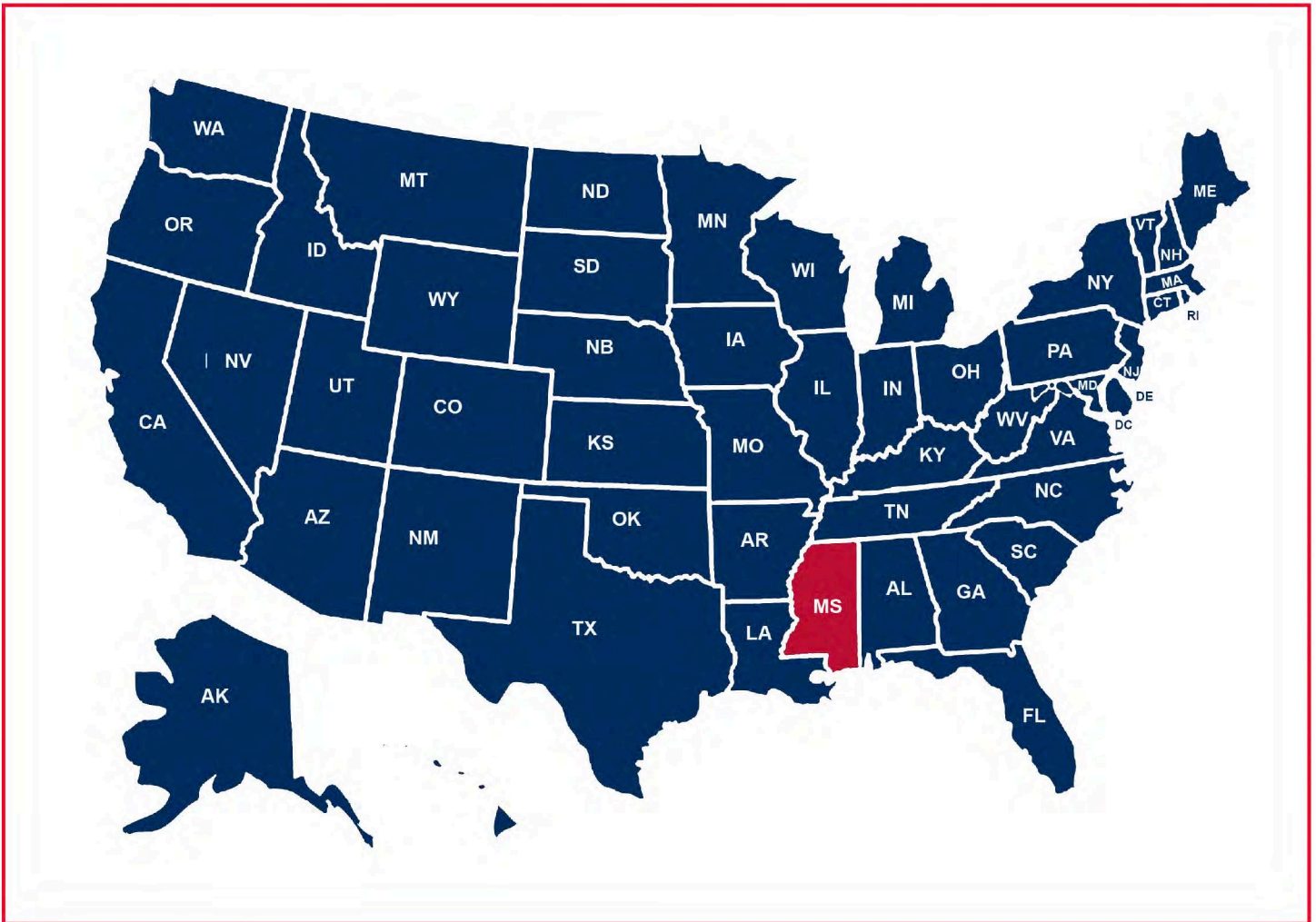


Mississippi State Department of Health

Infant Mortality Report 2019



Introduction

Infant mortality is defined as the death of a baby before his or her first birthday and is considered an important indicator of the overall quality of health and health care of a population. **This report is based upon infant deaths in Mississippi in the year 2018.** Infant mortality is closely related to important social determinants of health such as poverty, education and race. Mississippi has persistently had one of the highest infant mortality rates in the nation with nearly 9 infant deaths for every 1,000 that are born. The most recent United States infant mortality rate is 5.79 deaths per 1,000 live births. In Mississippi, the infant mortality rate (IMR) in 2018 was 8.43. Racial disparities in infant mortality are significant, with the black infant mortality rate at 11.6 deaths per 1,000 live births compared to the white rate of 5.9. The leading causes of infant mortality remain preterm birth, birth defects and sudden unexpected infant deaths, particularly related to unsafe sleeping practices.

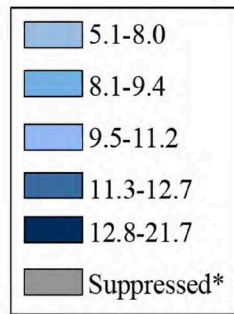
- Mississippi Total Births 2018: **37,009**
- Mississippi Total Infant Deaths 2018: **312**
- Mississippi Infant Mortality Rate: **8.43 infants deaths per 1,000 live births**
This represents a 3.3 percent decrease from the 2017 rate of 8.72.
Healthy People 2020 target infant mortality rate: 6.0
- Mississippi Rank 2017: **50th**

County Rates

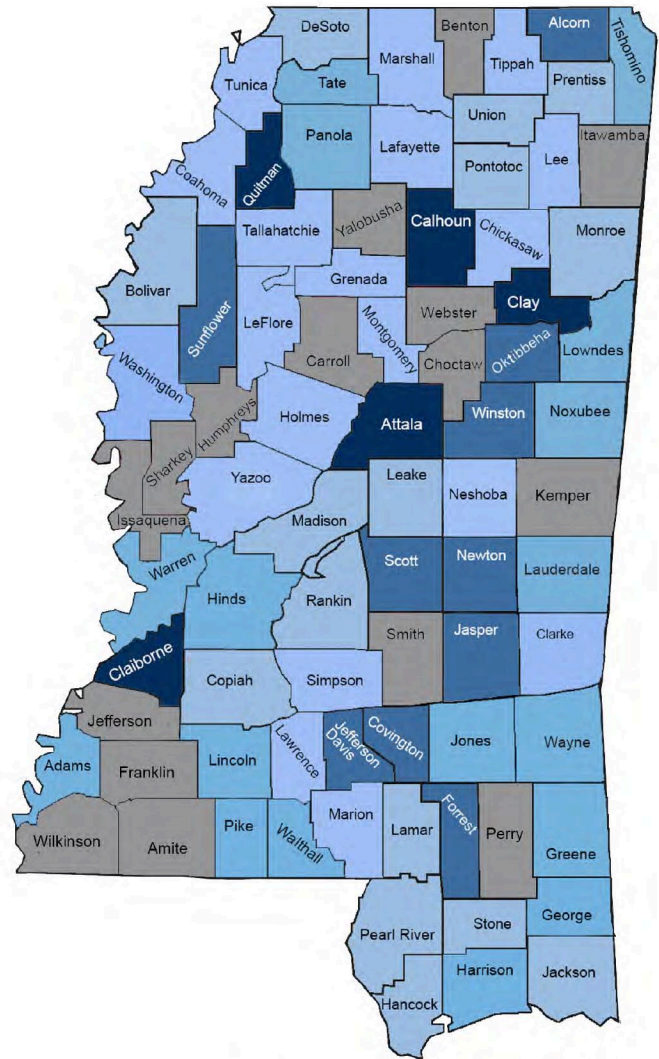
Infant mortality rate 2014 -2018 by race for 20 most populated counties beginning with the most populous

	Total	Black	White
Hinds	9.0	10.0	6.3
Harrison	8.3	13.5	6.3
DeSoto	5.5	7.3	4.9
Rankin	5.1	9.3	3.9
Jackson	7.3	11.0	5.8
Madison	5.2	6.5	4.6
Lee	9.5	16.2	5.5
Lauderdale	9.1	12.5	5.5
Forrest	11.5	14.8	8.9
Jones	8.8	12.5	7.0
Lamar	6.8	9.3	5.9
Lowndes	8.6	12.4	4.9
Pearl River	6.4	21.4	3.8
Lafayette	9.5	17.7	6.9
Oktibbeha	11.9	20.3	5.1
Hancock	7.9	—	7.9
Warren	9.1	9.5	7.9
Washington	9.9	11.8	—
Pike	8.4	9.5	6.9
Alcorn	12.0	18.5	10.5

Infant Deaths per 1,000 Live Births
2014 - 2018



Mississippi County Average Infant Mortality Rate 2014-2018

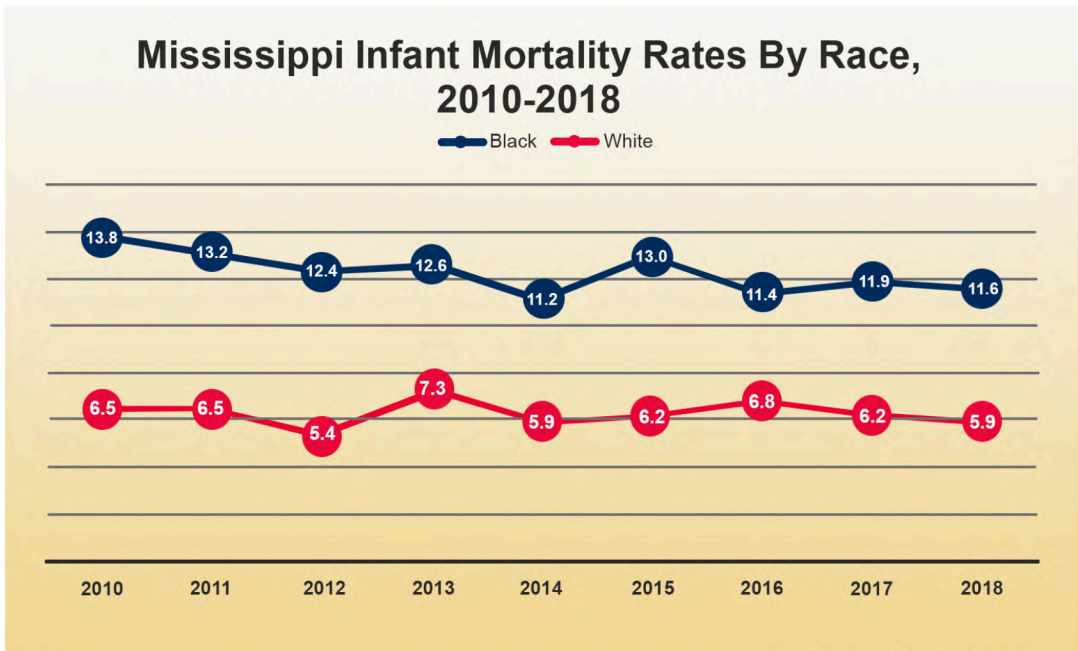


Source: Mississippi Vital Statistics, 2014-2018

* Rates not reported due to small values that may lead to unreliable estimates

Trends

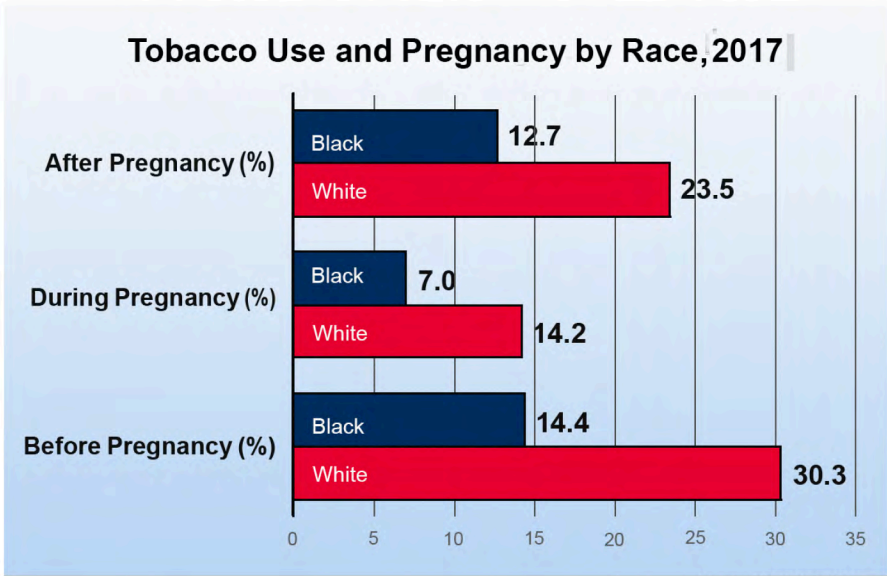
In 2018, the overall infant mortality rate decreased from 8.72 in 2017 to 8.43 per 1,000 live births. The number of infant deaths went from 325 deaths in 2017 to 312 deaths in 2018. The white infant mortality rate declined from 6.2 deaths per 1,000 live births to 5.9. The black infant mortality rate slightly decreased as well, from 11.9 deaths per 1,000 live births to 11.6 per 1,000 live births. The disparity between the two groups remained the same.



Source: Mississippi Vital Statistics 2010-2018

Smoking During Pregnancy

The total number of mothers smoking during pregnancy declined from 4,335 in 2017 to 3,272 in 2018. While roughly half of smokers quit during pregnancy, most returned to smoking after the pregnancy was over. Smoking during pregnancy increases the risk of low birth weight, and smoking after pregnancy increases the risk of Sudden Infant Death Syndrome (SIDS).



Source: PRAMS, 2017

Breastfeeding

Breastmilk can reduce severe complications in preterm babies, reduce the risk of Sudden Infant Death Syndrome and improve long term health across multiple areas from obesity to asthma. In the United States as of 2016, roughly 84 percent of infants were ever breastfed. In the same year in Mississippi, only 52 percent of infants were ever breastfed. (2016 CDC Breastfeeding Report)

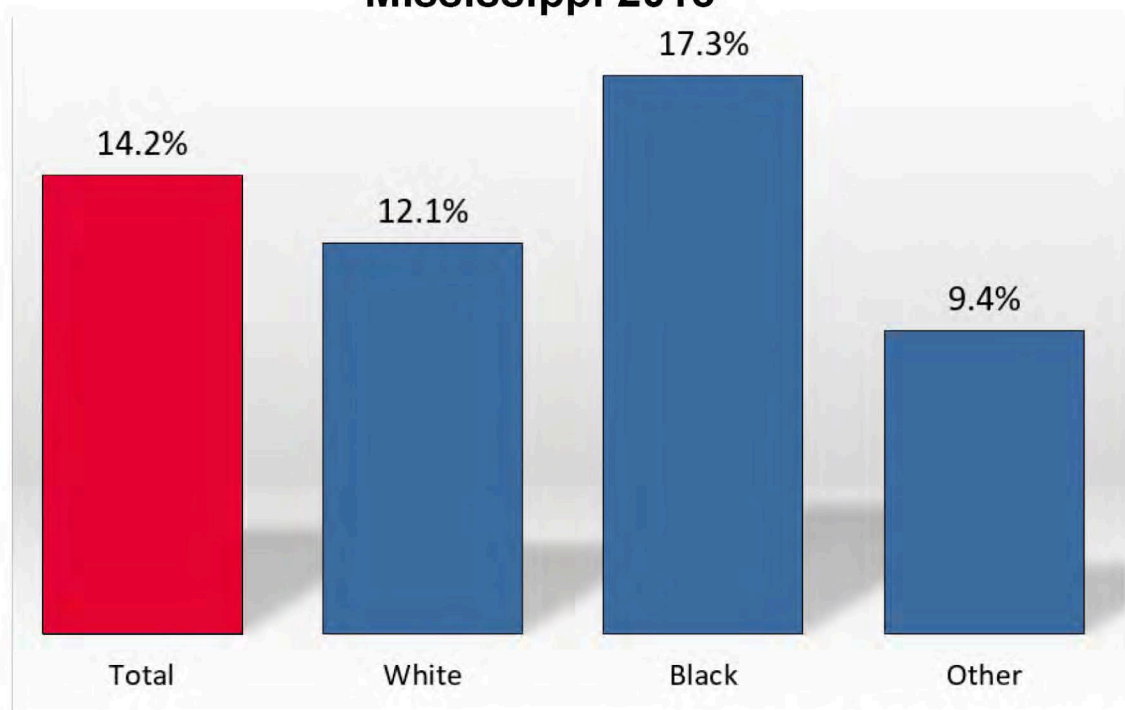
According to the 2017 Mississippi Pregnancy Risk Assessment Monitoring System survey, 69.0 percent of mothers started breastfeeding.

Source: PRAMS, 2017

Prematurity

Preterm birth (delivery before 37 weeks of pregnancy) is the leading cause of infant death in Mississippi. Infants born preterm are at an increased risk of breathing complications, infections and brain injury. Preterm labor and prenatal complications from hypertension and other maternal medical conditions are the leading causes of preterm birth in Mississippi. In 2018, 14.2 percent of infants were born preterm in Mississippi compared to 10 percent for the United States. The best predictor of a preterm birth is a previous preterm birth. Important growth and development occurs throughout pregnancy, but especially in the final months and weeks. Being born preterm carries serious medical, developmental, and potential behavioral problems that can last a lifetime. Addressing prematurity is complex and has no single solution. Infants who survive premature birth may spend weeks or months hospitalized in a neonatal intensive care unit. Not only is premature birth an emotional roller coaster for families, but being born preterm costs ten times more than being born full term at 39 weeks or later.

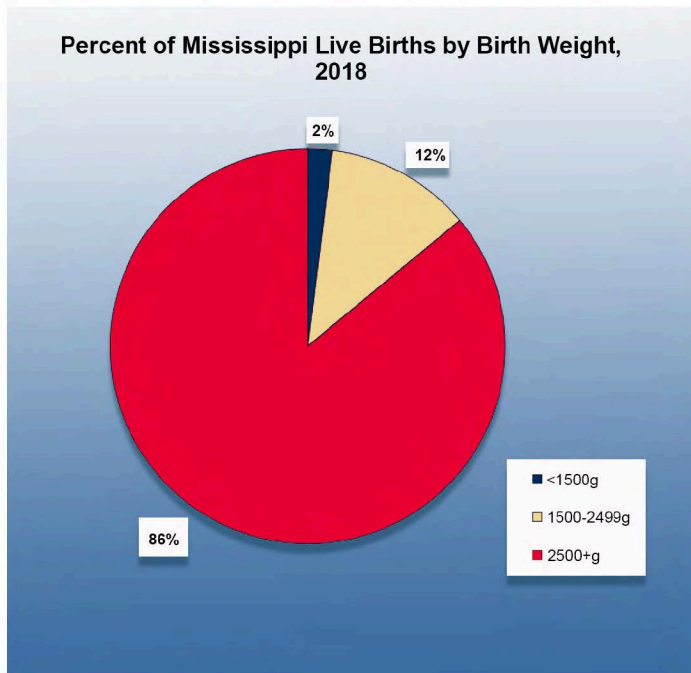
Percent of Preterm Births by Race, Mississippi 2018



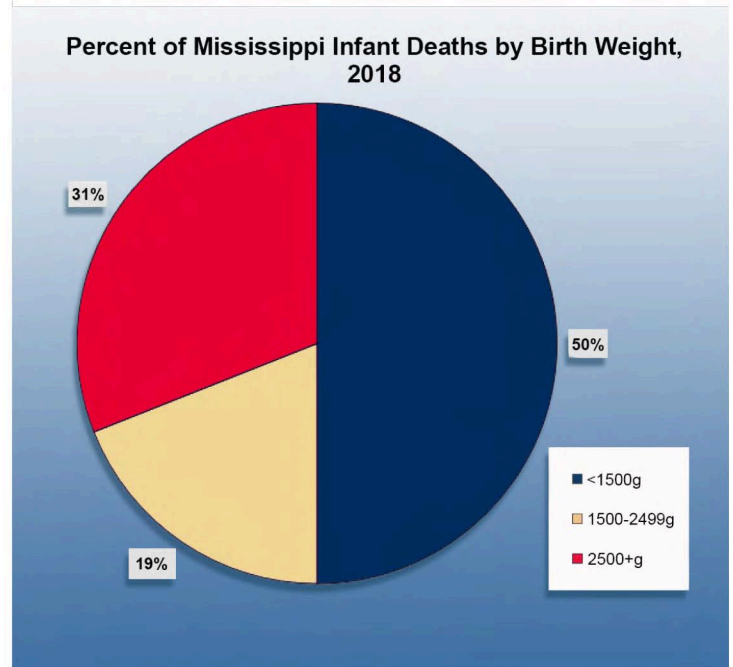
Source: Mississippi Vital Statistics, 2018

In 2018, the preterm birth rate was 12.1 percent for white infants, compared to 17.3 percent for black, and 9.4 percent for babies born of other races. The preterm birth rate still falls short of the March of Dimes' goal of 8.1 percent by 2020.

Very Low Birth Weight Infants Make Up Two Percent of Births and 50 Percent of Deaths

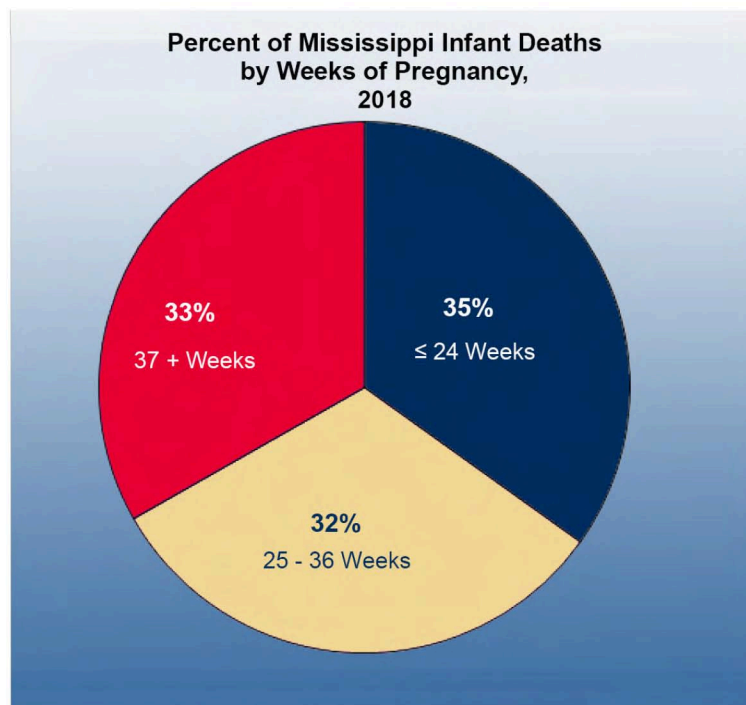


Source: Mississippi Vital Statistics, 2018



Source: Mississippi Vital Statistics, 2018

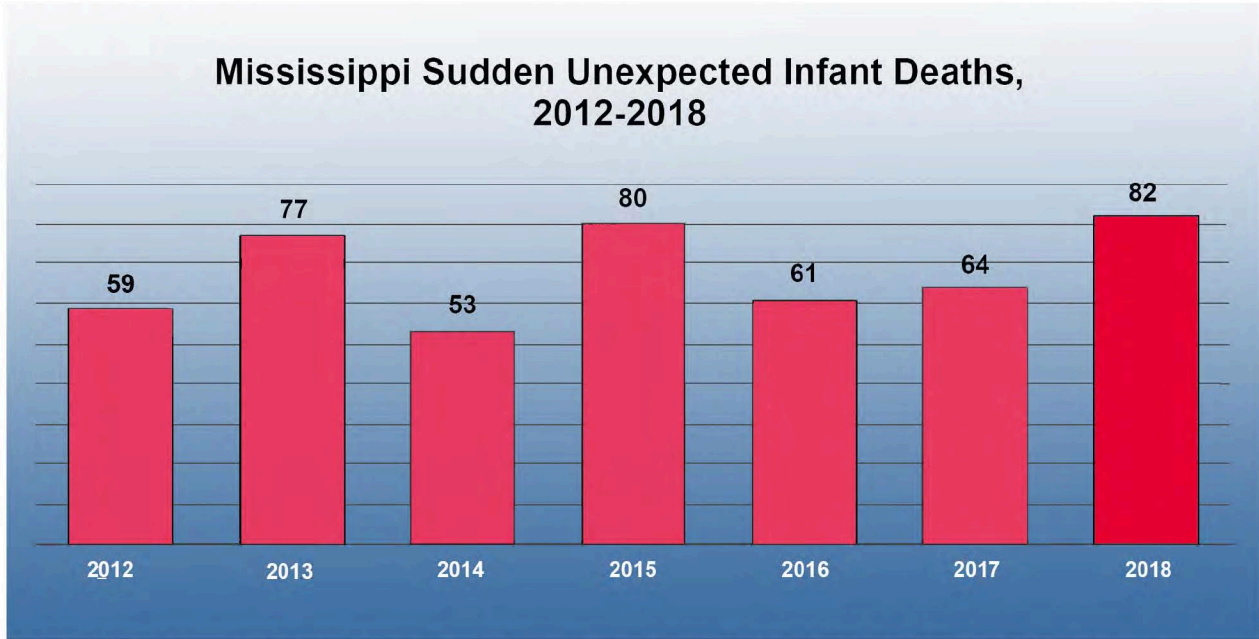
Low birth weight refers to newborn weights at less than 2500g or 5.5 lbs and very low birth weight is less than 1500g or 3.3 lbs. Infants born before 37 weeks are considered premature, with the greatest risk of death among those infants born earliest. Preterm births accounted for two-thirds of all infant deaths. Births occurring at 24 weeks or earlier, many of whom were too small to survive, accounted for 35 percent of infant deaths.



Among the very low birth weight infants born, 68 percent of the infants were black and 31 percent were white.

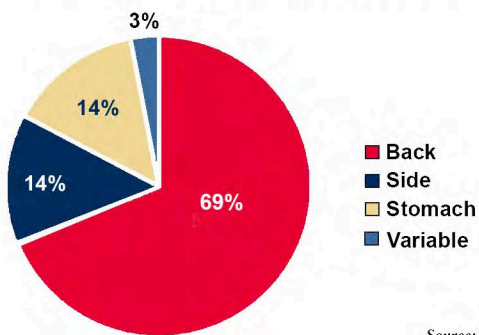
SUID – Unsafe Sleep and SIDS

Sudden Unexpected Infant Death (SUID) describes the death of an infant where the cause is not immediately apparent before investigation. These deaths often occur while an infant is sleeping or in a sleep area. Most SUID cases in Mississippi are in unsafe sleep environments causing suffocation, strangulation and overlay accidents. Sudden Infant Death Syndrome (SIDS) is a form of SUID where no cause is identified, but is affected by sleeping position and environment. SUID is the leading cause of death for Mississippi infants between one and four months of age. **The rate of SUID increased significantly in 2018.**

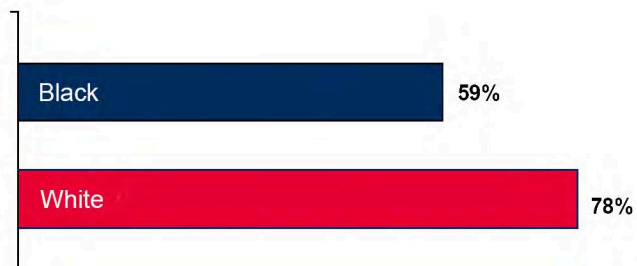


The risk of Sudden Infant Death Syndrome is reduced when infants are placed on their backs to sleep. According to the Pregnancy Risk Assessment Monitoring System (PRAMS) survey from 2017, over 30 percent of mothers reported not consistently or routinely placing their infants to sleep on their backs.

Primary Infant Sleep Position



Back Sleep Position by Race, 2017 PRAMS



Source: PRAMS, 2017

Unsafe Infant Sleep Environments Found in Mississippi Death Cases

- Adult bed or sofa
- Cigarette smoke
- Bed sharing
- Intoxicated caregiver

Source: Mississippi Fetal Infant Mortality Review Program, Child Death Review, 2018

Birth Defects

Major structural birth defects are defined as conditions that 1) are present at birth, 2) result from a malformation or disruption in one or more parts of the body, and 3) have a serious adverse effect on health, development or functional ability. Some birth defects are related to genetic abnormalities. Many birth defects can be identified prenatally with genetic testing and detailed ultrasound.

Number of 2018 Infant Deaths Due to Birth Defects in Mississippi: 58

Types of Birth Defects Causing Infant Deaths

- **Cardiac** – 24 percent
- **Brain** – 17 percent
- **Chromosomal** – 13 percent
- **Respiratory** – 10 percent
- **Kidney** – 8 percent
- **Skeletal** – 5 percent

Among the infant deaths caused by birth defects, the majority were from cardiac defects (24 percent), followed by brain or neurologic defects (17 percent) and then chromosomal abnormalities (13 percent) like Trisomy 21 (Down's Syndrome), Trisomy 18 and Trisomy 13.

Source: Mississippi Death Certificate Primary Cause of Death, 2018

Early diagnosis and access to specialty services may reduce infant deaths from birth defects, particularly those related to heart defects.

Maternal Health and Birth Defects

Some birth defects cannot be prevented. However, there are key areas of **preconception maternal health** in Mississippi that increase the risk of birth defects.

Diabetes – Poorly controlled diabetes before pregnancy (Type 1 and Type 2) increases the risk of many birth defects including heart, neurologic, musculoskeletal and pulmonary defects.

Obesity – Babies born to obese mothers have a higher rate of cardiac defects and are twice as likely to have neural tube defects compared to babies born to mothers who are not obese. Diagnosis of these conditions is also more difficult in obese women.

Smoking – Smoking increases the risk of cleft lip, cleft palate and abdominal wall abnormalities.

Key Strategies for Improvement

State Leaders

- Support Medicaid coverage for pregnant woman for one year postpartum in order to improve health concerns that contribute to preterm birth and infant death such as hypertension, diabetes, substance use and obesity.
- Support policies that reduce tobacco and nicotine use, particularly in young people.

Hospitals and Providers

- Engage families in frequent discussions and opportunities to learn about sleep-related infant deaths, safe sleep practices and barriers to practicing safe sleep.
- Enhance support for preterm infants to receive breastmilk.
- Ensure that mothers at risk of very preterm birth (less than 32 weeks) are at a hospital with a level III Neonatal Intensive Care Unit.

Families

- Ensure that all caregivers practice consistent safe sleep practices.

Eliminating Racial Disparities

The CDC’s Healthy People 2020 initiative defines a health disparity as “a particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. Health disparities adversely affect groups of people who have systematically experienced greater obstacles to health based on their racial or ethnic group; religion; socioeconomic status; gender; age; mental health; cognitive, sensory, or physical disability; sexual orientation or gender identity; geographic location; or other characteristics historically linked to discrimination or exclusion.”

U.S. Department of Health and Human Services, Healthy People 2020. (2020, January 1). Disparities. Retrieved from <https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities>

In Mississippi, black infants are nearly twice as likely to die as white infants, and make up most infant deaths in our state. There are no biological reasons for this stark disparity. Efforts to reduce Mississippi’s overall infant mortality rate must address critical social determinants of health including poverty, education and the effects of historical, structural and interpersonal racism and bias on maternal and infant health.

MSDH is taking steps to address health inequities:

- The MSDH Health Equity Office focuses on ensuring that programs are addressing health equity at all levels.
- In 2016, MSDH became licensed to offer the Cross Cultural Health Care Program’s (CCHCP) Cultural Competence Training. Healthcare organizations can learn more about receiving this training at: <https://msdh.ms.gov/equity>

Acknowledgments

The Mississippi State Department of Health first acknowledges the families touched by infant death each year. This report is generated with the goal of preventing these tragic losses. Data for this report are made available by the Office of Vital Records and the Office of Health Data and Research.

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