015 in Georgia revealed that an infant born at normal birthweight (2,500 grams or more) incurred average hospital charges of $4,000, compared to $22,900 for an infant weighing between 1,500 and 2,499 grams, and $207,800 for an infant weighing 500 to 1,499 grams. 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 2

LOW-BIRTHWEIGHT RATE, ALL BIRTHS, GEORGIA, 2000 – 2015



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, 11, 12] Evidence from longitudinal studies suggests that socioeconomic status drives much of the differences observed in health status.[11] The confluence of these and other behavioral features results in two primary causes of LBW: preterm delivery and IUGR (infant is smaller than expected for the number of weeks of pregnancy.)

Smoking, Alcohol Use, and Drug Use

Many of the risks associated with 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 of pregnancy 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 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 through 1997 to maternal smoking.[19]

Smoking during pregnancy is often 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, 20, 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, not just receiving prenatal care, is vital in preventing LBW babies.

Prenatal care may be inadequate or delayed for many reasons. It may be a reflection of lower socioeconomic 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 are also 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

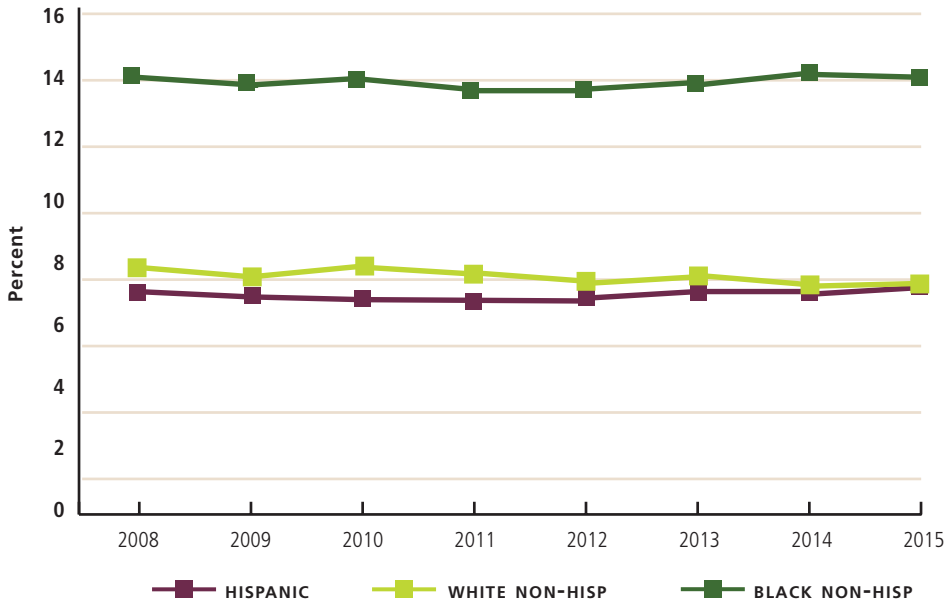
The incidence of LBW varies widely by race and ethnicity of mother. Black women are at higher risk of having a LBW infant than white or Hispanic women.[22, 25, 26] In Georgia, black babies are twice as likely as white or Hispanic babies to be born LBW. Further, the rates of white LBW births have remained similar and fairly stable since 2000, while the rate for black and Hispanic infants has increased. For the past 20 years, the rate for black infants has been twice that for white infants. In 2015, 14 percent of black infants were born LBW—twice the rate of 7.1 percent for white infants (see *Figure 3*).

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. 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 170 singleton infant deaths each year might be prevented in Georgia.

Maternal Education and Marital Status

The mother's educational status is a key predictor of a LBW infant. As maternal educational level increases, the risk of a LBW infant decreases, making maternal education a protective factor for LBW.[18, 22, 27, 28] 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

Figure 3
LOW-BIRTHWEIGHT RATE BY RACE/ETHNICITY, GEORGIA, 2008 – 2015



rate of LBW babies—an average of 10.4 percent babies born at LBW compared to 4.3 percent for white women (see *Figure 4*). Several studies suggest that paternal education also is inversely related to LBW, although it is not as significant a predictor as maternal education. In addition, studies suggest that married parents are less likely than unmarried couples or those who do not live together to have a LBW infant.[15, 22]

Maternal Age and Health at Conception and During Pregnancy

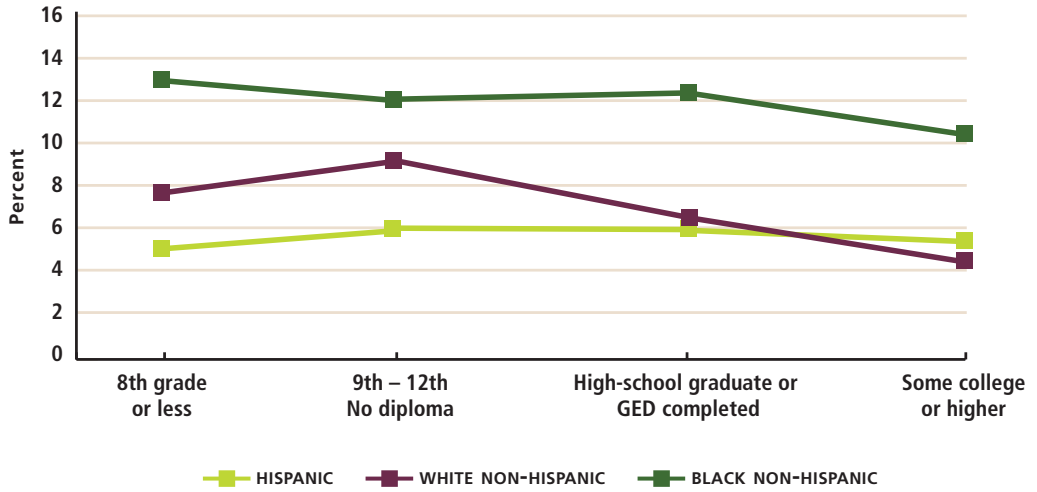
Maternal age and health are significant predictors of birth outcomes. Extreme maternal age—under 20 or over 35—often is associated with LBW.[16, 18, 29, 30] Although the incidence of LBW is higher in teens and women over age 40, births to these age groups do not account for the rise in the incidence of LBW. In fact, the number of singleton births and LBW births to mothers under age 18 declined significantly from 2008 to 2015, with 3,199 fewer births, and 362 fewer LBW births to teen mothers (see *Figure 5*). In Georgia, births to women age 40 and older have increased slightly over the past seven years with 473 more births and 61 more LBW births in 2015 than in 2008.

Maternal health also is a significant factor in birth outcomes. 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 abortions, with risk increasing as the number of abortions 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

Figure 4
LOW-BIRTHWEIGHT RATE BY MATERNAL EDUCATION AND RACE, GEORGIA SINGLETON BIRTHS, 2013 – 2015

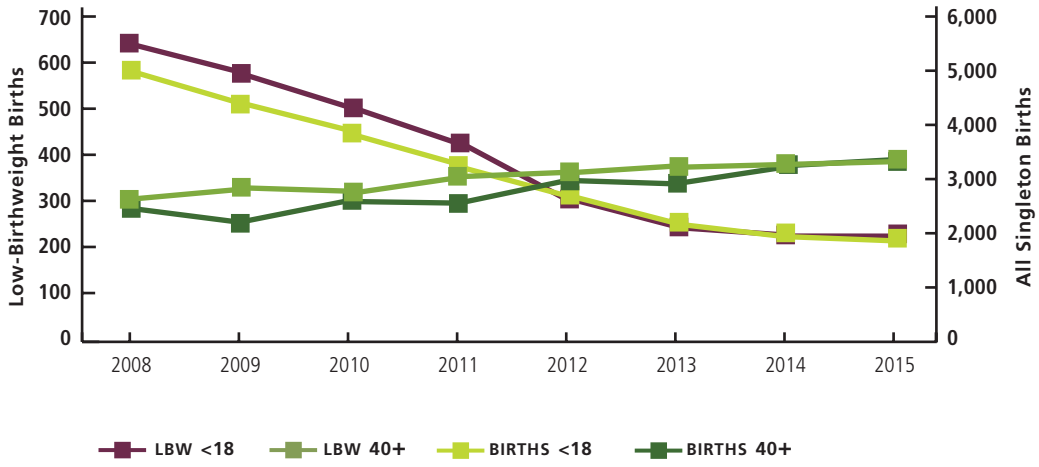


care, environmental exposure, and health behavior.[33] The implicit assumption is that poverty (SES) is associated with other environmental and behavioral factors that influence birth outcomes. If behavior is a function of underlying SES factors, then interventions like health education, by itself, will not produce the desired behavior change.

Demographic clusters were created from Easy Analytic Software Inc. (EASI) demographics data (2011) available at the census block group level of the 2010 census geographies, containing 25 variables related to age, income, family structure, housing value and type, educational attainment, and employment type. The Georgia Department of Public Health, Office of Health Indicators for Planning (OHIP) has adopted 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 who 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 some health outcomes.[34] Analysis with Georgia data yields similar findings. There is a gradual increase in LBW rate with decreasing SES from category one through three, while the 2015 category four rate is 57 percent higher than the category one rate and 28 percent higher than the category three rate. The increase in category four is associated with a high proportion of black families (more than 60 percent) whose LBW rate is at least twice the white rate.

Figure 5
HIGH-RISK AGE GROUP TRENDS, GEORGIA, 2008 – 2015



What We Can Do to Improve Birth Outcomes

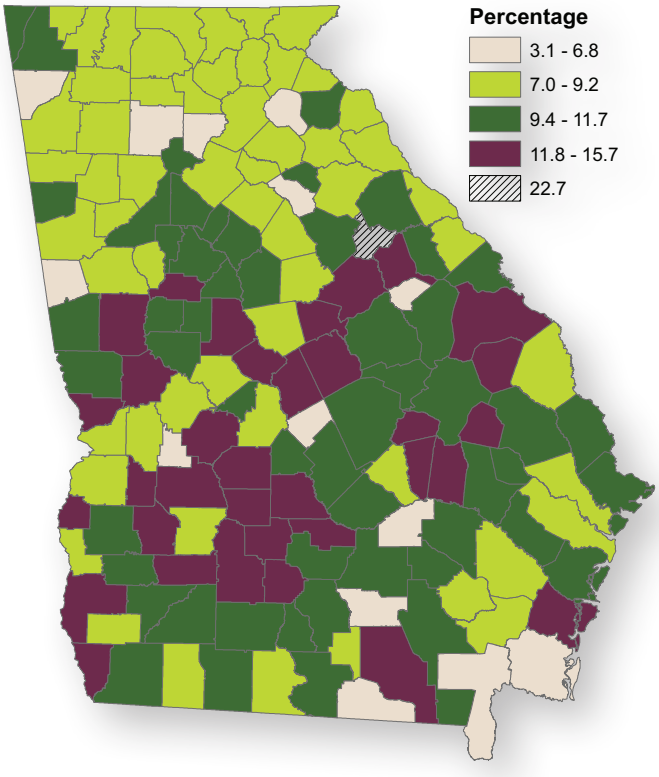
"There are four preventable actions to lower the rate of low-birthweight babies, and three occur before pregnancy."

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

A variety of factors influence the occurrence of 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. 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 among black infants.[35] The confluence of 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 6 shows the LBW rate across Georgia by county. This map can act as a guide regarding where efforts should be concentrated. More than 100 counties have a rate well above the national average, and eight counties have a rate almost twice the national average. The good news is there are promising practices concentrated in these counties in south Georgia. These data support the critical need in this region and can

Figure 6
LOW-BIRTHWEIGHT RATE BY COUNTY, GEORGIA, 2013 – 2015



SOURCE:

Georgia Department of Public Health, Office of Health Indicators for Planning (OHIP)

help counties and organizations further focus their work on the areas with the highest rates of LBW infants.

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. This new approach shifts attention to better primary health care for women in their childbearing years, including better interconception and preconception care.[36] According to the experts, this approach should complement, not replace, improvements in prenatal care and high-quality care during pregnancy.

"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

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 the 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]

In 2006, the Centers for Disease Control and Prevention (CDC) issued a set of 10 recommendations related directly to improving preconception care and overall women's health.[37] These recommendations focused on four primary goals:

1. Improve the knowledge, attitudes, and behaviors of men and women related to preconception health.
2. 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.
3. 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.
4. 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] In Georgia, about one in five women of childbearing age 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 Georgia.[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 mothers' periodontal disease to premature infant births.[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 participation in the special supplemental nutrition program for women, infants, and children (WIC) raised birthweight. Specific micronutrients also are 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 policy recommendations supported by the research include intensive case management for two years following the birth of a very LBW child and an increase in the length of Medicaid coverage following the birth of every child.[47] 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 and linkage to services, and monitoring of overall well-being.

Healthy Families
greatstartgeorgia.org/home-visiting-resource-center/evidence-based-models-georgia/healthy-families-georgia
Healthy Families Georgia (HFG), administered through the Division of Family and Children Services, 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 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 LBW babies than individuals who did not receive services.[48] 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 that 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 experienced by the HFNY group was one-quarter as high as the rate for the control group (3.6 percent versus 14.1 percent).[49]

The Healthy Families Georgia model supports families in Chatham, Clarke, Crisp, Glynn, Houston, Muscogee, and Whitfield counties.

Healthy Start
nationalhealthystart.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.[50] 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 birthrate 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
  cbww.org/atlanta-healthy-start-initiative

- Enterprise Community Healthy Start
  echealthystart.org
- Heart of Georgia Healthy Start
  heartofgeorgiahealthystart.org
- Healthier Generations
  claytoncountypublichealth.org

Parents as Teachers
parentsasteachers.org
GeorgiaPATnetwork.org
The Parents as Teachers (PAT) model is designed to provide parents with child development knowledge and parenting support. The Parents as Teachers National Center is an international nonprofit organization that promotes optimal early development, learning, and health of young children by supporting and engaging their parents and caregivers. PAT advances the delivery of high quality services for families through a comprehensive system of supports and innovative solutions. A number of research projects have found significant positive outcomes for the children and families involved in Parents as Teachers.[51] The Parents as Teachers model is implemented in 28 sites in 23 counties across Georgia.

Promising Practices for Enhanced Prenatal and Perinatal Care

Prevention of 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, in quality services and interventions, and in settings.

Two models of enhanced prenatal care, the Centering Pregnancy model and the Doula model, have shown promising findings in reducing the incidence of LBW.

Centering Pregnancy
centeringhealthcare.org/what-we-do/centering-pregnancy
Centering Pregnancy was piloted by a nurse-midwife 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's 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]

Today, there are 17 Centering Pregnancy sites in Georgia: Dougherty County Health Department, Southwest Georgia Public Health District; Athens Regional Medical Center (ARMC); Grady Health System in Atlanta; Sandy Springs CIMA; Columbus Regional Health in Columbus; Farm Worker Health Program Southwest Georgia Public Health District in Ellenton; Southern Crescent Women's Healthcare in Fayetteville; Southside Medical Center—LoveJoy Medical Clinic in Hampton; W.T. Anderson Health Clinic in Macon; ObGyn Associates of Marietta; Providence Women's Healthcare in Roswell; Oakhurst Medical Centers in Stone Mountain; Upson Women's Services in Thomaston; Tender Care Clinic in Greensboro; Southside Medical Norcross in Norcross; Southside Medical Main Campus in Atlanta; and Comprehensive Women's Care of Columbus in Columbus.

"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

Perinatal Health Partners
sehdph.org/perinatal-health.htm

The Perinatal 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 Perinatal Health Partners program in Georgia's Southeast Health District found improvements in birthweight and gestational age, resulting in fewer LBW infants in the study population.[53] The Perinatal Health Partners program serves Appling, Atkinson, Bacon, Brantley, Charlton, Clinch, Coffee, Jeff Davis, Pierce, Ware, and Wayne counties in southeast Georgia.

Community-Based Doula Program
familesfirst.org

The Community-Based Doula program provides first-time pregnant teens ages 10 – 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 positive 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 Families First, doulas conduct weekly home visits with expectant teen mothers living in Fulton and DeKalb counties, provide support during the labor and delivery processes, and assist with post-partum needs.

Summary

Georgia is a progressive state that has the resources to care for our children and young families. The existence of many of the 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, 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 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— 47th in the nation—according to the national *2016 Kids Count Data Book*.[3] By acting now, we can improve the health outcomes of Georgia's next generation of 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), 675-699.
3. Annie E. Casey Foundation. (2016). *2016 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 Birthweight. *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 Birthweight on Adult Outcomes. *Quarterly Journal of Economics*, 122(1), 409-439.
8. Hack, M., Klein, N., and Taylor, H. G. (1995). Long-Term Developmental Outcomes of LBW Infants. *Future of Children* 5(1) 176-196.
9. Rogowski, J. A. (1998, July). Cost-Effectiveness of Care for Very Low Birthweight 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., 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 14). 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*, 56(SS-10), 1-35.
14. Chan, D. and Sullivan, E. (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 Birthweight 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 LBW 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), 2559-2564.
19. Collier, S. and Hogue, C. (2007). Modifiable Risk Factors for Low Birthweight and Their Effect on Cerebral Palsy and Mental Retardation. *Maternal and Child Health Journal*, 11(1), 65-71.
20. Heaman, M., 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), 1-8.
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 Philadelphia. *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 Birthweight: the Role of Folate Depletion. *American Journal of Clinical Nutrition*; 88(1), 147-153.
24. Palma, S., et al. (2008). Iron But Not Folic Acid Supplementation Reduces the Risk of Low Birthweight Pregnant Women Without Anemia: 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-Birthweight, 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. *Maternal and Child Health Journal*, 12, 204-215.
30. Badshah, S., et al. (2008). 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 Birthweight and Preterm Births. *Journal of Epidemiology and Community Health*, 62(1), 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 Birthweight and Premature Births as well as a Somatic Classification of New Borns. *Zeitschrift für Geburtshshilfe und Neonatologie*; 212, 5-12.
33. Wilkinson, R. (1996). *Unhealthy Societies: The Afflictions of Inequality*. London: Routledge.
34. Marmot, M., Kogevinas, M., and Elson, M. A. (1987). Social/Economic Status and Disease. *Annual Review of Public Health*, 8,111-35.
35. Cordero, J. (2008). Child Policy Experts Answer Your Questions about Preventing Low Birthweight Promising Practices Network on Children, Families, and Communities. RAND Corporation. 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.; Halfon N. (2003, June 1). Preventing Low Birthweight: 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. *Women's Health USA 2008*. Rockville, Maryland: U.S. Department of Health and Human Services.
41. Reichman, N. E. (2005, Spring). Low Birthweight and School Readiness. *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 Centers for Disease Control, National Center on Birth Defects and Developmental Disabilities. 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. *Healthy Families America: A Program That Works* (2002). healthyfamiliesamerica.org/downloads/hfa_that_works.pdf
49. 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 and Neglect*, 32(3), 295-315.
50. Devaney, B., Howell, E. M., McCormick, M., and Moreno, L. (2000, July). *Reducing Infant Mortality: Lessons Learned from Healthy Start*, Final Report, Princeton, N.J.: Mathematica Policy Research, Inc.
51. 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.
52. Ickovics, J. R., Kershaw, T. S., Westdahl, C., Magriples, U., Massey, Z., Reynolds, H., and Rising, S. Schindler. (2007, August). Group Prenatal Care and Perinatal Outcomes. *Obstetrics and Gynecology*, 110(2, Part 1), 330-339.
53. O'Steen, G. (2008, December 19). *Promising Practice—Prenatal Health Partners*. Presentation at the Georgia Department of Public Health Infant Mortality Summit.

Resources on Low Birthweight and Related Indicators

Georgia Data

Georgia KIDS COUNT
gafcp.org/kidscount

The database tracks 50 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 a suite of interactive tools used to access the Georgia Department of Public Health's standardized health data repository. OASIS and the Repository are designed, built, and maintained by the Office of Health Indicators for Planning (OHIP).

National Data

Centers for Disease Control and Prevention
cdc.gov/nchs/data_access/vitalstatsonline.htm
This page is a portal to the online data dissemination activities of the Division of Vital Statistics, including both interactive online data access tools and downloadable public use birth and fetal death data files.

wonder.cdc.gov/natality.html
The Natality online databases report counts of live births occurring within the United States to U.S. residents and non-residents. Counts can be obtained by state, county, child's gender and weight, and maternal characteristics, including race, age, education, gestation period, prenatal care, birth plurality, and medical and tobacco use risk factors. The data are from birth certificates.

Child Trends DataBank
childtrendsdatabank.org
This continuously updated online data resource serves as a one-stop shop for the latest national trends and research on nearly 120 key indicators of child and youth well-being, including low birthweight. Users can search by indicators, child life stages, and by topics.

Data Resource Center for Child and Adolescent Health: NS-CHSCN
childhealthdata.org
The National Survey of Children's Health (NCSH) and the National Survey of Children with Special Health Care Needs (CSHCN) provide estimates for the nation, the District of Columbia, and for 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 health conditions.

Kaiser Family Foundation, State Health Facts
kff.org/statedata
The website 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
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
marchofdimes.com/peristats
The website provides infant and maternal health data at the national, state, county, and city levels.

State Agencies

Georgia Department of Community Health
dch.georgia.gov
This lead agency provides access to affordable, quality health care to millions of Georgians, including some of the state's most vulnerable and underserved populations. The agency oversees the state health benefit plan, Georgia Medicaid, PeachCare for Kids, Healthcare Facility Regulation and Health Information Technology in Georgia.

Georgia Department of Public Health (DPH)
dph.georgia.gov
DPH is the lead agency in preventing disease, injury, and disability; promoting health and well-being; and preparing for and responding to disasters from a health perspective.

Georgia DPH, Maternal and Child Health (MCH)
dph.georgia.gov/MCH
The MCH Section administers the Federal Title V Maternal and Child Health Block Grant and provides information, programs, and services on prenatal and maternal health, infant health, and early childhood health and development.

Georgia Coalition Against Domestic Violence (GCADV)
gcadv.org/news/fatality-review-project
GCADV is Georgia's federally recognized domestic violence coalition representing over 53 organizations and programs that engage in domestic violence prevention and intervention efforts across Georgia. GCADV and the Georgia Commission on Family Violence (GCFV) release the annual Georgia Domestic Violence Fatality Review Report. Together, these statewide agencies coordinate the Fatality Review Project and work with local fatality review teams to conduct in-depth reviews. The Report analyzes domestic violence-related homicides and near-homicides and provides recommendations for systemic change with the objective of lowering homicide rates.

Georgia Commission on Family Violence (GCFV)
gcfv.georgia.gov
GCFV works with communities and systems across the state to provide leadership in strengthening Georgia's families by ending family violence.

Georgia Associations and Organizations

Amerigroup Health Insurance of Georgia
amerigroup.com
Amerigroup focuses on improving health and wellness of one member at a time; connects members to the services and supports they need for physical health, mental health, and substance use; and seeks out new and better ways to improve health outcomes, quality of life, and access to high-quality, cost-efficient care and services.

Center for Black Women's Wellness
cbww.org
CBWW is a premier, community-based, family service center committed to improving the health and well-being of underserved Black women and their families. The nonprofit organization caters to the physical, mental, and economic needs of Atlanta's black women through comprehensive services.

Families First
familiesfirst.org/healthy-babies-healthy-moms
Families First seeks to empower young parents with the resources necessary to start and build safe and strong family environments for their children. Through its Healthy Babies, Healthy Moms program, it serves pregnant women with doula services, pregnant teens with comprehensive case management and counseling services, and provides Resource Moms and information to women who have delivered a very low-birthweight baby.

Georgia Associations and Organizations (continued)

Georgia Campaign for Adolescent Power & Potential (GCAPP)
gcapp.org
GCAPP's mission is to improve the overall health and well-being of young people in Georgia to ensure a more powerful future for all Georgians. The website provides information on programs and resources for teen pregnancy prevention/ sex education, physical activity and nutrition, and healthy relationships to help young people tap into their inner compass, navigate better decision making, and make healthy lifestyle choices.

Georgia Chapter American Academy of Pediatrics
gaaap.org
The Georgia Chapter promotes events, training, and other activities in its commitment to improve the health and welfare of all the infants, children, and adolescents in the State of Georgia.

Georgia Perinatal Association (GPA)
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
gapha.org
This nonprofit corporation is comprised of public health professionals and is organized for the goal of promoting the public and personal health of the citizens of Georgia.

Georgia Rural Health Association
grhainfo.org
This nonprofit network of health care providers, educators, and individuals is united in its commitment to improve health and health care for rural Georgians; to serve as advocates for rural health by promoting improved health status, health care systems, and health-related education for rural Georgians; and to encourage the development of appropriate health care resources for residents of Georgia.

Healthy Mothers Health Babies Coalition of Georgia (HMHBGa)
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 many low-income and uninsured families throughout the state.

Prevent Child Abuse Georgia
abuse.publichealth.gsu.edu
This affiliate of Prevent Child Abuse America provides statewide direction to build safe, stable, nurturing environments and relationships to prevent child abuse and neglect and is in the Mark Chaffin Center for Healthy Development at Georgia State University's School of Public Health.

United Way of Greater Atlanta
unitedwayatlanta.org
unitedwayatlanta.org/program/community-based-doula-initiative
United Way of Greater Atlanta works to ensure that all children have the opportunity to be born healthy and to reach their full potential. In 2012, United Way invited Families First to implement a full-fledged Doula program and training as part of its Babies Born Healthy Initiative designed to reduce the number of low-birthweight and pre-term births, and reduce the disparity among African-American women by supporting evidence-based interventions. Through the Community-Based Doula Initiative, United Way provides the funding, training, and support to equip doula programs to reach underserved women in their communities during pregnancy, birth, and the early months of parenting.

National Associations and Organizations

American Academy of Pediatrics (AAP)
aap.org
AAP is an organization of 66,000 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 site provides information on what AAP recommends for children's health.

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, Office of Minority Health (OMH)
minorityhealth.hhs.gov
OMH's mission is to improve the health of racial and ethnic minority populations by developing health policies, programs, campaigns, and initiatives that raise awareness and will help eliminate health disparities.

Georgia Foundations and Grantmakers

Aflac Foundation
aflac.com/about-aflac/corporate-citizenship/default.aspx
Aflac is committed to the health and well-being of the people in areas it serves and the environment. Health and children are two of the areas the Foundation funds and the Foundation is a leader in supporting the fight against childhood cancer. Giving is primarily in the Columbus area.

Amerigroup Georgia
providers.amerigroup.com/pages/ga-2012.aspx
The Foundation serves Medicaid and SCHIP members, advocates a community approach to health education and outreach, and works with community partners to promote healthy behaviors, preventive care, and wellness.

Georgia Health Foundation
gahealthfdn.org
The Foundation's mission is to improve the health of Georgians, encourage programs that have a high potential of sustaining impact, and make small health-related grants available to organizations operating exclusively for charitable, scientific, and educational purposes.

Healthcare Georgia Foundation
healthcaregeorgia.org
The Foundation's philanthropic 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, expanding access to affordable quality health care services, promoting health and preventing disease, and strengthening and sustaining health nonprofit organizations, programs, and workforce.

Kaiser Permanente Georgia
kpgagives.org/grants.html
Kaiser Permanente provides grants in counties it serves and supports efforts that improve access to care for all—especially the low-income and underserved in 32 Georgia counties. Funding priorities include prevention and treatment strategies that promote healthy eating, active living, primary health care, behavioral health care, and management of chronic diseases.

March of Dimes—Georgia Chapter
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 Foundations and Grantmakers

Allen Foundation, Inc.
allenfoundation.org/commoninfo/aboutus.asp
A priority of the Allen 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
ama-assn.org/about-us/ama-foundation
The AMA Foundation's mission is to improve the health of Americans by providing charitable funding to support community health and medical education programs. The Foundation supports public education campaigns and community service efforts across the country that fit its mission.

AMERIGROUP Foundation
amerigroupcorp.com/about-amerigroup/amerigroup-foundation
Through charitable contributions and programs, the Foundation partners with and supports strategic initiatives that aim to create a healthier generation of Americans. Focus areas include cardiac mortality, cancer prevention and smoking cessation, maternal and newborn health, diabetes prevention and management, and childhood and elderly obesity. Many of the populations served include financially vulnerable individuals and those with disabilities.

Kaiser Permanente—National
kp.org/communitybenefit
Kaiser Permanente's mission is to provide high quality, affordable health care services and 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
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
rwjf.org/en.html
The Foundation is the nation's largest philanthropy dedicated solely to health and to supporting research and programs that target some of America's most pressing health issues—from substance abuse to improving access to quality health care. Funded focus areas include healthy communities, healthy children, healthy weight, health leadership, and health systems.

We at Georgia Family Connection Partnership are alarmed by the high percentage of babies born at low birthweight in our state. We have been working with state and local partners to assist in developing local strategies with evidence-based practices to address this serious health concern, and we are beginning to see results. We are continuing our Low-Birthweight Initiative with our partners to:

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

This compendium—just one of the products of these collaborative efforts—provides a useful tool for communities and state and local partners to use to make a difference for Georgia's families and children.

FOR MORE INFORMATION, VISIT:
gafcp.org/healthy-children

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