

# Infant Mortality in Arkansas

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## Disparities in 2013

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Prepared for the Arkansas Minority Health Commission by

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# Introduction

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Infant mortality is defined as the death of a baby before 1 year of age.<sup>1</sup> The Centers for Disease Control and Prevention estimates that nationally in 2011, 6 infants died for every 1,000 babies born. Racial disparities are especially apparent in the U.S., where the rate of infant mortality is higher for African Americans than for Whites. In 2011, the national infant mortality rate for Whites was 5 per 1,000 births; among African Americans, the rate was 11 per 1,000.<sup>2</sup>

This report examines the problem of infant mortality in Arkansas, with special attention on racial and geographic disparities. Data over the past 10 years, including both current statistics and trends over time, will be explored. In addition, risk factors and prevention measures will be discussed. For the purposes of this report, race categorization is based on self-report, with White and Black referring to non-Hispanic ethnicities unless otherwise noted. In addition, all rates are per 1,000 live births unless otherwise specified.

## Executive Summary

- ✚ Racial disparities are evident in Arkansas, where all cause infant mortality among African Americans was 12.9 (per 1,000 live births) compared to 6.9 among Whites and 5.9 among Latinos. Rates have been consistently higher among African Americans since at least 2001, with Latinos showing the lowest rates in most of the past 10 years.
- ✚ Infant mortality rates vary by county, ranging from 3.6 in Searcy County to 13.3 in Crittenden County. The eastern and southern portions of the state have higher rates in general than other regions.
- ✚ From 2001 to 2010, the leading causes of infant death in Arkansas were birth defects, SIDS, low birth weight and prematurity, maternal complications, and accidents.
- ✚ Whereas Whites show higher rates of tobacco use during and alcohol use before pregnancy, African Americans are less likely to use multivitamins before pregnancy.
- ✚ Low birth weight and prematurity are more prevalent among African Americans than among Whites, and the southeast portion of the state sees higher rates of both conditions compared to the rest of the state.
- ✚ Latinos are more likely to receive inadequate prenatal care compared to African American or White mothers, and are more likely to begin their prenatal care later in pregnancy.
- ✚ More than half of mothers under 15 years old are African American. African American mothers are also more likely to be unmarried and consider their pregnancy unintended. More than half of Latino mothers have less than a high school education.

*Mortality*

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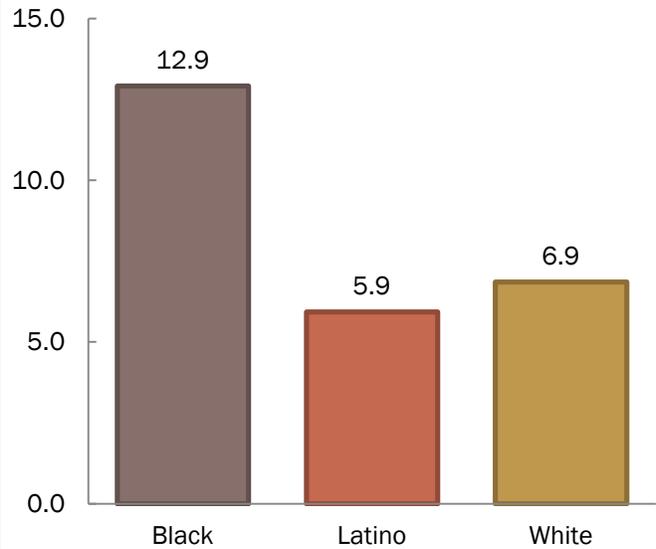
# Racial Disparities

Between 2001 to 2010, a total of 3,093 infants died in Arkansas, resulting in an infant mortality rate of 7.9 deaths in every 1,000 live births.<sup>3</sup>

As shown by the table on the right, infant mortality rates differed by race and ethnicity; the rate for African Americans was significantly higher than the rates for Whites and Latinos.

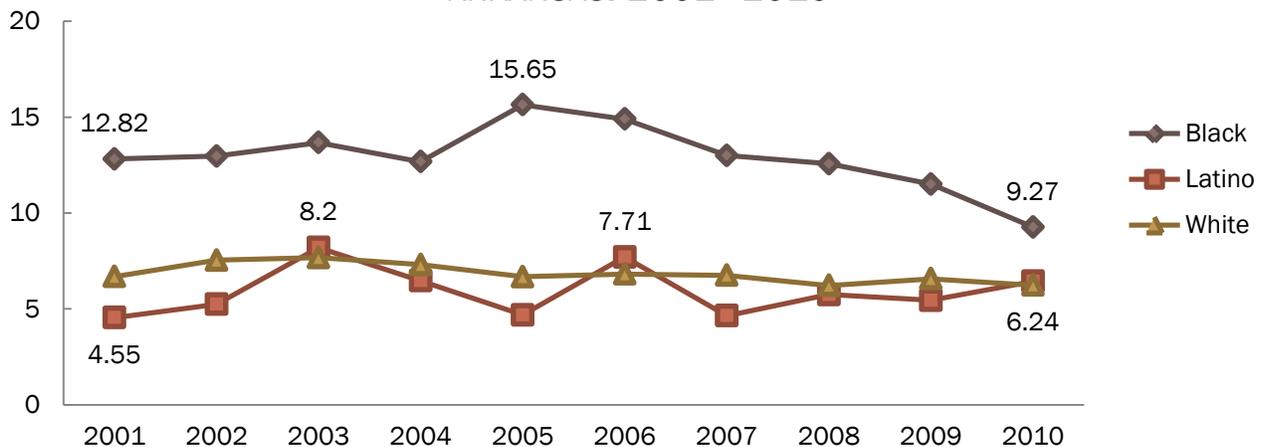
As shown on the graph below, the mortality rate for African Americans has been consistently higher over time compared to Whites and Latinos. Whites and Latinos had similar rates, and Latinos showed lower rates in most years.

ALL CAUSE INFANT MORTALITY RATES\*  
BY RACE AND ETHNICITY  
ARKANSAS, 2001 - 2010



\*Rates are per 1,000 live births.  
Source: Arkansas Department of Health

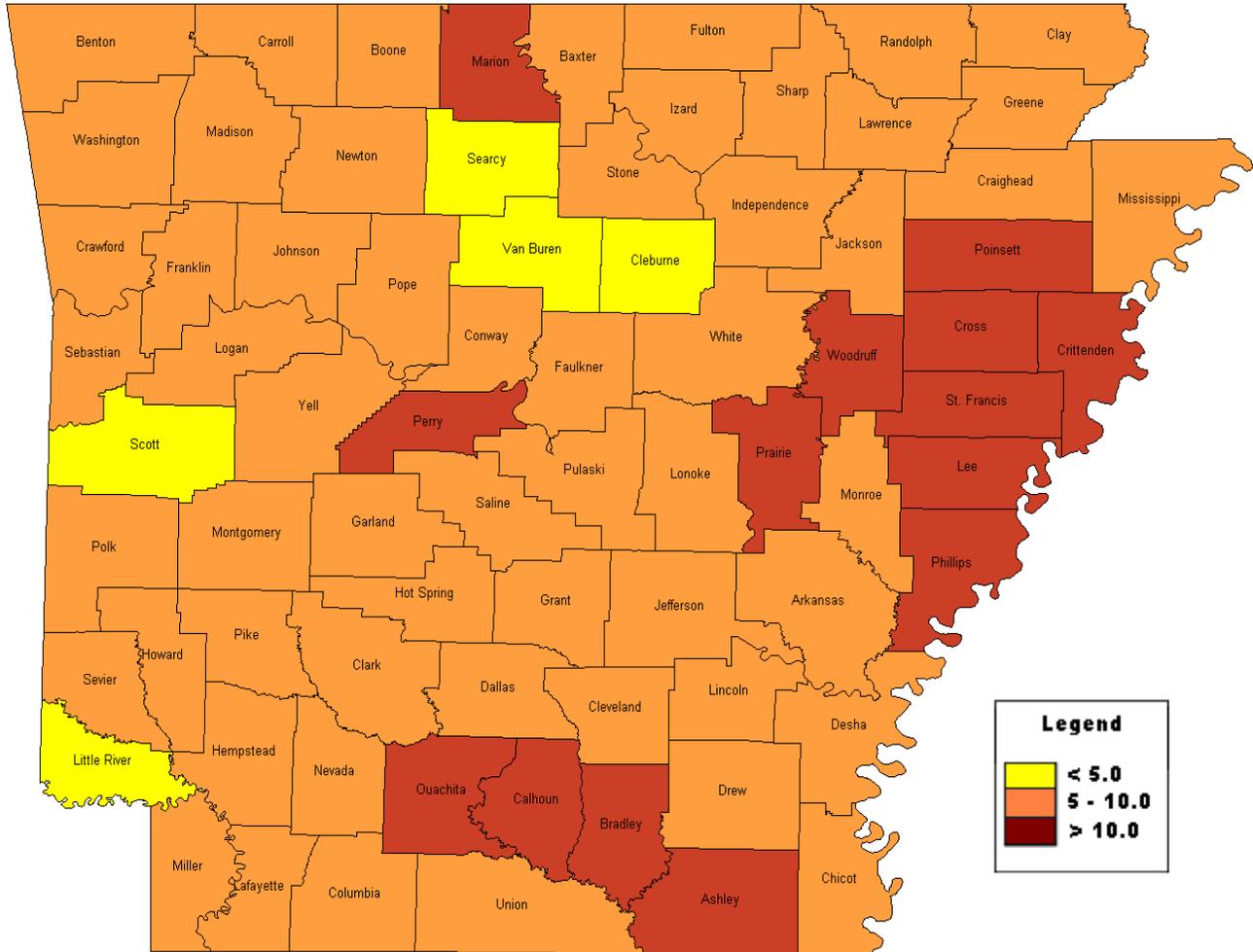
ALL CAUSE INFANT MORTALITY RATES\*  
BY YEAR, RACE, AND ETHNICITY  
ARKANSAS: 2001 - 2010



\*Rates are per 1,000 live births. Source: Arkansas Department of Health

# Geographic Disparities

Infant Mortality Rate by County, 2001 - 2011



As shown in the map above, infant mortality rates (IMRs) differ by geographic location in Arkansas. IMRs in Arkansas range from 3.6 (Searcy County) to 13.6 (Crittenden County). Five counties have IMRs lower than 5.0 per 1,000 live births – Searcy, Van Buren, Cleburne, Scott, and Little River.

Higher IMRs are found in the eastern and southern areas of the state. This may be due to differences in racial demographics of these counties, or perhaps higher poverty levels in these areas.

# Leading Causes of Infant Mortality

Infant mortality can be caused by a number of diseases and conditions. In Arkansas from 2001 to 2010, the most common causes of infant death were birth defects, SIDS, low birth weight and prematurity, maternal complications, and accidents or unintentional injuries.

Proportionate mortality rates (PMR) are an epidemiological measure which represents the proportion of all deaths attributable to a specific cause. As the table below illustrates, while low birth weight and prematurity rank third in overall infant deaths in Arkansas, they are the number one cause of death among African American infants, causing 14.1% of all infant deaths between 2001 and 2010. Latino infant deaths are largely due to birth defects, which causes just over a quarter of all Latino infant deaths, and white infant deaths are largely due to birth defects and Sudden Infant Death Syndrome (SIDS).

Leading Causes of Infant Death,  
Arkansas, 2001 - 2010

Rank	Cause of Death	Black		Latino		White		Total, all races	
		#	PMR	#	PMR	#	PMR	#	IMR
1	<i>Birth Defects</i>	124	12.7%	59	26.1%	411	22.4%	609	1.6
2	<i>SIDS</i>	125	12.8%	18	8.0%	275	15.0%	427	1.1
3	<i>Low Birth Weight and Prematurity</i>	138	14.1%	20	8.8%	143	7.8%	307	0.8
4	<i>Maternal Complications</i>	96	9.8%	19	8.4%	154	8.4%	273	0.7
5	<i>Accidents / Unintentional Injuries</i>	33	3.4%	8	3.5%	85	4.6%	128	0.3

Source: Arkansas Department of Health

*Risk Factors*

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# Birth Defects

Birth defects are the leading cause of death in Arkansas for infants under 1 year old.

The National Birth Defects Prevention Network estimates that one out of every 33 infants in Arkansas is born with a major birth defect. The most common birth defects in Arkansas in 2010 were *orofacial* (cleft lip and cleft palate) and *cardiovascular* defects.

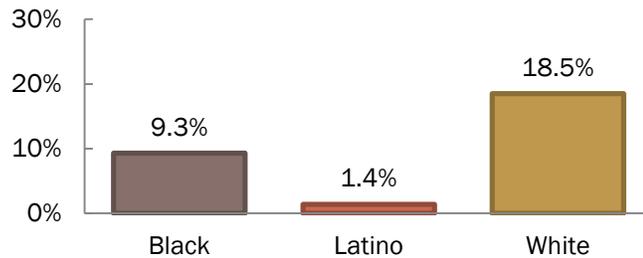
Many birth defects have unknown causes, and a mother's lifestyle choices may affect the baby before the mother even knows she is pregnant.<sup>4</sup>

The following preventive measures are recommended to pregnant women to help reduce the risk of birth defects:<sup>5</sup>

- Take folic acid every day.
- Do not drink any alcohol.
- Do not smoke.
- Keep certain chronic diseases (such as diabetes and obesity) under control.

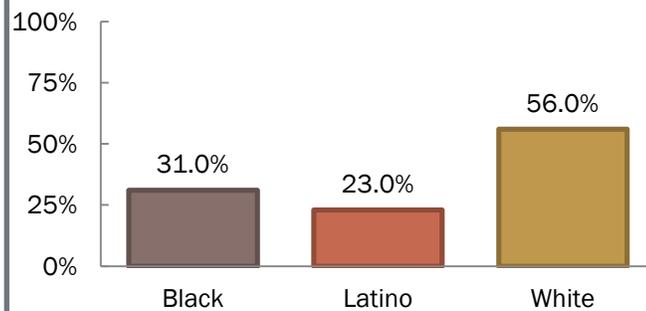
In 2008, Black and Latino women reported lower rates of tobacco use during and alcohol use before pregnancy. The same year, however, both groups reported lower rates of multivitamin use before pregnancy. Multivitamins often contain folic acid, which is important for the prevention of birth defects.

TOBACCO USE DURING PREGNANCY  
ARKANSAS: 2007 - 2011



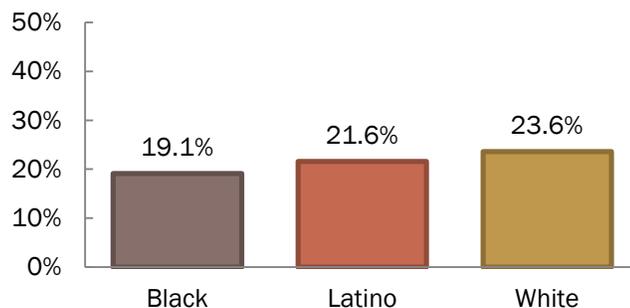
Source: Arkansas Department of Health

ALCOHOL USE 3 MONTHS BEFORE PREGNANCY  
ARKANSAS: 2008



Source: PRAMS

MULTIVITAMIN USE IN THE MONTH BEFORE PREGNANCY  
ARKANSAS: 2008



Source: PRAMS

# Low Birth Weight

Low birth weight (<2500g) is a major contributor to infant death in Arkansas; combined with prematurity, it is the third leading cause of death in the state.

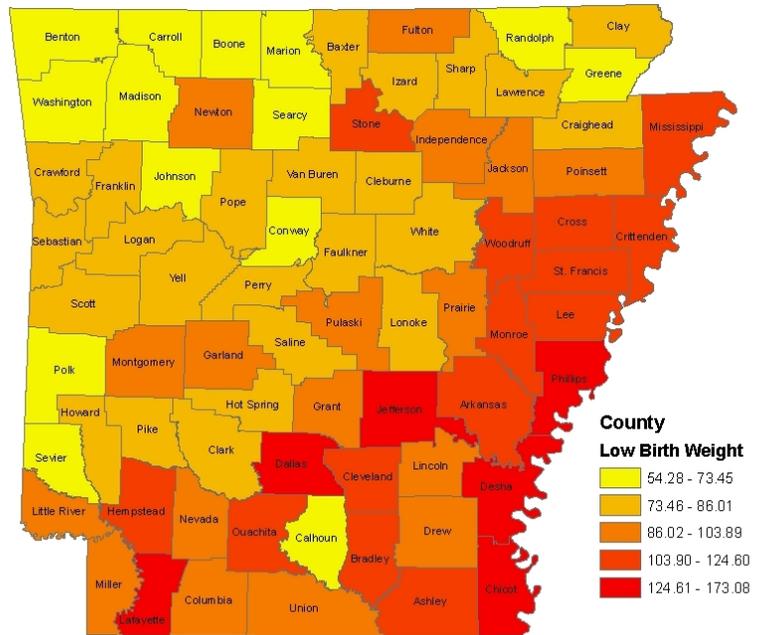
Low birth weight is associated with a number of factors, including tobacco or alcohol use during pregnancy, lower socioeconomic status, and premature birth.

In addition, low birth weight has been linked to increased risk of health problems and developmental delays.<sup>7</sup>

In Arkansas from 2007 to 2011, preliminary data show racial disparities in low birth weight. More specifically, African American infants were nearly twice as likely to have low birth weights compared to white infants. Latino infants showed lower rates than both African Americans and Whites.

Geographic disparities are apparent as well. In Arkansas, low birth weight rates (per 1,000 live births) are higher in the eastern portion of the state. The lowest rates of low birth weight births are found in northwestern Arkansas.

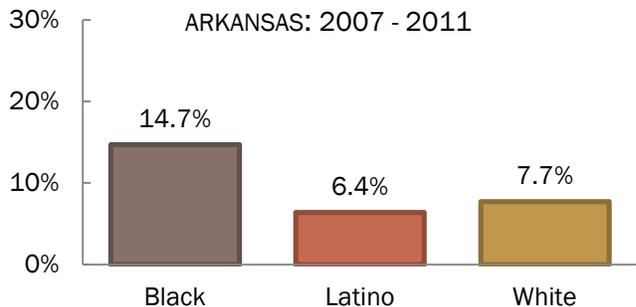
Low Birth Weight Rates\* by County, 2007 - 2011



\*Rates are per 1,000 live births.

Source: Arkansas Department of Health

PERCENTAGE OF INFANTS BORN WITH LOW BIRTH WEIGHT ARKANSAS: 2007 - 2011



Source: Arkansas Department of Health

# Prematurity

Premature birth is defined as birth occurring before 37 weeks of gestation. In Arkansas, infant deaths due to prematurity and low birth weight are the third most common type of infant death.

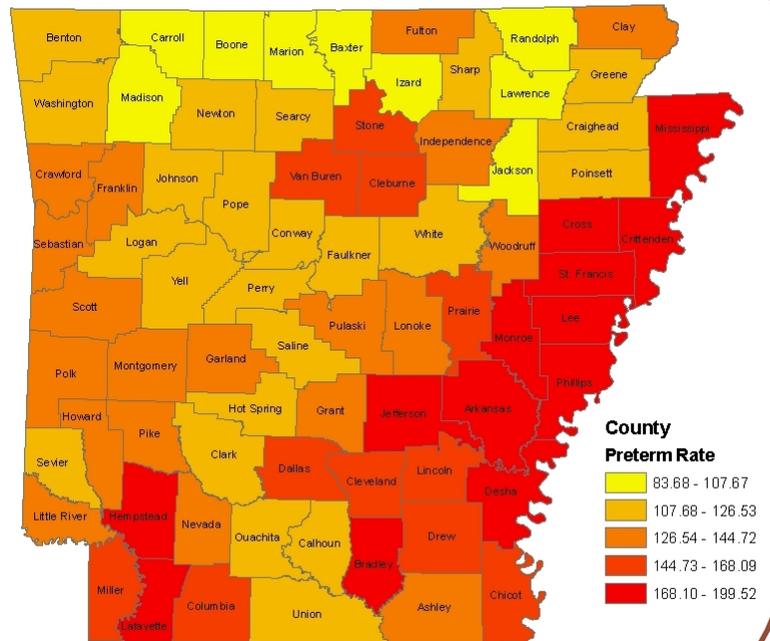
Risk factors for premature birth are similar to the risk factors for low birth weight, and include alcohol and tobacco use and chronic maternal conditions.

Infants who are born prematurely are at risk for numerous problems later in life, including mental and physical disabilities, breathing problems, and hearing loss.<sup>8</sup>

Premature birth rates vary geographically. In Arkansas, higher rates of premature birth are evident in the eastern and southern portions of the state, and lower rates are found in the northwest portion.

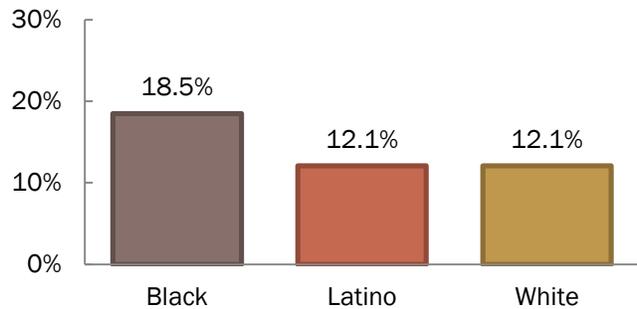
Prematurity varies by race as well. African American infants were more likely to be born prematurely compared to Latino and white infants, with the latter two groups showing similar rates.

Preterm Birth Rates\* by County, 2007 - 2011



\*Rates are per 1,000 live births.

PERCENTAGE OF INFANTS BORN PREMATURE  
ARKANSAS: 2007 - 2011



Source: Arkansas Department of Health

# Inadequate Prenatal Care

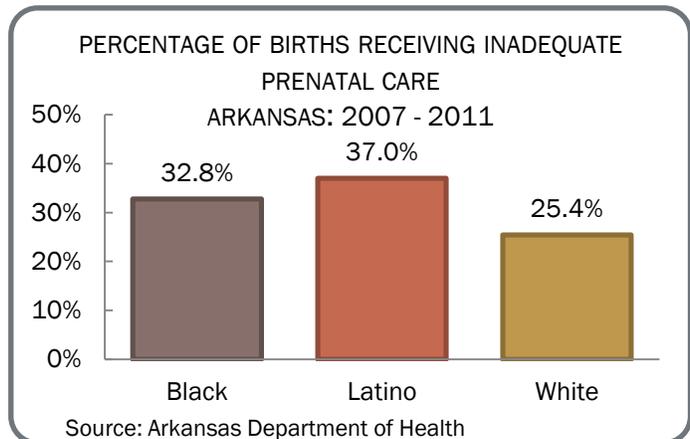
Prenatal care is generally described in terms of both timing and content of care. Thus, inadequate prenatal care is care which is deficient in one or more of these areas.

Experts recommend that prenatal care begin as early as possible, i.e., as soon as the mother believes she might be pregnant. Adequate prenatal care includes monthly visits for the first seven months, biweekly visits for the next two months, and weekly visits until birth.<sup>9</sup>

Risks associated with inadequate or absent prenatal care include low birth weight and birth defects.

From 2007 - 2011, Latino mothers showed the highest rates of inadequate prenatal care compared to black and white mothers.

In the same time period, a higher proportion of white mothers began prenatal care in the first trimester compared to black and Latino mothers. However, a greater percentage of Latino mothers began prenatal care in the second trimester. While most mothers started their prenatal care in either the first or second trimester, a small number received no prenatal care at all.



Trimester When Prenatal Care Began Arkansas, 2007 - 2011				
	First Trimester (1 - 3 months)	Second Trimester (4 - 6 months)	Third Trimester (7 - 9 months)	No Prenatal Care
<i>Black</i>	73%	18%	4%	2%
<i>Latino</i>	66%	25%	1%	2%
<i>White</i>	80%	14%	2%	1%

Source: Arkansas Department of Health

# Maternal Factors

Maternal factors can also have a significant influence on infant mortality. Some factors, such as age, marital status, education level, and pregnancy intention, can lead to higher risks of infant mortality or poorer infant health.

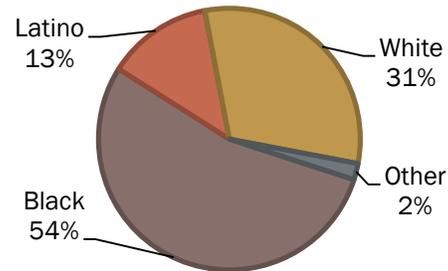
Maternal age at birth varies by race. From 2007 to 2011 in Arkansas, 54% of the 385 births to mothers under 15 years of age were to black mothers, despite the fact that black births made up only 11% of total births in that time period.

Racial disparities are also evident in marital status of the mother. From 2007 to 2011 in Arkansas, a higher percentage of black mothers were unmarried compared to Latino and white mothers.

In addition, disparities are present in terms of mother's education level. A greater proportion of Latino mothers had less than a high school education when they gave birth from 2007 to 2011.

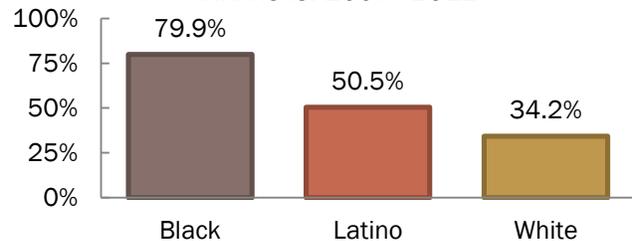
Another area of concern is unintended pregnancy; a greater proportion of pregnancies among black mothers were reported as unintended compared to pregnancies among Latino and white mothers.

MOTHERS AGED 15 AND UNDER  
ARKANSAS: 2007 - 2011



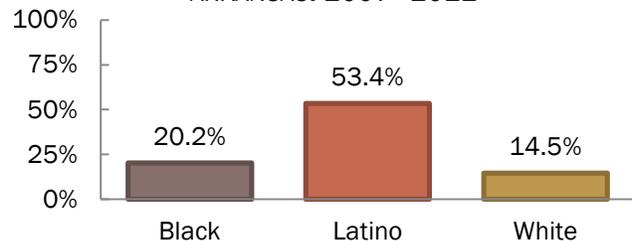
Source: Arkansas Department of Health

MOTHERS' MARITAL STATUS - UNMARRIED  
ARKANSAS: 2007 - 2011



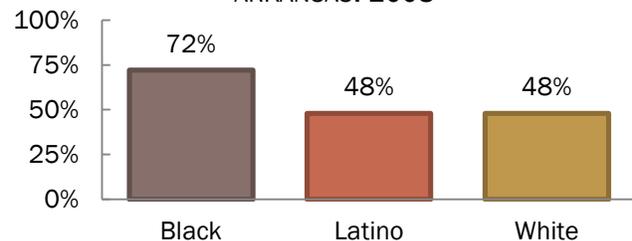
Source: Arkansas Department of Health

MOTHERS' EDUCATION LEVEL - LESS THAN HIGH SCHOOL  
ARKANSAS: 2007 - 2011



Source: Arkansas Department of Health

UNINTENDED PREGNANCY  
ARKANSAS: 2008



Source: PRAMS

# Conclusions

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This report has explored the burden of infant mortality in Arkansas through examination of causes, disparities, and risk factors. Understanding how and why disparities exist in infant mortality forms a foundation on which to base future health interventions and public policy initiatives.

Overall, several findings of this report should prove useful.

Racial disparities exist in infant mortality in Arkansas. This report outlines several ways in which this disparity is evident, both in terms of risk factors and outcomes. Addressing behavioral risk factors through education and improved access to resources can be an effective way of preventing infant mortality.

Geographic disparities are also evident in Arkansas. Understanding where infants are at higher risk of death can be hugely important for policy and service planners, and allow for creating resources to address locations with the greatest need.

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