

# 2014 Mississippi Infant Mortality Report

## Introduction

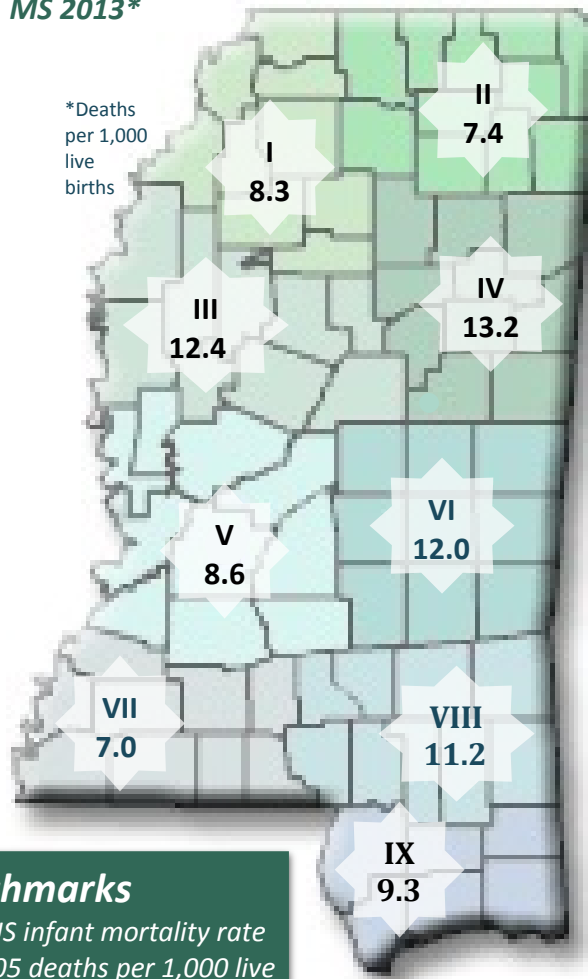
Infant mortality is the death of babies less than one year of age. The infant mortality rate is the number of infants who die per 1,000 infants born alive. The infant mortality rate is considered a general measure or indicator of the overall health and well-being of a population, because risk factors 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 multiple factors such as the health and well-being of women before and during pregnancy.

Risk factors affecting infant health and safety include preterm birth, tobacco use in pregnancy, low breastfeeding rates, and unsafe sleep environments. Higher rates of these and other risk factors, contribute to Mississippi (MS) having the highest rate of infant deaths in the United States (US). MS ranked the highest among the 50 states in 2011, based on the most current state comparison data. In 2012, the MS infant mortality rate was 8.8, a historical low for MS. Unfortunately, MS's 2013 infant mortality rate increased to 9.7. Public Health District infant mortality rates ranged from 7.0 to 13.2 (see map right) and many Public Health Districts saw notable rate changes as compared to the previous year (see graph below).

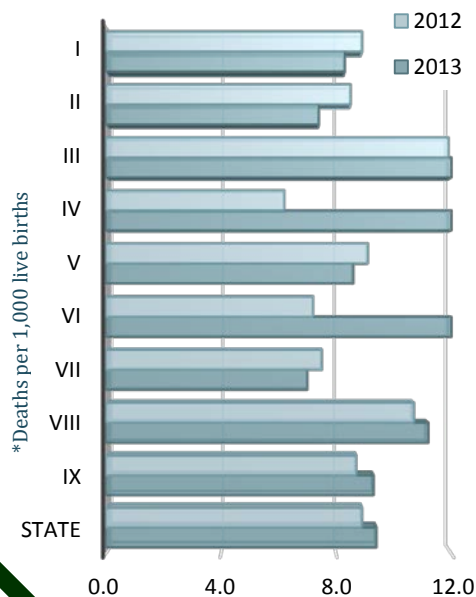
During 2013, decreasing infant mortality remained a priority for the Mississippi State Department of Health (MSDH). This report lists various infant mortality statistics and describes strategies MSDH is implementing to address them. The overall state rate has not decreased suggesting further effort is required to address inequities and disparities at regional and community levels.

The Health Services Office of Health Data and Research compiles this 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 2013\*



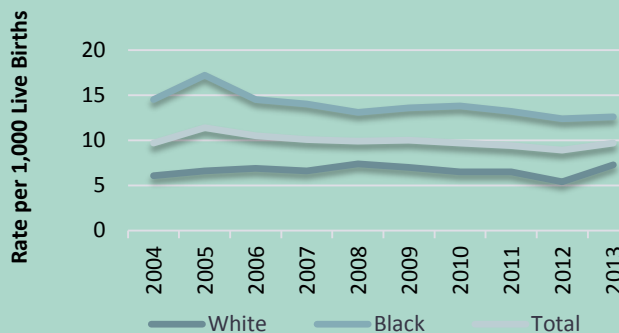
## Infant mortality rates by public health district, MS 2012-2013



## Benchmarks

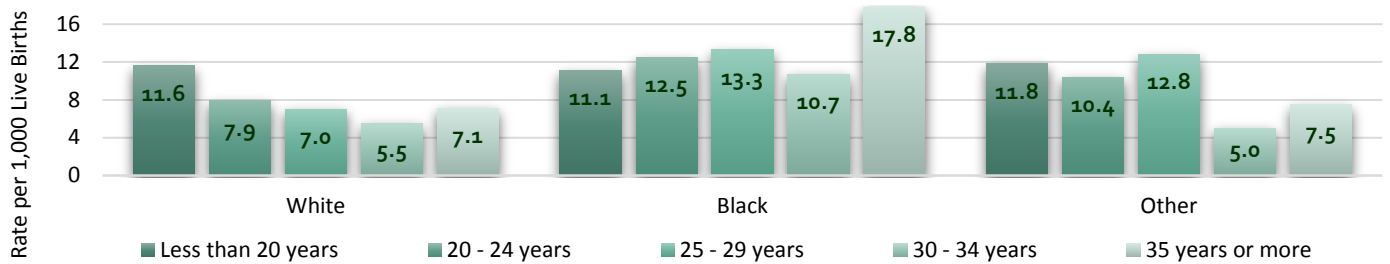
1. Preliminary US infant mortality rate for 2011 = 6.05 deaths per 1,000 live births<sup>1</sup>.
2. Healthy People 2020 goal = 6.0 deaths per 1,000 live births<sup>2</sup>.

## Infant mortality rate trend, MS, 2004-2013



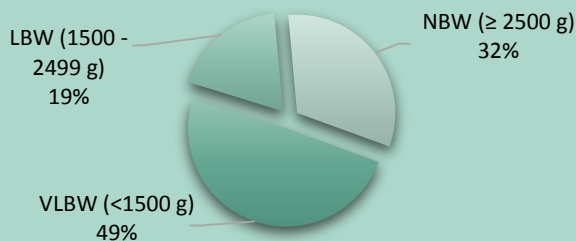
The MS infant mortality rate has only slightly declined over the last decade. The disparity between white and black infant mortality rates continues to exist.

## Infant mortality rate by race and age of mother, MS, 2013



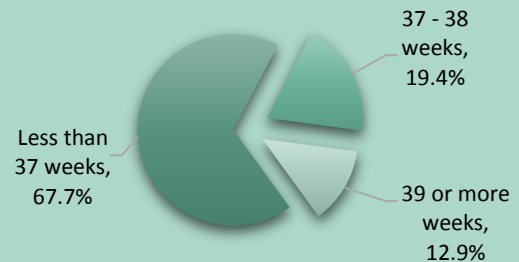
Some groups experience higher rates of infant death than others do. Nationally, black infants are about twice as likely as white infants to die before their first birthday, similar to the racial disparity among MS infant deaths. Higher rates of infant death also occur among MS teenagers and mothers over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

### Percent of infant deaths by birthweight, MS, 2013



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 occurs among very low birthweight (VLWB- less than 1,500 g or 3 lbs. 5 oz.).

### Percent of infant deaths by gestational age, MS, 2013



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).

### Five Leading Causes of Infant Death, MS 2013

- 1) Low birth weight & prematurity (29.2%) \*
- 2) Birth defects (20.6%)
- 3) Accidents (7.5%) †
- 4) Sudden Infant Death Syndrome (SIDS) (6.2%)
- 5) Maternal complications (3.5%)

\* Includes preterm birth complications

† Includes motor vehicle accidents, discharge of firearms, poisoning, falls, suffocation, strangulation, drowning, exposure to smoke, and other accidents.

### 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>.

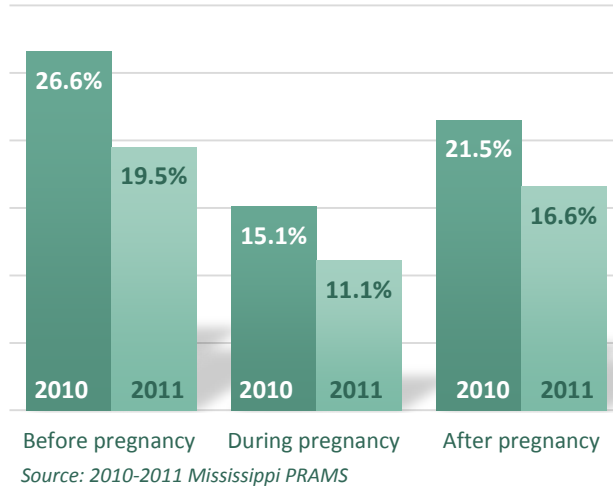
During 2013, MS premature births dropped to 5,071. IOM estimates suggest a 2013 Mississippi economic impact of more than \$261 million, including over \$185 million in Mississippi medical costs. Reducing premature births by 1,444 from 2012 to 2013 suggests economic savings for Mississippi in the range of \$75 million.

**\$51,600**  
per infant

Maternal smoking can result in delivery of infants that are small for their gestational ages as well as contributing to risk of low birthweight, premature birth, and infant death. According to the 2011 and 2011 MS Pregnancy Risk Assessment Monitoring System (PRAMS\*), smoking decreases about 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, 2010-2011



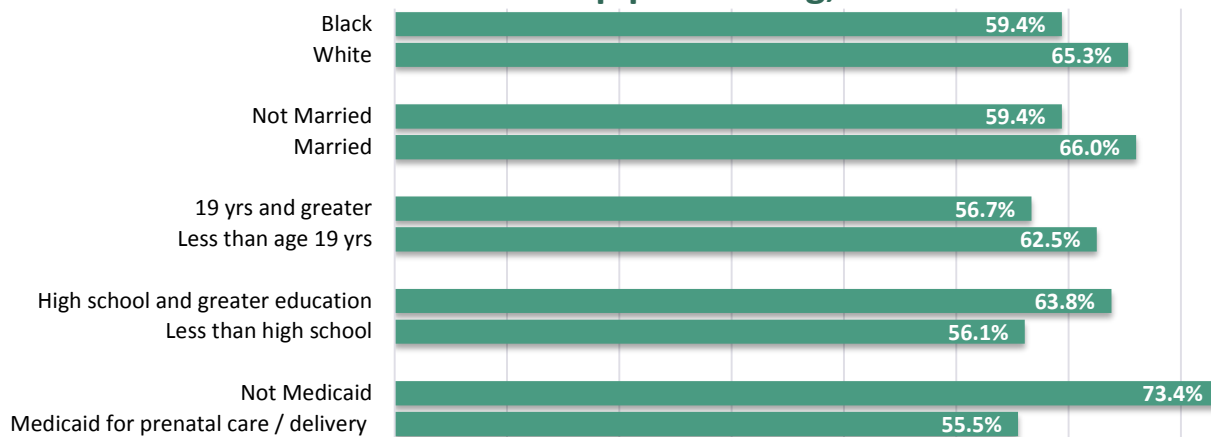
### Low Birthweight, Medicaid Costs & Secondhand Smoke

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>.



Infants sleep safest alone, on their backs, and in cribs in smoke-free environments. 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 2011



Source: 2011 Mississippi PRAMS

### Winnable Battles

Smoke free environments for women, infants & children

Safe sleep practices for infants

Reduced teenage pregnancies

Improved maternal and infant health

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

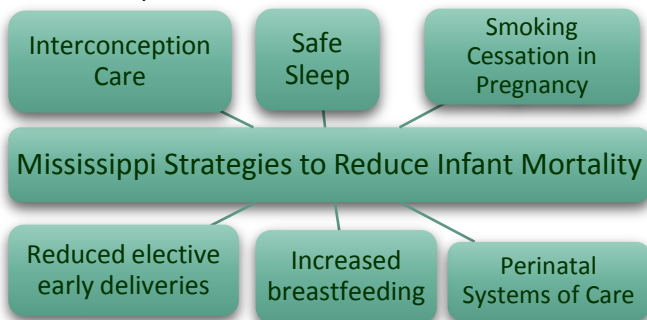
Sustained smoking cessation before, during, and after pregnancy

## 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 including:

1. Reducing non-medically indicated deliveries before 39 weeks
2. Reducing tobacco use during pregnancy
3. Improving maternal health before and in-between pregnancies
4. Improving safe sleep practices that reduce SIDS and sleep related deaths
5. Increasing rates of breastfeeding
6. Enhancing perinatal systems of care for high-risk mothers and infants

MS success stories continue to expand but additional effort and resources are required to address inequities and disparities at regional and community levels.



### Acknowledgements

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### Data Sources

Report data retrieved from 2013 MS Vital Records and Public Health Statistics and the 2010-2011 MS PRAMS.

### References

1. Hoyert, D.L. & Xu, J.Q. (2012). Deaths: Preliminary data for 2011. *National Statistics Reports*, 61(6). Hyattsville, MD: National Center for Health Statistics.
2. U.S. Department of Health and Human Services. (2013). *Maternal, Infant, and Child Health: 2020 Objectives*. Available online at [www.HealthyPeople.Gov](http://www.HealthyPeople.Gov).
3. Institute of Medicine. (2007). Societal costs of preterm births. In R.E. Behrman & A.S. Butler, Eds, *Preterm Birth: Causes, Consequences, and Prevention*, (pp. 398-429). Washington, DC: National Academies Press.
4. Social Science Research Center of Mississippi State University. (2013). *Medicaid Costs & Secondhand Smoke*. Available online at [www.MSTobaccoData.Org](http://www.MSTobaccoData.Org).

## Mississippi Success Stories

### 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.

### MS Perinatal Quality Collaborative

In November 2014, the MSDH convened the 1<sup>st</sup> annual meeting of the Mississippi Perinatal Quality Collaborative (MSPQC). Ensuring that each mother and infant receives the safest, risk-appropriate and evidence-based care is fundamental to improving birth outcomes in MS. The development of the state-based MSPQC will provide the infrastructure for clinicians and hospitals to implement proven practices to enhance care safety and quality. During the meeting, teams voted to select state project initiatives. The neonatal team will focus on optimizing high-risk neonatal resuscitation and the obstetric team will focus on reducing morbidity and mortality caused by several maternal hypertension. There will be a statewide effort to increase breastfeeding rates and support hospitals to adopt practices to support breastfeeding through the Baby Friendly Hospital Initiative. MS currently has one of the lowest rates of breastfeeding in the US.

### Mortality Surveillance

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

### 39 Weeks Initiative

The MS Hospital Association, MS Section of the American College of Obstetricians and Gynecologists, and MS delivery hospitals support the 39 weeks initiative. Thirty-seven MS delivery hospitals (80%) have joined the March of Dimes Banner Program, committing to reduce unnecessary early elective deliveries (before 39 weeks) to 5% or less of all births.