

# 2013 Mississippi Infant Mortality Report

## Introduction

Infant mortality is the death of babies less than one year of age. The infant mortality rate is the number of infants who die per 1,000 infants born alive. The infant mortality rate is considered a general measure or indicator of the overall health and well-being of a population, because risk factors such as poverty and access to health care also directly affect the health of infants. Infant mortality is affected by the health and well-being of women before and during pregnancy, the quality of prenatal and delivery care, and the health and care of babies from birth. Reducing infant deaths requires addressing these multiple factors.

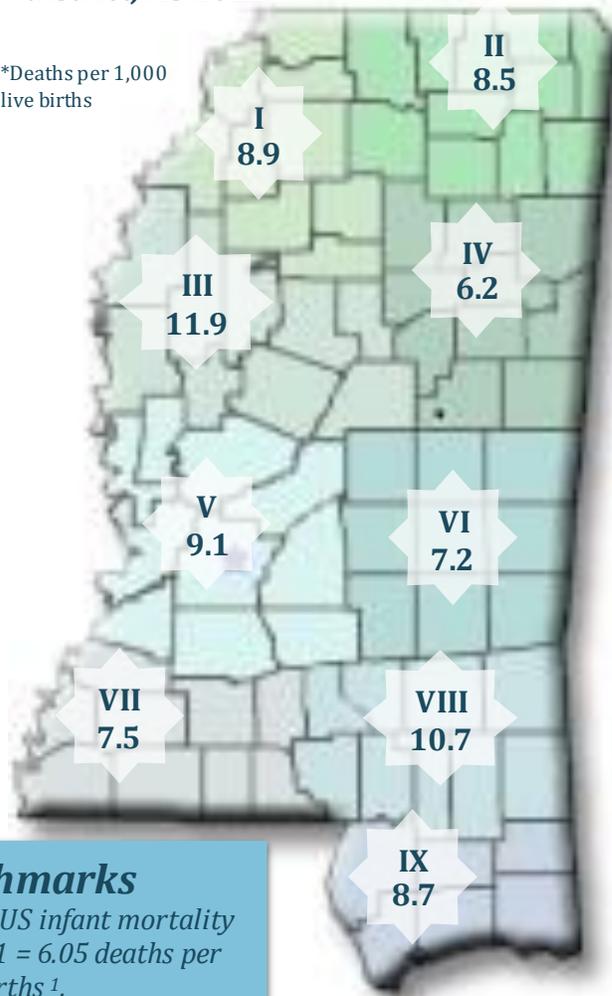
Higher rates of these risk factors, contribute to Mississippi (MS) having the highest rate of infant deaths in the United States (US). MS ranked 1<sup>st</sup> among the 50 states in 2010, the most current state comparison data<sup>1</sup>. In 2012, the MS infant mortality rate was 8.8, a historical low for MS, although still the highest in the nation. Public Health District infant mortality rates ranged from 6.2 to 11.9 per 1,000 live births (see map right) and many Public Health Districts saw notable rate changes as compared to the previous year (see graph below).

During 2012, decreasing infant mortality remained a priority for the Mississippi State Department of Health (MSDH). This report lists various infant mortality statistics and describes strategies MSDH is implementing to address them. Although the overall state rate has declined, further effort is required to address inequities and disparities at regional and community levels.

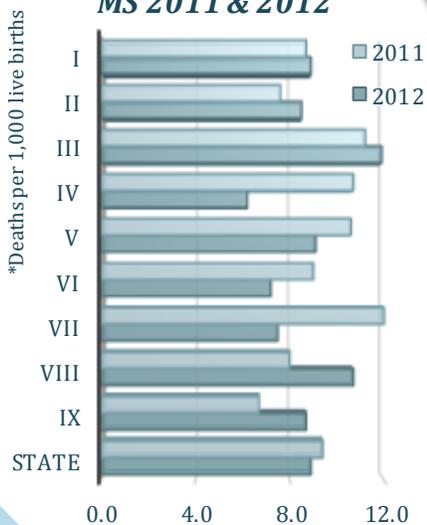
The Health Services Office of Health Data and Research compiles the report annually as required under § 41-3-15.(1)(c)(viii), MS Code of 1972, as annotated.

## Infant mortality rates by public health district, MS 2012\*

\*Deaths per 1,000 live births



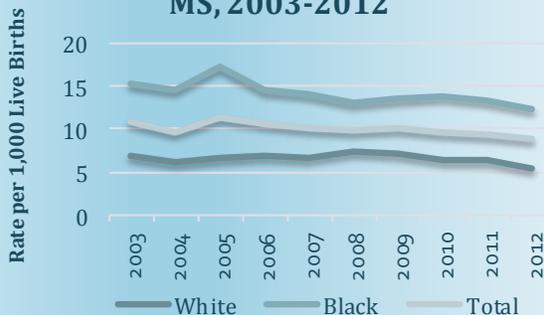
## Infant mortality rates by public health district, MS 2011 & 2012



## Benchmarks

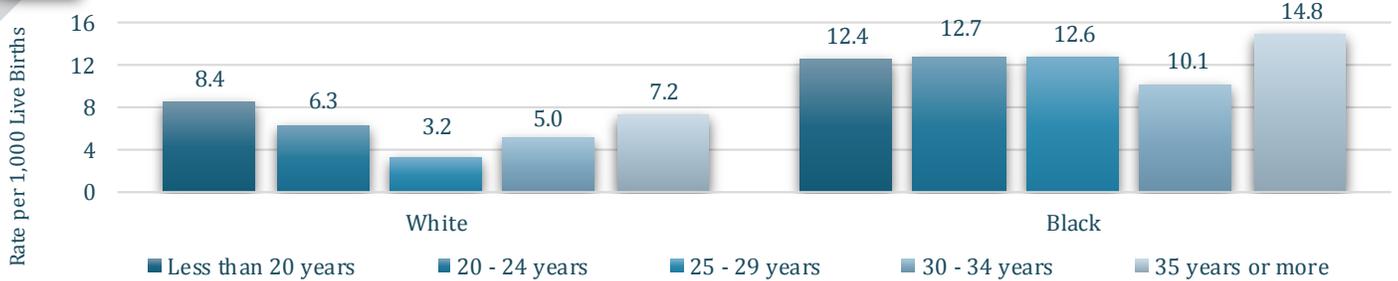
1. Preliminary US infant mortality rate for 2011 = 6.05 deaths per 1,000 live births<sup>1</sup>.
2. Healthy People 2020 goal = 6.0 deaths per 1,000 live births<sup>2</sup>.

## Infant mortality rate trend, MS, 2003-2012



The Mississippi infant mortality rate has only slightly declined over the last decade. The disparity between white and black infant mortality rates continues to exist.

## Infant mortality rate by race and age of mother, MS, 2012



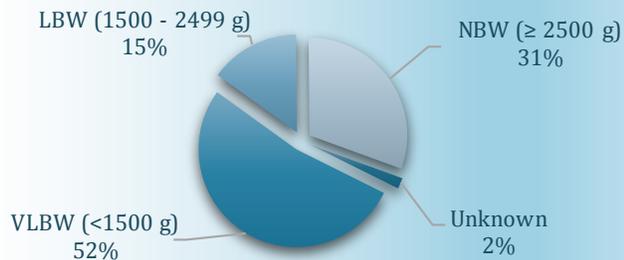
Some groups experience higher rates of infant death than others. Nationally, black infants are about twice as likely as white infants to die before their first birthday, similar to the racial disparity among MS infant deaths. Higher rates of infant death also occur among MS teenagers and mothers over age 35.

### Costs of Preterm Delivery

The Institute of Medicine (IOM) estimates that, on average, early deliveries accumulate economic costs of \$51,600, 71% of which are medical costs. During 2012, MS had 6,515 premature births. By IOM estimates, that equates to a Mississippi economic impact of more than \$336 million and Mississippi medical costs of nearly \$240 million<sup>3</sup>.

**\$51,600  
per infant**

### Percent of infant deaths by birthweight, MS, 2012



The lower an infant's weight at birth, the greater the risk for problems including death. For optimal health, infants should have a normal birthweight (NBW) of at least 2,500 grams (about 5 pounds and 8 ounces).

The greatest number of MS infant deaths occur among very low birthweight (VLWB- less than 1,500g or 3 lbs 5oz).

### Infant mortality by gestational age, MS, 2012



MS infant deaths were highest among infants born preterm before 37 weeks of pregnancy. Risk of death is lowest for full term babies delivered between 39 and 40 weeks of pregnancy. Low-income women, uninsured women, black women and teens are at higher risk of preterm delivery. The preterm birth rate among whites in MS is 14.1 and the rate for blacks is 20.6 (per 1,000 live births).

### Ten Leading Causes of Infant Death, MS 2012

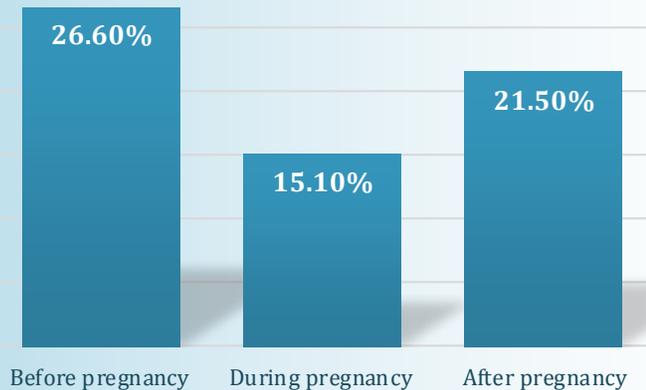
1. Birth defects (19.1%)
2. Low birth weight/prematurity (15.2%)\*\*
3. Sudden Infant Death Syndrome (SIDS) (10.6%)
4. Accidents (6.5%)
5. Maternal complications (3.0%)
6. Sepsis of the newborn (2.8%)
7. Respiratory distress of newborn (2.8%)
8. Necrotizing bowel infection of newborn (2.6%)
9. Diseases of the circulatory system (1.8%)
10. Newborn complications of placenta/cord (1.6%)

\*\* Note: When all preterm birth complications (causes 6 & 8-10) are combined, low birthweight/prematurity is the leading cause of infant death.

Maternal smoking can result in delivery of infants that are small for their gestational age as well as contributing to risk of low birthweight, premature birth, and infant death. According to the MS Pregnancy Risk Assessment Monitoring System (PRAMS\*), smoking decreased 43% from before pregnancy to during pregnancy. Although smoking prevalence after pregnancy remained lower than before pregnancy, many mothers resumed smoking following pregnancy.

*\*PRAMS is a surveillance project of the Centers for Disease Control and Prevention (CDC) and state health departments. PRAMS collects state-specific, population-based data on maternal attitudes and experiences before, during, and shortly after pregnancy.*

## Maternal smoking, MS, 2010



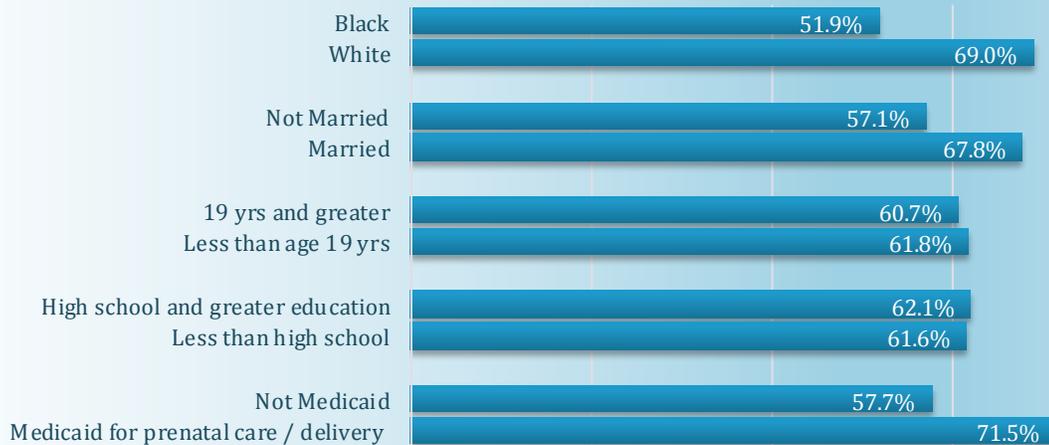
## Low Birthweight, Medicaid Costs & Secondhand Smoke

Exposure to secondhand smoke has a causal effect on low birthweight. MS Medicaid claims data for low birthweight ICD codes for the period July 1, 2012 thru June 30, 2013 suggest a MS Medicaid economic impact in excess of \$15 million attributable to low birth weight caused by exposure to secondhand smoke <sup>4</sup>.

**\$15 million**

Infants sleep safest alone, on their backs, and in a crib in a smoke-free environment. Unfortunately, barely more than 61% of Mississippi mothers reported exclusively placing their infants on their backs to sleep. Regardless of age, race, education, marital status, or payer source, an insufficient number of Mississippi mothers report exclusively placing infants on their backs to sleep.

## Exclusive back sleep positioning, MS 2010



## Winnable Battles

Smoke free environments for women, infants & children

Safe sleep practices for infants

Improved maternal and infant health

Reduced teenage pregnancies

Elimination of elective deliveries before 39<sup>th</sup> week of pregnancy

Sustained smoking cessation before, during, and after pregnancy

## Mississippi Success Stories

Reduced infant mortality rate by 6%

(from 9.4 to 8.8 per 1,000 live births)

Reduced number of SIDS deaths by 50%

(from 42 to 21)

Reduced number of teenage births by 8%

(from 5,362 to 4,778)

Reduced number of tobacco users in pregnancy by 8%

(from 4,410 to 4,045)

### Mortality Surveillance

The Fetal-Infant Mortality Review (FIMR) and Pregnancy-Associated Mortality Review (PAMR) processes involve case reviews of infant and maternal deaths. Professional Case Review teams make recommendations to Community-Level Action Teams to promote and implement changes at the systems level.

### Teen Pregnancy Prevention

As a partner in the *Healthy Teens for a Better Mississippi* initiative, MSDH promotes abstinence-only and abstinence-plus education, youth development, coalition building, and media outreach to achieve healthier infants and decrease teenage births.

### Acknowledgements

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### Data Sources

This report uses data from the 2012 MS Vital Records and Public Health Statistics and the 2010 MS Pregnancy Risk Assessment Monitoring System.

### References

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## Mississippi Strategies

MS has joined other states and national maternal and infant health leaders in a nationwide effort to reduce infant mortality and improve birth outcomes. The MSDH is undertaking a diverse approach, working with healthcare providers and community leaders across the state to improve MS maternal and infant health. MSDH focuses on six evidence-based strategies (graphic below) to reduce infant mortality that include:

- Reducing non-medically indicated deliveries before 39 weeks
- Reducing tobacco use during pregnancy
- Improving maternal health before and in-between pregnancies
- Improving safe sleep practices that reduce SIDS and sleep related deaths
- Reducing recurrent preterm births through use of 17P (*17-alpha hydroxyprogesterone caproate*) treatment
- Enhancing perinatal systems of care for high-risk mothers and infants

MS success stories (graphic left) continue to expand but additional effort and resources are required to address inequities and disparities

