

# 2011 Mississippi Infant Mortality Report<sup>1</sup>

Presented to

Chairmen

Public Health and Welfare /Human Services Committees  
Mississippi Senate and House of Representatives

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## **2011 Mississippi Infant Mortality Report**

### **Introduction**

The Mississippi State Department of Health (MSDH) has made infant mortality an agency priority. The 2010 infant mortality rate for Mississippi was 9.6 infant deaths per 1,000 live births. The Healthy People 2020 (HP2020) goal for infant mortality in the U.S. is 6.0 infant deaths per 1,000 live births, a reduction of 10% from the 2006 rate of 6.7 infant deaths per 1,000 live births. A comparable 10% decrease in Mississippi infant mortality rates would equal 8.6 infant deaths per 1,000 live births. The MSDH recognizes that continued focus and collaboration are needed to attain either a 10% reduction in infant mortality or the HP2020 goal of 6.0 deaths per 1,000 live births.

This report highlights data used by MSDH programs in their efforts to understand and combat infant mortality. Data sources for this report include 2010 MSDH Vital Records /Public Health Statistics and 2009 Mississippi Pregnancy Risk Assessment Monitoring System (PRAMS), the most recent years available.

### **Data monitoring**

MSDH collects information on causes of infant death and associated risk factors through vital records, program data, surveillance systems, and health clinic data. The MSDH Health Services Office of Health Data and Research (OHDR) works in partnership with other MSDH staff to produce this annual Infant Mortality report.

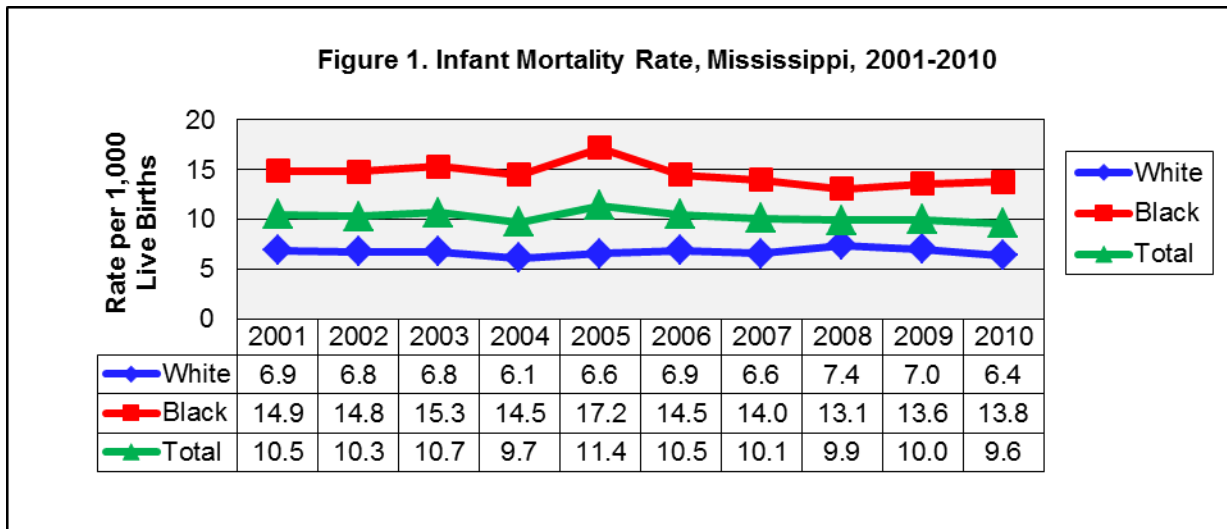
### **Infant mortality causes**

The primary causes of infant death in Mississippi are low birth weight and premature birth, birth defects, Sudden Infant Death Syndrome (SIDS), accidents and maternal complications of pregnancy. Racial disparities, maternal health, and prenatal care access and utilization also impact infant mortality.

### **Infant mortality trend**

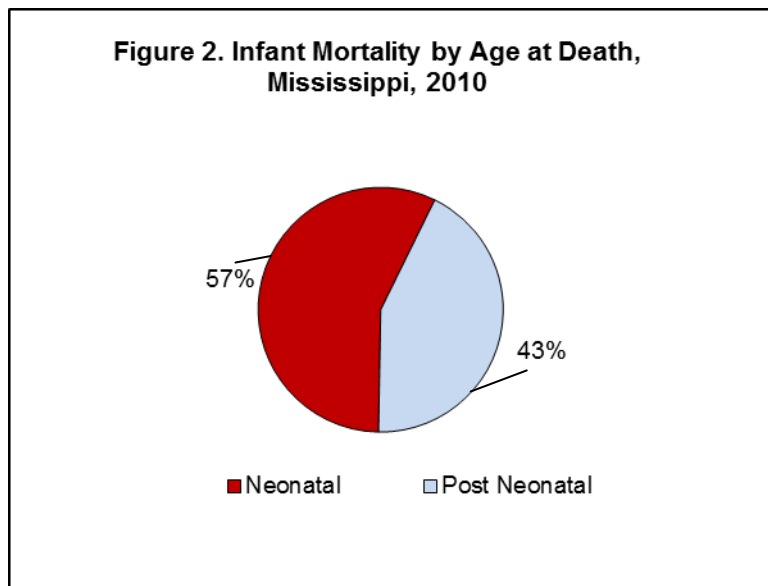
The infant mortality rate for Mississippi has remained relatively unchanged from 2001 to 2010 (Figure 1). Over the past ten years, the rate of Mississippi infants dying before their first birthday ranged from a low of 9.6 deaths per 1,000 live births in 2010 to a high of 11.4 deaths per 1,000 live births in 2005. The average infant mortality rate from 2001 to 2010 was 10.3 infant deaths per 1,000 live births. There remained noteworthy differences between black and white infant

mortality rates, and the black infant mortality rates remained approximately twice as high as the white infant mortality rate (Figure 1).



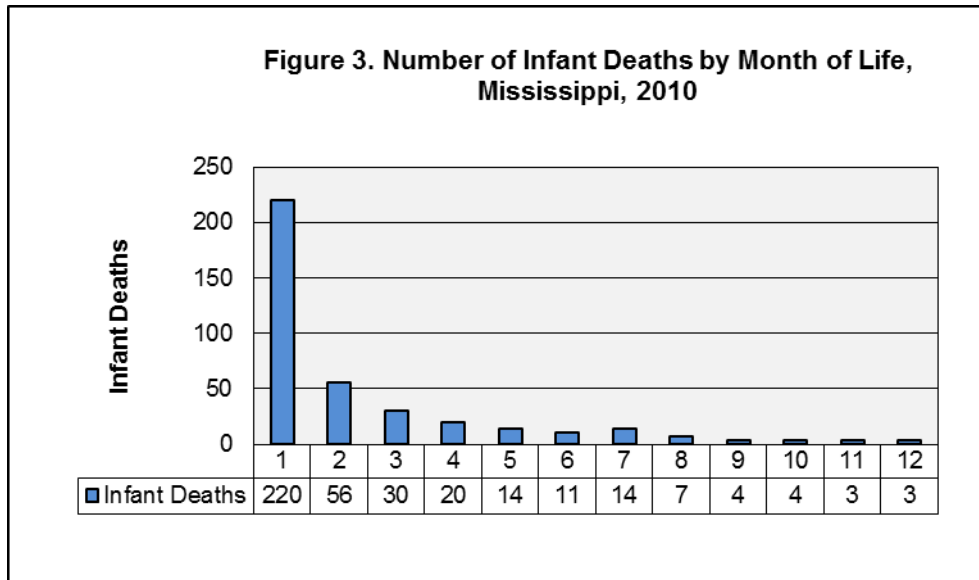
**Infant mortality by period of death**

Neonatal deaths take place in the first 28 days of life, and accounted for 57% of infant deaths in 2010. Postneonatal deaths occur after the 28th day of life and before an infant’s first birthday, and accounted for 43% of infant deaths in 2010 (Figure 2).



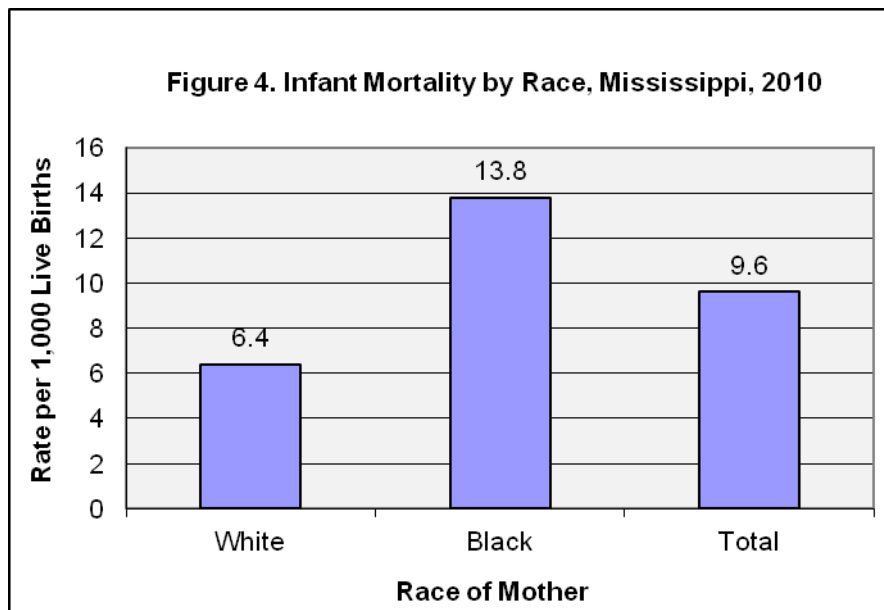
In 2010, 57% of infant deaths (220 of 386) took place during the first month of life. Infants two to seven months old at the time of death accounted for 38% of deaths (145 of 386), and the

remaining 5% of 21 infant deaths (21 of 386) occurred in the 8th through 12th month of life (Figure 3).



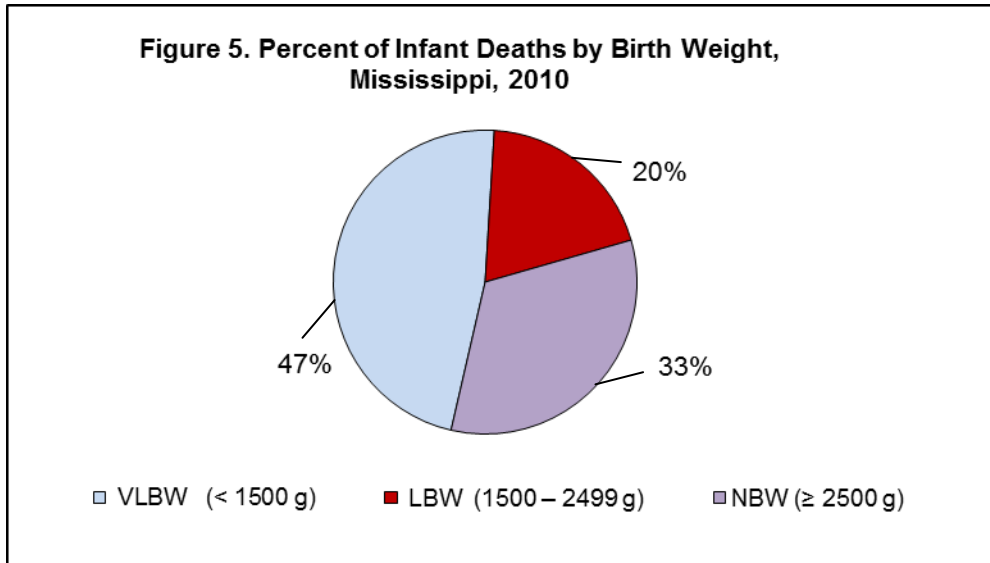
**Infant mortality by race**

In 2010, the white infant mortality rate was 6.4 infant deaths per 1,000 live births and the black infant mortality rate was 13.8 infant deaths per 1,000 live births (Figure 4). This racial disparity has persisted in Mississippi and the U.S. for decades.

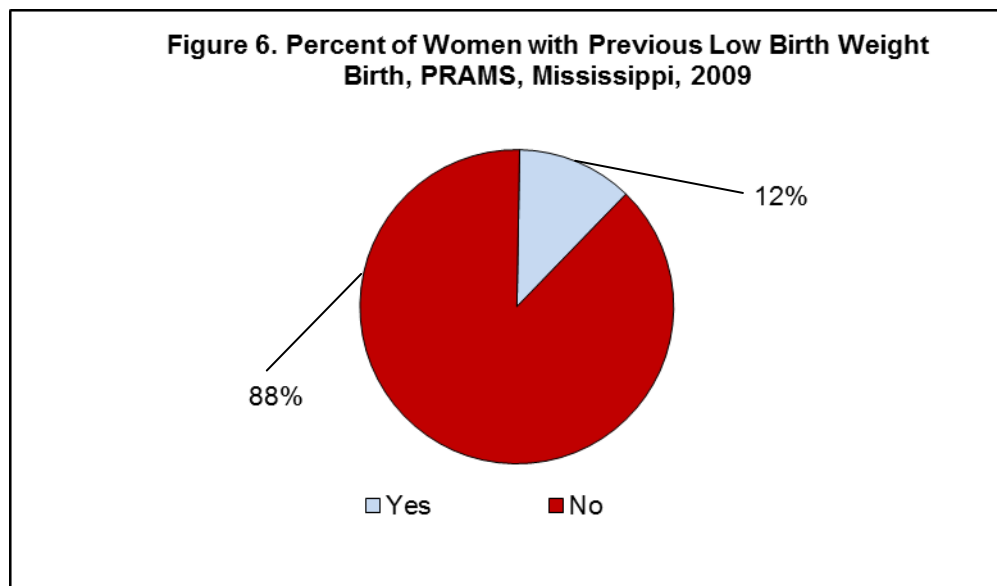


### Infant mortality by birth weight

Infant deaths attributable to preterm birth (PTB, < 37 weeks gestation) and low birth weight (LBW, < 2,500 grams) are the leading causes of infant death in Mississippi. In 2010, deaths among LBW infants were almost 15 times higher than deaths among normal birth weight (NBW) infants (LBW: 52.2 deaths per 1,000 live births vs. NBW: 3.6 deaths per 1,000 live births). The infant mortality rate for very low birth weight (VLBW, < 1,500 grams) infants was higher than other weight categories with 210.8 deaths per 1,000 live births.

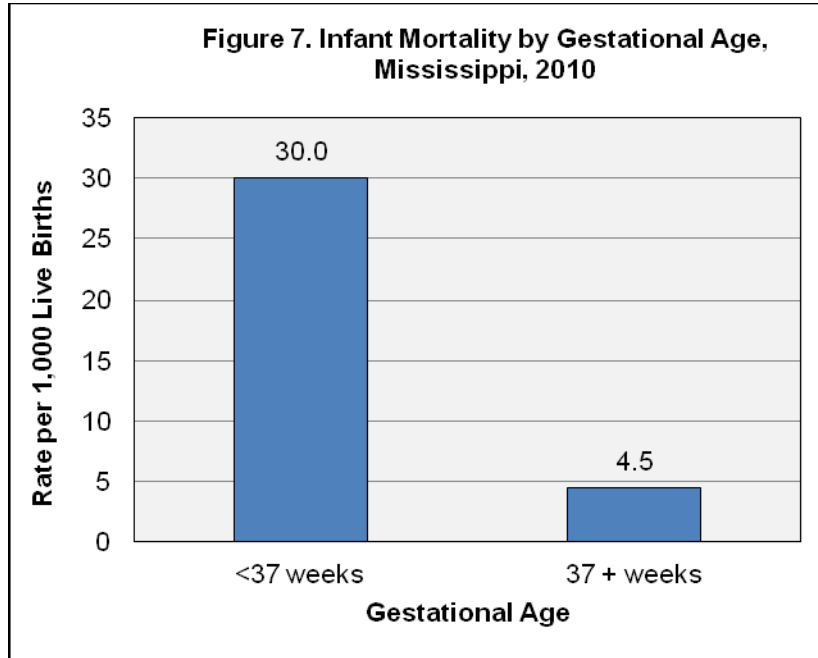


Twelve percent of all women who responded to the 2009 PRAMS survey self-reported having a previous low birth weight birth, a risk factor for future low birth weight births (Figure 6).

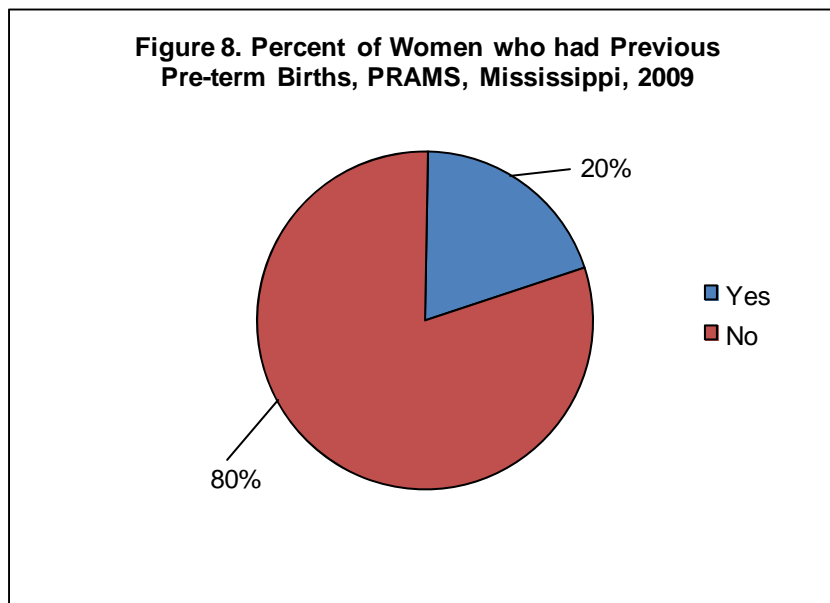


### Infant mortality by gestational age

The mortality rate for premature infants less than 37 weeks gestation was 30.0 infant deaths per 1,000 live births compared to 4.5 infant deaths per 1,000 live births for babies born at 37 weeks or more gestation (Figure 7).

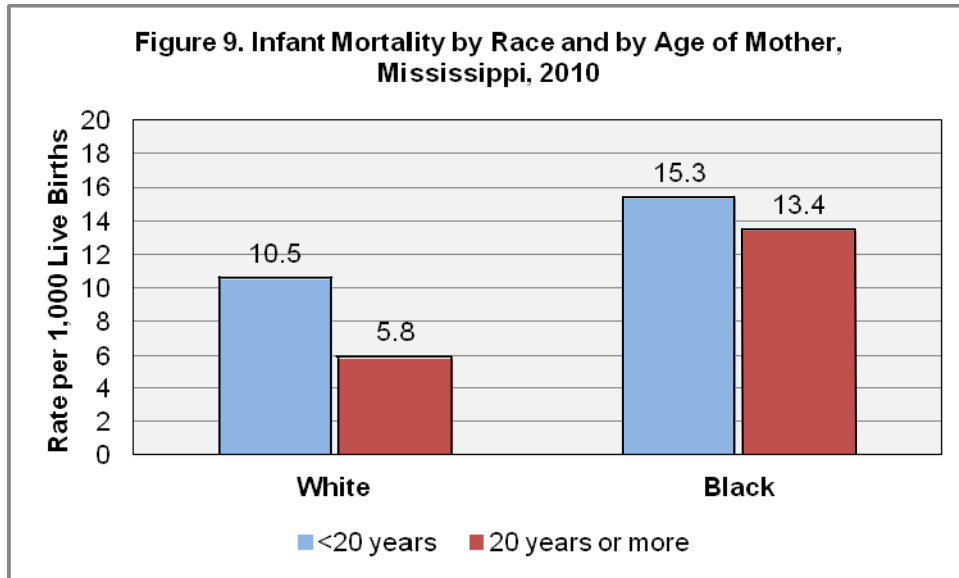


According to all mothers surveyed with PRAMS, 20% had a previous preterm birth (Figure 8).



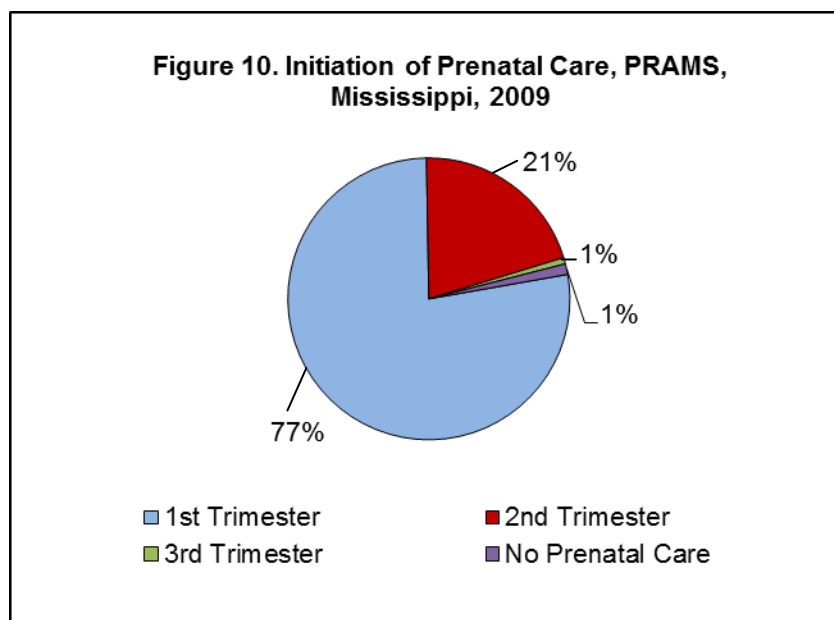
### Infant mortality by mother's age

In 2010, among infants of white mothers, infant mortality rates were significantly higher for mothers younger than 20 years of age (10.5 deaths per 1,000 live births) compared to those who were 20 years or older (5.8 deaths per 1,000 live births). Among infants of black mothers, the infant mortality rates were not significantly different between mothers younger than 20 years of age (15.3 deaths per 1,000 live births) and those 20 years or older (13.4 deaths per 1,000 live births) (Figure 9).

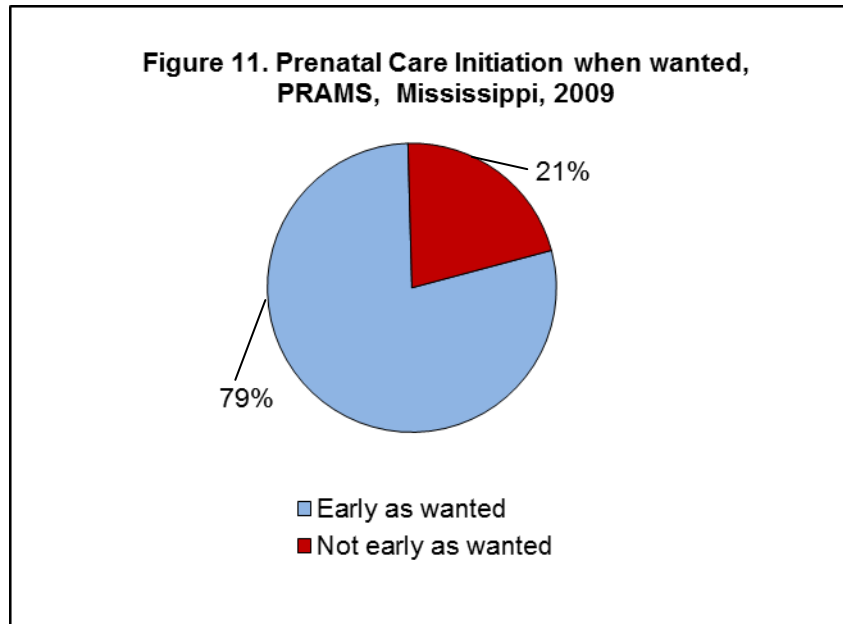


### Initiation of prenatal care

According to 2009 PRAMS data, most women initiated prenatal care during the 1st trimester (77%) or 2nd trimester (21%) of pregnancy. Very few women initiated prenatal care in the third trimester (1%) or not at all (1%) (Figure 10).



Most women (79%) began prenatal care as early as they wanted (Figure 11).



### **Infant mortality by Kotelchuck Index (an index of prenatal care adequacy)**

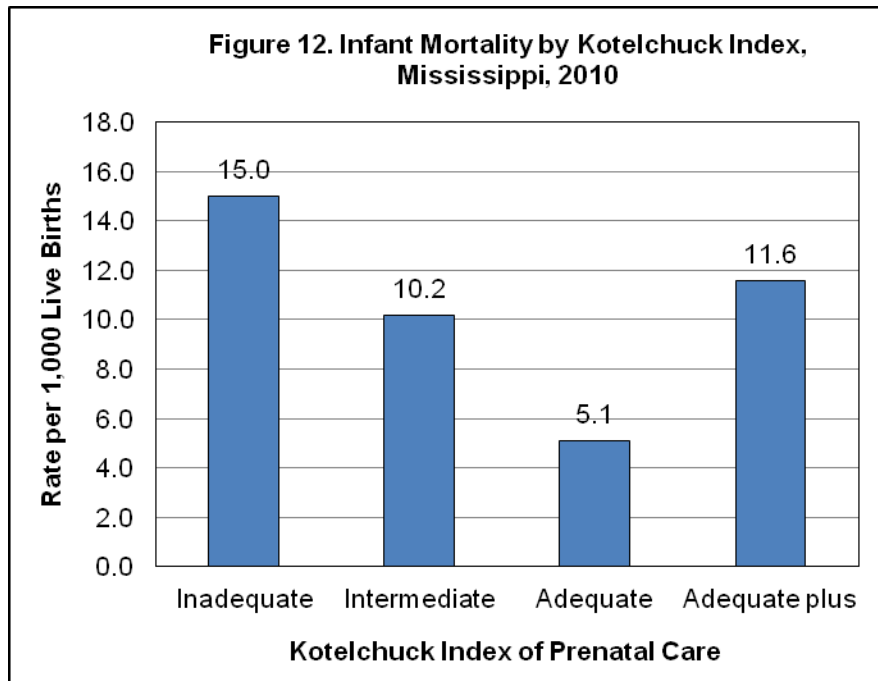
The Kotelchuck Index classifies prenatal care into one of four categories by combining information about the timing of prenatal care, the number of prenatal care visits and the infant's gestational age.

- I. Inadequate: Prenatal care began after the 4th month, or less than 50% of recommended prenatal visits were received.
- II. Intermediate: Prenatal care began by the 4th month and 50%-79% of recommended prenatal visits were received.
- III. Adequate: Prenatal care began by the 4th month and 80%-109% of recommended prenatal visits were received.
- IV. Adequate Plus: Prenatal care began by the 4th month and 110% or more of recommended prenatal visits were received.

Mothers who received “adequate” prenatal care were the only group that had infant mortality rates below the 2010 state rate of 9.6 deaths per 1,000 live births (Figure 12). Notably, the infant mortality rate of 5.1 deaths per 1,000 live births for mothers who received “adequate” prenatal care is also lower than the HP 2020 goal of 6.0. The measure of “Adequate” care may serve as a proxy for other characteristics associated with improved birth outcomes (e.g., maternal education, family income, medical insurance). “Adequate plus” care often reflects maternal or



fetal health issues that require additional prenatal visits, thus women who receive this level of care may be at elevated risk of poor birth outcomes such as infant death.



### Work Plan and Progress Report

The MSDH continues to rank infant mortality as the agency’s highest priority. Analytic and programmatic efforts over the past several years have begun to lead to a better understanding of the complex, multifactorial challenges faced by Mississippi women and families.

Various studies have provided insight into factors contributing to Mississippi’s historically high rates of infant mortality (1-7). Of greatest concern are the data indicating that many Mississippi women may not be physically, fiscally, socially, or educationally prepared for maternity and motherhood. These studies underscore the importance of increasing access to preconception (or pre-pregnancy) care, interconception care, treating women throughout their lifespan, and training women’s health care providers to recognize and understand the effects of chronic disease in women. Further, these studies document the need for preventive health care as a tool for reducing racial disparities in infant mortality. Healthier mothers have healthier babies; therefore, improving the health of mothers prior to pregnancy could improve outcomes for Mississippi infants and their families.

Current MSDH programs work to reduce infant mortality and provide surveillance of maternal and infant health characteristics.

## Women's Health

### *Family Planning*

The MSDH Family Planning Program provides comprehensive reproductive healthcare for low-income women, men, and adolescents. The goal of the Family Planning Program is to improve maternal and infant health, prevent unintended pregnancies, and reduce the incidence of teenage pregnancy. The estimated total number of unplanned pregnancies prevented during Mississippi FY 2011 was 10,687; 27.5% of the prevented unplanned pregnancies were among women 19 years of age and younger.

### *Maternity/Perinatal Services*

The MSDH provides maternity services through county health departments, targeting pregnant women whose income is at or below 185 percent of the federal poverty level. The Maternity Program strives to provide accessible and continuous quality maternity services based on risk status, with referral to appropriate physicians and hospitals.

## Child and Adolescent Health

### *Genetics (Newborn Screening)*

The Newborn Genetic and Hearing Screening Programs provide screening for a number of genetic diseases and disorders with diagnosis, counseling, and follow-up services provided for positive screening results. The goal of these screening programs is to reduce morbidity and mortality of Mississippi newborns through early detection and treatment accompanied by genetic counseling and appropriate referrals. The objective of the Birth Defects Registry is to increase reporting of birth defects from medical providers to ensure follow-up, connect families with resources, and ensure that children are placed in a system of care. In 2010, the total number of babies born in Mississippi was 39,177. The number of newborns screened was 39,054 with a rate of 99.7%.

### *SIDS*

SIDS is a major cause of death in infants from birth to one year of age. Parents, caretakers, and pregnant women receive literature and counseling regarding prevention of SIDS such as the benefits of breastfeeding and the **ABCs** of safe sleep (**A**lone, on their **B**ack, in an uncluttered **C**rib, in a **S**moke-free environment).

## Tobacco Control

### *Smoking Cessation*

Smoking during pregnancy is a known risk factor for low birth weight, preterm birth and small for gestational age infants, and leads to health related costs for both mothers and

babies. The goal of the MSDH Office of Tobacco Control is to reduce the prevalence of tobacco use among youth and adults in Mississippi.

#### Health Data and Research

##### *Pregnancy Risk Assessment Monitoring System (PRAMS)*

Using confidential surveys of women who have had a recent live birth, PRAMS identifies and monitors selected maternal experiences and behaviors occurring before, during, and shortly after pregnancy that may have affected the health of their baby. With this information, the program seeks to reduce adverse birth outcomes such as low birth weight, infant morbidity and mortality, and maternal morbidity.

#### Vital Records and Statistics

Health and Vital Statistics Reports are compiled annually on births, deaths, health behaviors, county health status, immunizations, and diseases. These data and reports are vital to describing infant mortality and looking for characteristics associated with infant deaths.

#### Other MSDH Activities

##### *Delta Infant Mortality Elimination (DIME) and Metropolitan Infant Mortality Elimination (MIME) Projects*

The DIME and MIME projects were established to reduce infant mortality in the Mississippi Delta and the Jackson Metropolitan area by reducing the numbers and consequences of very low birthweight infants born to women in these areas. Both programs propose to accomplish the goal of decreased infant mortality by: 1) filling gaps in healthcare services for women and infants, 2) increasing efficiency and utilization of available healthcare services for women and infants, and 3) enhancing knowledge and skills of healthcare consumers and providers. The programs are collaborations between the MSDH, the University of Mississippi School of Medicine, and Federally Qualified Health Centers.

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