



Infant Mortality Kansas, 2013 Research Brief

Introduction

Infant mortality is a proxy indicator of population health. There is a potential association between the causes of infant mortality and factors that are likely to influence health status of the whole population. The Kansas Department of Health and Environment’s (KDHE) Division of Public Health monitors infant mortality and supports programs that promote access to health services and prevention for mothers and infants.

Methods

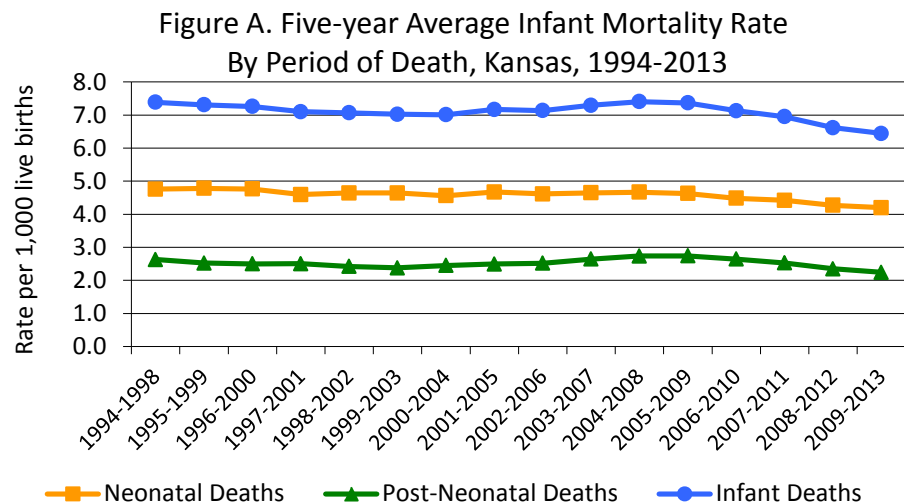
The KDHE Bureau of Epidemiology and Public Health Informatics (BEPHI) collects birth and death certificates through the Office of Vital Statistics (OVS) and from other states. After a process of data validation, the Bureau creates an analytical file on July 1 of the prior year’s vital events. The analytical files are used as the basis of statistical reports issued by KDHE. All data reported herein are residence data, regardless of where the event occurred. Trends are analyzed using five- and twenty-year time periods and are tested for statistical significance.

Findings

The number of infant deaths to Kansas residents decreased from 254 in 2012 to 248 in 2013. The number of Kansas resident births in 2013 was 38,805, resulting in an infant mortality rate (IMR) of 6.4 per 1,000 live births, slightly higher than 2012 (6.3 per 1,000 live births). Males accounted for 55.6 percent of 2013 resident infant deaths, females 44.4 percent.

Despite annual fluctuations of resident infant mortality, the Kansas IMR over the last 20 years has declined at a statistically significant 0.7 annual percent change. Poisson regression analysis indicates the IMR decrease in the last five years was not statistically significant.

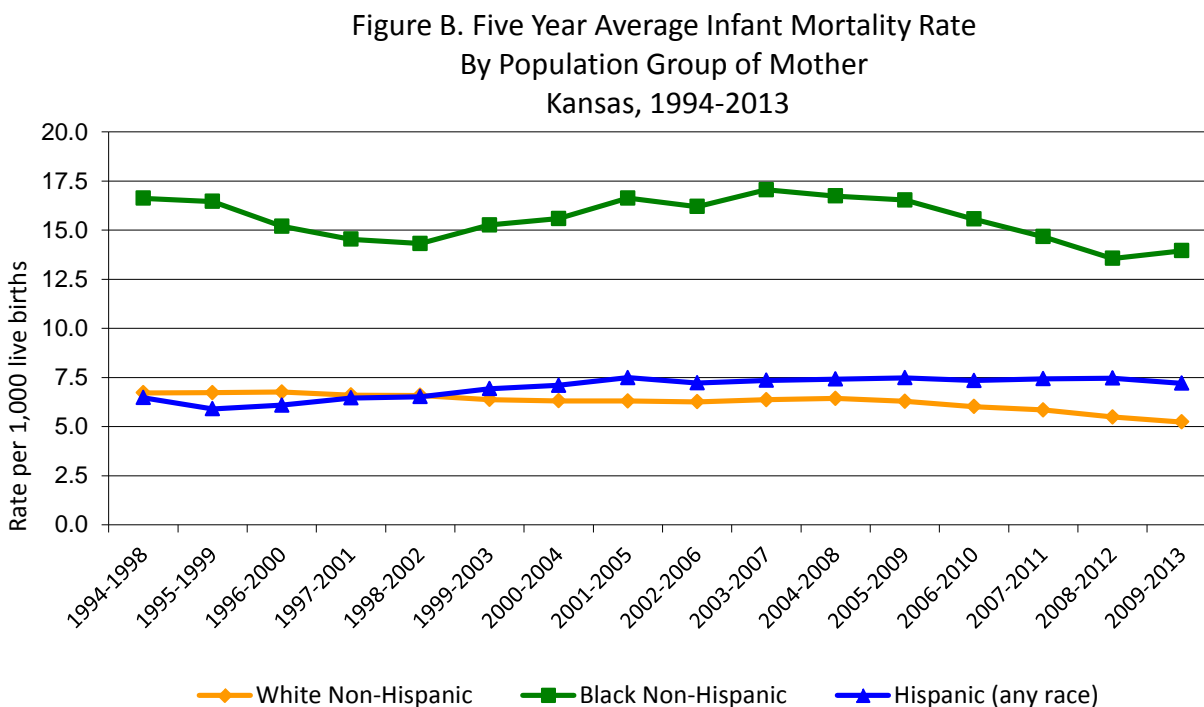
Infant mortality rates for White non-Hispanic and Hispanic any race, have had statistically significant decreases in



the last 20 years. The infant mortality rate for Black non-Hispanics has declined during the same period but the change has not been statistically significant.

During 1994-2013 five-year moving average neonatal and post-neonatal mortality rates have showed slight fluctuations, and a gradual overall decrease (Figure A).

The five-year average infant mortality rates for White non-Hispanic, and Hispanic any race decreased for the most recent period (2009-2013) (Figure B). The five-year rate for Black non-Hispanic for the same period has increased (Figure B). The Black non-Hispanic five-year rate is 2.7 times higher than the White non-Hispanic rate. The Hispanic five-year rate is 1.4 times higher than the White non-Hispanic rate.



In 2013, 46.4 percent of infant deaths (115) occurred within the first day of life (Table 1). One hundred forty or 56.5 percent of infants died within the first week of life. Almost two-thirds of infant deaths occurred during the neonatal period. About one third of infant deaths (82, 33.1%) occurred during the post neonatal period.

In 2013, congenital anomalies with 59 deaths was the leading cause of infant death, followed by prematurity or low birthweight with 53 deaths, and SUID with 51 deaths (Table 2). SUID or sudden unexplained infant death includes Sudden Infant Death Syndrome or SIDS (ICD10 code R95), unknown cause (R99), and suffocation in bed (W75).

Discussion

The state’s single-year infant mortality rate increased despite a decrease in the number of infant deaths. This was due to a 3.7 percent decrease in the number of live births to Kansas residents in 2013. The number of deaths in 2013 is the second lowest ever recorded, after 2010.

The overall five-year average infant mortality rate, however, continues to decline. Since the annual number of deaths fluctuates, charting five-year average rates provides a more reliable

indicator of the state's trend. The trend for White non-Hispanic and Hispanic any race based on five-year average mortality rates is down, while the trend for Black non-Hispanics is upward.

The Kansas one-year infant mortality rate remains higher than the Healthy People 2020 target of 6.0 infant deaths per 1,000 live births.

The Black non-Hispanic race carries a disproportionate share of the state's infant mortality. Black non-Hispanic births accounted for 6.8 percent of Kansas resident births in 2009-2013 while Black non-Hispanic infant deaths accounted for 14.6 percent of all infant deaths.

Table 1. Infant Deaths by Age Group by Year, Kansas, 2009-2013

| Age Group | Year | | | | |
|-------------------------|------|------|------|------|------|
| | 2009 | 2010 | 2011 | 2012 | 2013 |
| Under 1 hour | 45 | 45 | 39 | 45 | 30 |
| 1 hour to under 1 day | 70 | 74 | 60 | 64 | 85 |
| 1 day to under 1 week | 29 | 24 | 22 | 33 | 25 |
| 1 week to under 1 month | 32 | 27 | 36 | 31 | 26 |
| 1 month to under 1 year | 114 | 83 | 90 | 81 | 82 |
| Total | 290 | 253 | 247 | 254 | 248 |

Table 2. Infant Deaths by Cause of Death Group by Year, 2009-2013

| Cause Group (ICD-10 Code) | Year | | | | |
|---|------|------|------|------|------|
| | 2009 | 2010 | 2011 | 2012 | 2013 |
| Congenital Anomalies (Q00-Q99) | 72 | 66 | 59 | 51 | 59 |
| Length Gestation/Low Birthweight (P07) | 52 | 39 | 49 | 58 | 53 |
| Maternal Complications/Factors (P00-P04) | 36 | 35 | 28 | 20 | 17 |
| SUID (SIDS/Suffocation in Bed, Unknown) (R95, R99, W75) | 49 | 42 | 41 | 40 | 51 |
| Other External Causes * (V01-Y89) | 17 | 10 | 13 | 10 | 13 |
| Other Causes | 64 | 61 | 57 | 75 | 55 |
| Total | 290 | 253 | 247 | 254 | 248 |

* Excludes Suffocation in Bed

Table 3. Infant Deaths by Race/Hispanic Origin by Year, Kansas, 2009-2013

| Population group | Year | | | | |
|--|------|------|------|------|------|
| | 2009 | 2010 | 2011 | 2012 | 2013 |
| White NH* | 178 | 142 | 150 | 145 | 137 |
| Black NH* | 44 | 33 | 35 | 38 | 39 |
| Native American NH* | 3 | 1 | 5 | 1 | 1 |
| Asian NH* | 6 | 5 | 5 | 3 | 3 |
| Native Hawaiian and other Pacific Islander NH* | 0 | 0 | 0 | 0 | 1 |
| Other NH* | 2 | 1 | 1 | 3 | 1 |
| Multi-race NH* | 13 | 19 | 8 | 8 | 18 |
| Hispanic (any race) | 40 | 50 | 42 | 54 | 44 |
| n.s. | 4 | 2 | 1 | 2 | 4 |
| Total | 290 | 253 | 247 | 254 | 248 |

* NH = Non-Hispanic

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Our Vision – Healthy Kansans living in safe and sustainable environments.
Our Mission –To protect and improve the health and environment of all Kansans.