Center for Mississippi Health Policy

ISSUE BRIEF

INFANT MORTALITY IN MISSISSIPPI

Potential Strategies to Improve Infant Health

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Mississippi's high infant death and illness rates are significant public health problems. This issue brief reviews health and economic impacts of poor birth outcomes in Mississippi and examines potential strategies for improvement.

VERY LOW BIRTH WEIGHT
Below 3 pounds, 5 ounces at birth

LOW BIRTH WEIGHT
Around 3 pounds, 5 ounces to 5 pounds, 8 ounces at birth

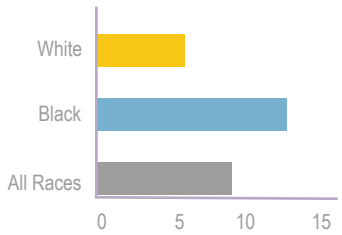
THE FIVE LEADING CAUSES OF INFANT DEATH IN MISSISSIPPI, 2012

RANK	CAUSE OF DEATH
1	Birth Defects
2	Low Birth Weight & Preterm Birth
3	Sudden Infant Death Syndrome (SIDS)
4	Accidents
5	Maternal Complications

Source: Mississippi State Department of Health, Vital Statistics. (2013).

PRETERM BIRTH
Birth before completing at least 37 weeks of pregnancy

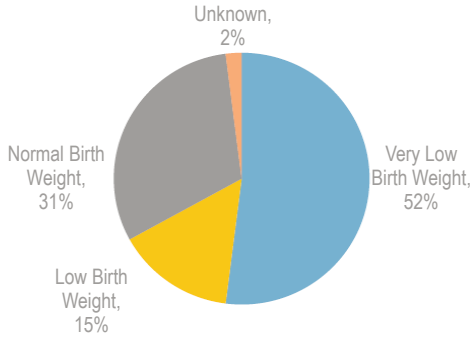
INFANT MORTALITY RATES PER 1,000 LIVE BIRTHS IN MISSISSIPPI, BY RACE, 2008-2012



Source: Mississippi State Department of Health, Vital Statistics. (2013).

Mississippi's infant mortality rate remains the highest in the nation at 8.8 deaths per 1,000 live births compared to 6.0 deaths per 1,000 live births for the U.S. Although 14 percent of all births in Mississippi are low or very low birth weight, 67 percent of infant deaths are below normal birth weight. Babies born at the very lowest birth weights accounted for over half (52%) of the infant deaths in Mississippi during 2012 (Figure 1).

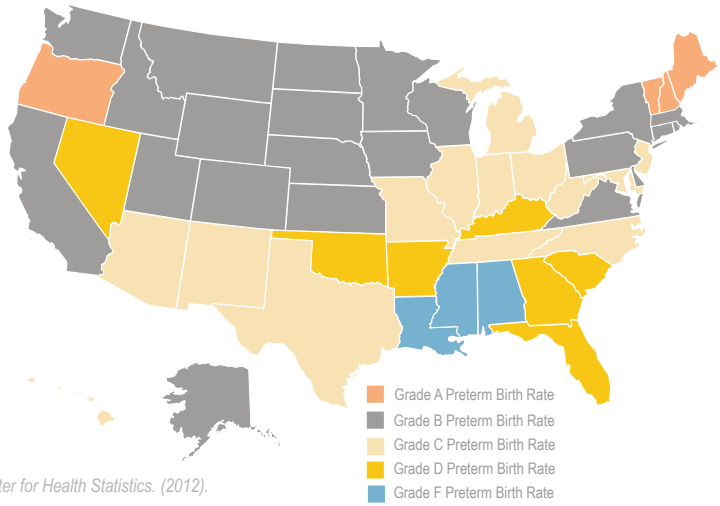
FIGURE 1. INFANT DEATHS BY BIRTH WEIGHT, MISSISSIPPI, 2012



Source: Mississippi State Department of Health, Office of Vital Statistics. (2012).

The infant mortality rate is also ten times higher for preterm births compared to term births (33.6 per 1,000 versus 3.4 per 1,000) in the state. In a March of Dimes report highlighting preterm birth rates, Mississippi was one of the three states graded the poorest in terms of preterm birth rates (Figure 2).

FIGURE 2. PRETERM BIRTH NATIONAL REPORT CARD, UNITED STATES, 2011



Source: National Center for Health Statistics. (2012).

Why Poor Birth Outcomes Matter

POOR BIRTH OUTCOMES COST ESTIMATES, MISSISSIPPI

ECONOMIC BURDEN	COSTS IN MILLIONS*
Medical Care Services	$241.05
Lost Productivity (parents)	$72.97
Special Education	$14.33
Early Intervention Services	$7.82

TOTAL COST PER YEAR: $336.17 MILLION

*Note: based on Mississippi premature births in 2012 and cost estimates from the Institutes of Medicine (IOM) in 2005 dollars.

Infant death is the ultimate poor birth outcome. Premature or immature babies who survive are likely to require immediate specialized medical care and can face long-term health and development problems. In addition to the financial and emotional burdens placed on families, these poor outcomes also affect state budgets.

Most (85%) medical care costs associated with poor birth outcomes accrue during the first few weeks of life. Based on data from a 2005 economic study by the Institutes of Medicine, medical care costs alone associated with premature births in Mississippi are estimated at $241 million annually. Since over half of the births in Mississippi are covered by the state Medicaid program, improving birth outcomes could return substantial cost savings to the state.

Underdeveloped babies are also at higher risk for developmental problems and are more likely to require early intervention services and special education. Annual costs in Mississippi for these services are estimated at $22 million.

Causes of Poor Birth Outcomes

ADEQUATE PRENATAL CARE INDEX BY GEOGRAPHIC LOCATION

PRENATAL CARE INDEX	LOCATION
74.7%	U.S.
75.5%	Southern States
81.7%	Mississippi

Source: Centers for Disease Control, National Center for Health Statistics. (2012).

Poor birth outcomes can occur due to a variety of factors. Certain medical conditions, genetics, exposure to toxic substances, and inadequate access to medical care have all been linked to poor birth outcomes and infant deaths. Evidence also points to the following risk factors as major contributors to poor birth outcomes in Mississippi, which can be impacted by preventive efforts:

Poor health status before pregnancy

Many women have limited access to health care and enter pregnancy in poor health. More than a third (36%) of Mississippi mothers report having no health insurance before pregnancy. Medicaid is available for low-income pregnant women, which faciliates access to prenatal care, but is too late to improve chronic health problems, and Medicaid coverage ends 60 days after delivery.

Tobacco use during pregnancy

The rate of smoking during pregnancy in Mississippi was 40 percent higher than the national rate in 2010.

High rates of early elective deliveries

Mississippi had rates of early deliveries for non-medical reasons that were 38 percent higher than the nation in 2011.

High risk births in hospitals with an inappropriate level of care

Mississippi has one of the lowest rates reported in the U.S. for low birth weight babies born in hospitals equipped to handle their complex care.

Sleep-related deaths

SLEEP RELATED INFANT DEATHS

A combination of all sleep related deaths including Sudden Infant Death Syndrome (SIDS), suffocation, and other causes.

The state Child Death Review Panel found nearly three-fourths (73%) of infants dying from sleep-related causes did not sleep in a crib, more than half (62%) slept with other people, and over one-third (39%) did not sleep on their backs.

Potential Strategies to Improve Birth Outcomes

The Collaborative Improvement & Innovation Network (CoIIN) to Reduce Infant Mortality, a multi-state public/private partnership to improve birth outcomes, has examined available evidence and identified five priority areas for states to focus their infant mortality reduction efforts. An additional strategy is described to address Mississippi's very high prematurity rate.

CoIIN to Reduce Infant Mortality is a multi-state public/private partnership to improve birth outcomes.

MEDICAID WAIVERS
Georgia & Louisiana cover interconception care for certain high risk women via 1115 Waivers.

INTERCONCEPTION CARE

Evidence suggests that ensuring women have access to regular health care before and between pregnancies can ensure health problems are addressed earlier and reduce poor birth outcomes. Some states have accomplished this goal by extending Medicaid coverage beyond 60 days after delivery.

SMOKING CESSATION IN PREGNANCY

Smoking during pregnancy is a major risk factor for many poor birth outcomes. Providing education and support to help mothers quit smoking during pregnancy can help reduce the smoking rates of pregnant women.

EARLY ELECTIVE DELIVERIES
For more information about early elective deliveries see the issue brief on this topic at www.mshealthpolicy.com

REDUCTION OF EARLY ELECTIVE DELIVERIES

Delaying elective deliveries until at least 39 weeks of pregnancy is associated with lower infant death rates and intensive care unit hospital admissions at birth. Policies have been established recently by other states which resulted in declines in early elective deliveries, including those among Medicaid beneficiaries. These states project millions of dollars in cost savings as a result.

PERINATAL REGIONALIZATION
An organized system of care in which hospitals are categorized by the scope of perinatal services provided.

IMPLEMENTATION OF A SYSTEM OF PERINATAL HOSPITAL CARE

Research shows that high risk babies delivered in hospitals equipped to handle their complex medical needs have better chances of survival. A well-developed system of maternal and newborn hospital care can strengthen access to appropriate care for those at highest risk. This goal can be accomplished by the implementation of an organized system of hospital care similar to the state's organized system of trauma care.

SAFE SLEEP EDUCATION

Evidence suggests that raising awareness about the safest ways to position infants during sleep helps reduce the rates of sleep-related deaths. Teaching caregivers about infant sleep safety can help reduce infant deaths from sleep-related causes.

ACCESS TO 17- ALPHA-HYDROXYPROGESTERONE CAPROATE (17-P)

Clinical trials show the drug 17-alpha-hydroxyprogesterone caproate (17-P) can reduce preterm births in women at highest risk. Injections of 17-P must be given weekly for up to 20 weeks from weeks 16 through 36 weeks of pregnancy. Early and consistent access to the drug has been proven key to successfully preventing preterm births in high risk women who have a history of a previous preterm birth.

Early and consistent access to 17-P has been proven to prevent preterm births in high risk women.

Summary

Mississippi has the highest infant death rate in the nation as well as high incidence of other negative birth outcomes. In addition to the impact on families, poor birth outcomes result in significant costs to the state in terms of medical care, special education, reduced productivity, and lost human potential. Many of the causes of poor birth outcomes are amenable to preventive measures. Evidence-based strategies designed to improve the health of pregnant women, delay birth until the baby has adequately matured, ensure delivery at a hospital that can provide the appropriate level of care, and help babies sleep safely can target these key factors contributing to infant illness and death to improve the health of Mississippi's youngest citizens.

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