



INFANT MORTALITY: DISPARITIES IN THE SUNFLOWER STATE

Issue brief #2 in a series of three on health disparities in Kansas

Infant mortality is a fundamental measure of public health status for communities and nations around the world. Overall, infant mortality in the United States decreased over the last decade. Differences in infant mortality rates among states and racial and ethnic groups continues to be of concern.

The Kansas infant mortality rate of 6.2 per 1,000 live births between 2013–2015 is slightly higher than the U.S. rate (5.9). However, disparities in infant mortality between racial and ethnic groups persist. It is important to understand the factors that contribute to these continuing disparities if they are to be addressed.

This issue brief describes trends and disparities that exist in infant mortality in Kansas. It originates from the *Chartbook: Racial and Ethnic Health Disparities in a Changing Kansas*, which was published in December 2017 by the Kansas Health Institute (KHI). Data are from the Kansas Department of Health and Environment (KDHE) Office of Vital Statistics, the U.S. Census Bureau’s American Community Survey (ACS), and the ACS Public Use Microdata Sample (PUMS).

Infant mortality rate is defined as the number of deaths of children under age 1 per 1,000 live births. Data in this brief are combined and presented over three five-year time intervals:

Risk factors of infant mortality

Identified conditions leading to infant mortality include low birthweight and premature birth, access to medical care, and socioeconomic factors.



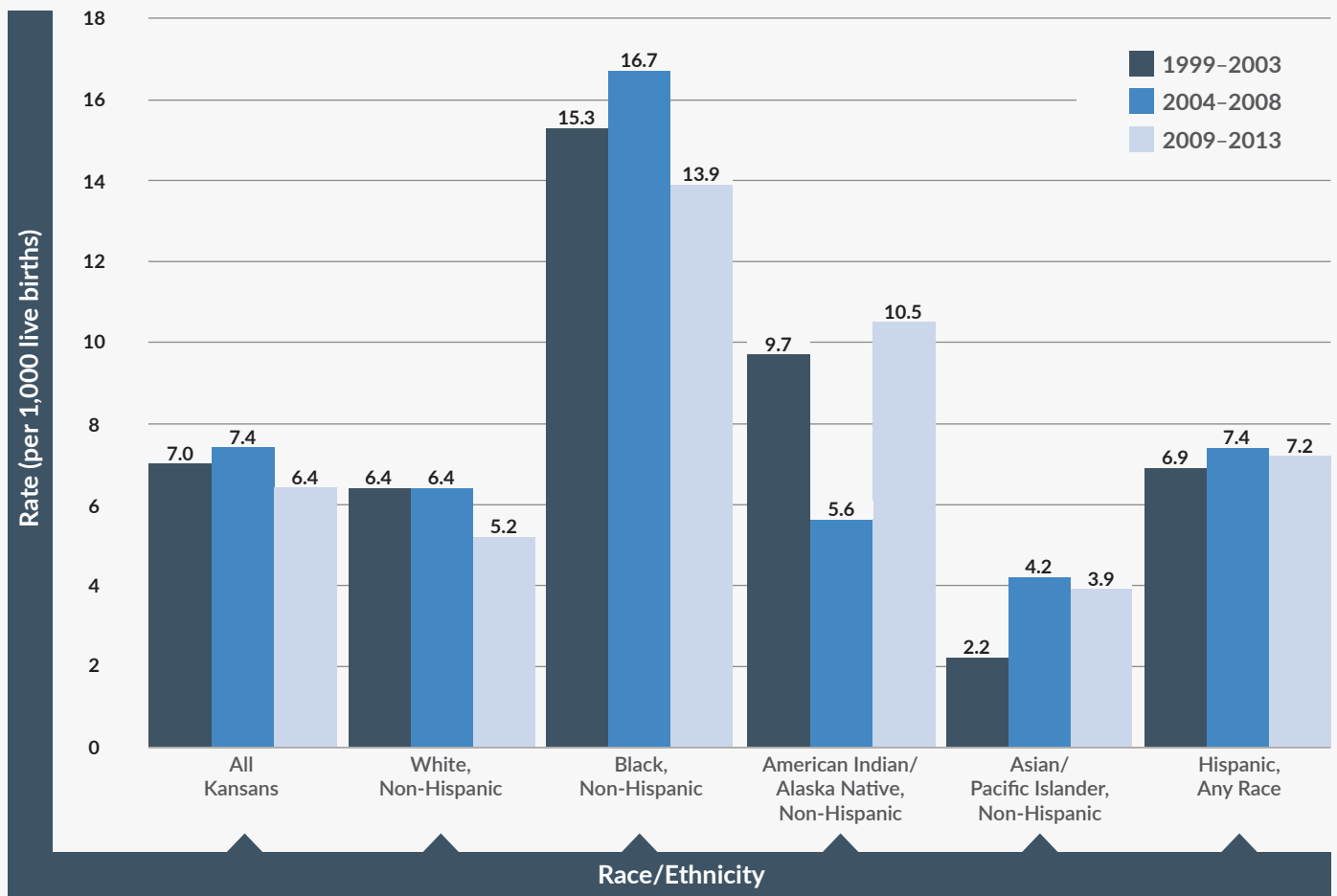
1999–2003, 2004–2008 and 2009–2013. These five-year rates are used to reduce the variability that can occur in single years, particularly among smaller population groups.

Statewide, the infant mortality rate was highest for the period 2004–2008 (7.4 per 1,000 live births). The rate in Kansas (6.4) was down for 2009–2013, the most recent five-year period examined (*Figure 1*, page 2). The 2009–2013 rate was 6.4 deaths per 1,000 live births, slightly higher than the U.S. overall rate of 6.0. Although the rate for the next five-year interval is not yet available, the most recent annual estimate in 2016 shows that the infant mortality rate in Kansas continued to decrease to 5.9 in 2016.

KEY POINTS

- ✓ The infant mortality rate in Kansas in 2013–2015 was slightly higher than that of the United States (6.2 and 5.9 per 1,000 live births, respectively).
- ✓ Infant mortality has been decreasing overall in Kansas, yet disparities persist among racial and ethnic groups.
- ✓ From 1999–2003 through 2009–2013, non-Hispanic Blacks consistently had the highest rates of infant mortality (13.9–16.7 per 1,000 live births), low birthweight (12.5–13.3) and premature births (12.3–13.1).
- ✓ Hispanics, Any Race were twice as likely to receive inadequate prenatal care than non-Hispanic Whites (33.8 and 14.7 percent, respectively).

Figure 1. Infant Mortality Rate by Race/Ethnicity in Kansas, 1999–2013



Note: Rates for births to Kansas residents for three five-year periods. Rate per 1,000 live births. Other non-Hispanics are included in All Kansans, but are not shown as a separate category.

Source: KHI analysis of KDHE data from combined years 1999–2003, 2004–2008 and 2009–2013.

Infant Mortality Rate by Race and Ethnicity

Infant mortality by race and ethnicity in Kansas shows wide disparities, but similar patterns over time.

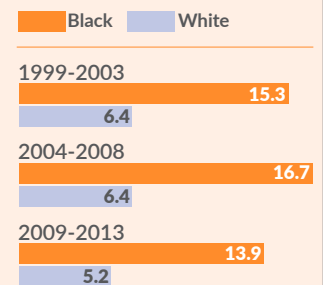
Non-Hispanic Blacks had the highest rate of infant mortality during each of the three five-year time intervals studied (15.3, 16.7 and 13.9, chronologically), and Kansas had the highest non-Hispanic Black infant mortality rate in the nation at 14.2 for 2011–2013. Non-Hispanic Asians/Pacific Islanders had the lowest rate (2.2, 4.2 and 3.9 chronologically). Rates among Hispanics, Any Race and non-Hispanic Whites fell in-between, similar to the overall statewide rate.

Non-Hispanic Asians/Pacific Islanders in Kansas showed the greatest increase in infant mortality rates over the timeframe studied, though the increase could reflect the effect of small numbers for that group. Non-Hispanic Blacks showed the greatest decline in infant mortality rates, followed closely by non-Hispanic Whites, which is similar to national trends.

Infant mortality disparity

Despite a decrease in recent years, non-Hispanic Blacks in Kansas have experienced an infant mortality rate 2½ times greater than non-Hispanic Whites.

Rate (per 1,000 live births)



Source: KHI analysis of KDHE data from combined years 1999–2003, 2004–2008 and 2009–2013.

Over the three five-year time intervals studied, statewide infant mortality (7.0, 7.4 and 6.4 chronologically) was highest for the period 2004–2008. This holds true for all racial and ethnic minority groups, except for non-Hispanic American Indians/Alaska Natives, where low numbers of infant deaths and small population led to high variability in infant mortality rates.

Conditions Associated with Infant Mortality

Several factors contribute to infant mortality, and they vary among ethnic and racial groups. Identified conditions include issues related to birth, such as low birthweight and premature birth; factors related to access to medical care, such as insurance coverage and quality of prenatal care; and socioeconomic

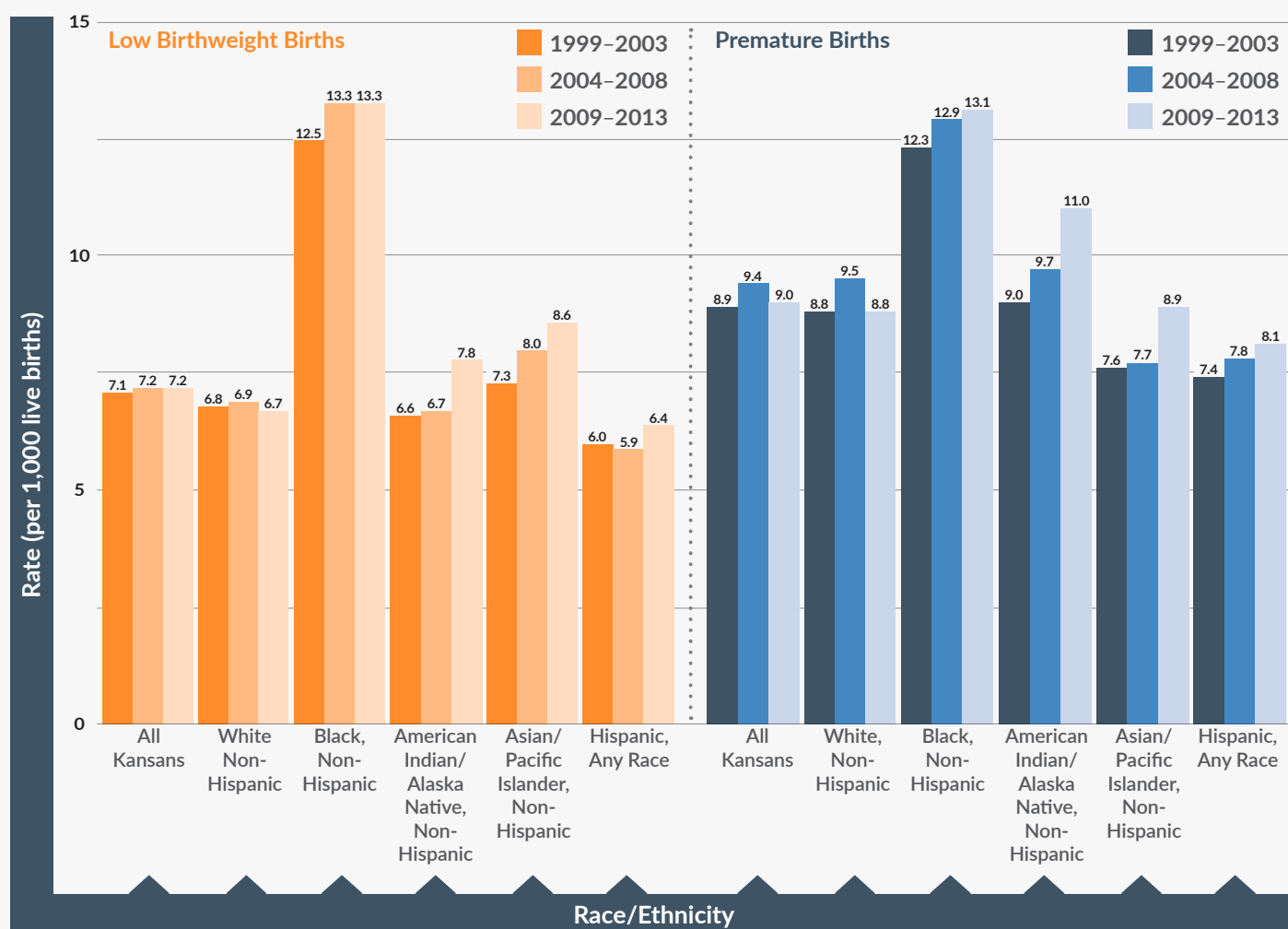
factors, including maternal/paternal education levels, employment status, poverty status or income level, and household composition.

Low Birthweight and Premature Birth

Low birthweight and premature birth are the leading causes of infant mortality in the United States. In Kansas, non-Hispanic Blacks had the highest rates of low birthweight across all three five-year time periods studied, ranging from 12.5–13.3 per 1,000 live births (Figure 2). Non-Hispanic Blacks also had the highest rates of prematurity across all three five-year time periods studied, ranging from 12.3–13.1 per 1,000 live births (Figure 2).

Prematurity or low birthweight are responsible for the highest percentage of infant deaths (31.2 percent)

Figure 2. Rates of Low Birthweight and Prematurity by Race/Ethnicity in Kansas, 1999–2013



Note: Rates for births to Kansas residents for three five-year periods. Rate per 1,000 live births. Other non-Hispanics are included in All Kansans, but are not shown as a separate category.

Source: KHI analysis of KDHE data from combined years 1999–2003, 2004–2008 and 2009–2013.

among non-Hispanic Blacks in Kansas. In comparison, deaths among non-Hispanic White infants are half as likely to be due to prematurity or low birthweight. Premature births and low birthweights have been identified as contributing factors to higher infant mortality among non-Hispanic Blacks nationwide as well. Higher rates of low birthweight have persisted among non-Hispanic Blacks, regardless of gains made in areas such as advanced education or higher socioeconomic standing. Underlying causes of this disparity are not well understood.

Inadequate Prenatal Care

Inadequate prenatal care is associated with higher infant mortality, and is more common among women under age 20, women who are non-Hispanic Black and Hispanic, Any Race, impoverished women, those lacking health insurance, and those without a high school diploma. In Kansas, women who are non-Hispanic Black, non-Hispanic American Indian/Alaska Native, and Hispanic, Any Race tend to receive less adequate prenatal care than women who are non-Hispanic White. A lack of insurance coverage can reduce access to adequate prenatal care, increasing infant risk of death. During 2011–2015, Hispanic, Any Race had the highest uninsured rate (26.9 percent) in Kansas, and they were twice as likely to receive inadequate prenatal care than non-Hispanic Whites (33.8 and 14.7 percent, respectively) in 2009–2013.

Socioeconomic Factors

Employment status and income are associated with infant mortality. These socioeconomic factors vary between racial and ethnic groups in Kansas. Non-Hispanic Blacks, non-Hispanic American Indians/Alaska Natives, and Hispanics, Any Race in Kansas have the highest rates of poverty, unemployment and low income levels. Lacking a high school diploma, which contributes to higher rates of poverty and unemployment, is highest among mothers who are Hispanic, Any Race in Kansas. Nationwide, Hispanics,

Any Race have the highest high school drop-out rate, though that rate has declined dramatically over the last decade.

Conclusion

Many of the risk factors for infant mortality are related to each other, and mothers with one risk factor often will have others. For instance, those who are unemployed are more likely to have low income, be uninsured, and not receive adequate prenatal care. Public health initiatives could target high-risk mothers for expanded access to prenatal care, particularly those who are non-Hispanic Black, non-Hispanic American Indian/Alaska Native or Hispanic, Any Race, as well as those with lower socioeconomic status. Linking medical birth records with infant death records for individual mothers and their babies could help identify leading risk factors such as those mentioned above, as well as maternal age, infant gender, live birth order, immigration status, occupation and community of residence. Determining the precise impact of risk factors on infant mortality in Kansas can inform the development of supportive strategies and interventions for mothers and infants, particularly those with higher risk for these adverse outcomes.

CHARTBOOK: Racial and Ethnic Health Disparities in a Changing Kansas

Stay tuned for the next installment in this series on *Disparities in the Sunflower State* addressing *Deaths by Suicide*. As they are published, the entire series of three briefs, along with KHI's *Chartbook: Racial and Ethnic Disparities in a Changing Kansas*, will be available at khi.org.



ABOUT THE ISSUE BRIEF

This brief is based on work done by Steve Corbett, Ph.D., Lawrence John Panas, Ph.D., and Wen-Chieh Lin, Ph.D. It is available online at khi.org/policy/article/18-08.

KANSAS HEALTH INSTITUTE

The Kansas Health Institute (KHI) delivers objective information, conducts credible research, and supports civil dialogue enabling policy leaders to make informed health policy decisions that enhance their effectiveness as champions for a healthier Kansas. Established in 1995 with a multiyear grant from the Kansas Health Foundation, KHI is a nonprofit, nonpartisan educational organization based in Topeka.

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212 SW 8th Avenue | Suite 300
Topeka, Kansas | 66603-3936

785.233.5443

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