



Infant Mortality Kansas, 2016 Research Brief

Introduction

Infant mortality is an important proxy indicator of population health, since 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 both the Office of Vital Statistics (OVS) and from other states. After data validation is completed, the Bureau creates an analytical file of the prior year’s vital events on July 1. The analytical files are then 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-year rolling average rates during a 20-year time period and were tested for statistical significance.

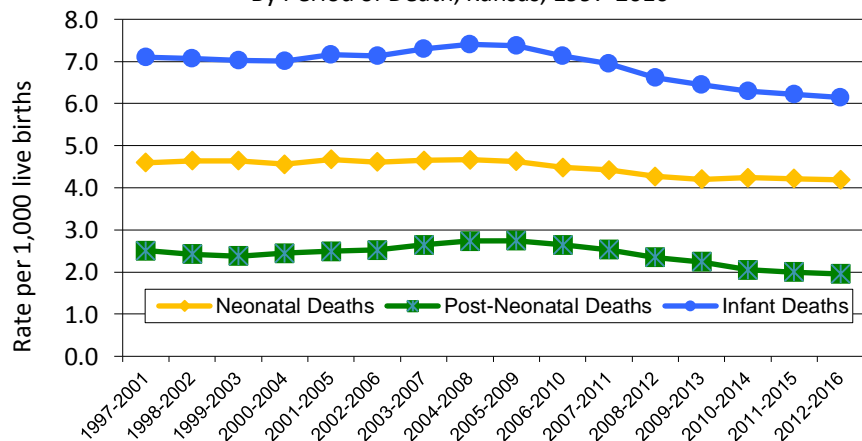
Findings

The number of infant deaths to Kansas residents decreased from 230 in 2015 to 223 in 2016. The number of Kansas resident births in 2016 was 38,048, resulting in an infant mortality rate (IMR) of 5.9 per 1,000 live births, the same as 2015 and lower than 2014 (6.3 per 1,000 live births). Males accounted for 55.2 percent of 2016 resident infant deaths, while females accounted for 44.8 percent.

Despite annual fluctuations, the Kansas resident IMR declined from 1997-2016 based on rolling five-year averages. The decline was statistically significant.

During the same 20 years, neonatal death rates and post-neonatal death rates showed a statistically significant decreasing trend (Figure A).

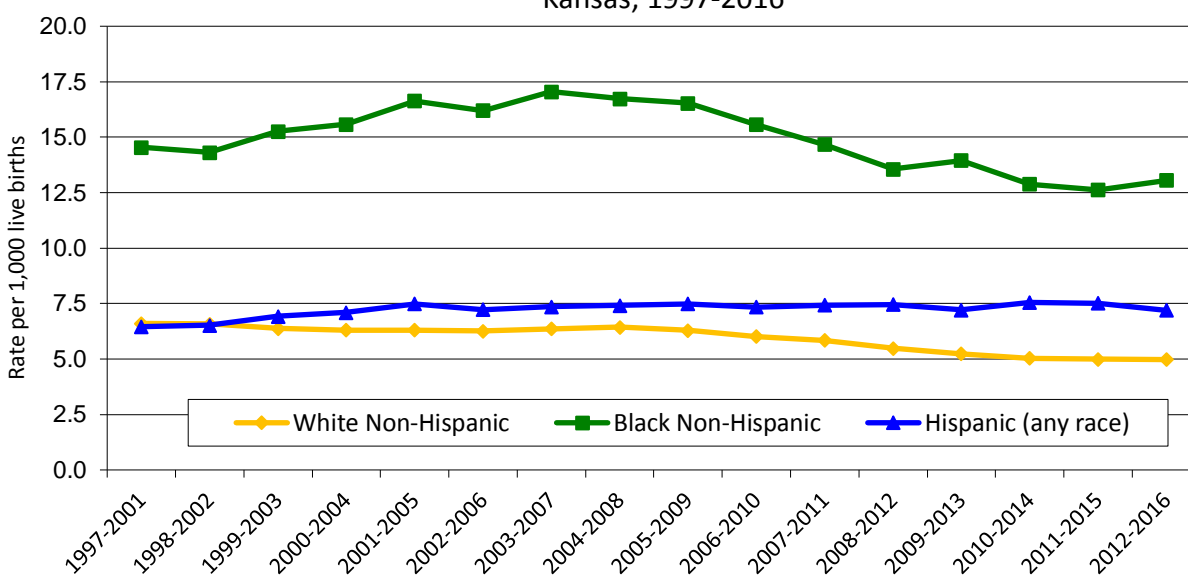
Figure A. Five-year Average Infant Mortality Rate
By Period of Death, Kansas, 1997-2016



Between 1997 and 2016 IMR has decreased for Black non-Hispanic and White non-Hispanic infants, and increased for Hispanic infants, based on rolling five year averages. The decreasing trend in White non-Hispanic IMR was significant. The decreasing trend in Black non-Hispanic IMR was not significant. The increasing trend in Hispanic any race IMR was not significant (Figure B).

Five-year infant mortality rates for White non-Hispanics and Black non-Hispanics decreased in the most recent period (2012-2016). While the Black non-Hispanic IMR decreased in 2012-2016, and the rate remained 2.9 times that of White non-Hispanic infants. During the past 20 years the Hispanic any race IMR has increased. The Hispanic any race IMR is 1.4 times higher than the White non-Hispanic rate (Figure B).

Figure B. Five Year Average Infant Mortality Rate
By Population Group of Mother
Kansas, 1997-2016



In 2016, 37.7 percent of infant deaths (84) occurred within the first day of life. One hundred nineteen or 53.4 percent of infants died within the first week of life. Approximately 65 percent of infant deaths occurred during the neonatal period (<28 days), while about 35 percent occurred during the post neonatal period (between 28 days and under 1 year) (Table 1).

In 2016, congenital anomalies and SUID were the leading causes of death (49 deaths each), followed by length of gestation or low birthweight (28 deaths). SUID or sudden unexplained infant death includes sudden infant death syndrome or SIDS (ICD10 code R95), unknown cause (R99), and suffocation in bed (W75) (Table 2).

Discussion

The state’s number of infant deaths decreased in 2016 compared to 2015 and the single-year infant mortality rate remained the same. The unchanged rate was due in part to the number of infant deaths in 2016 being the lowest ever recorded in Kansas. However, a 2.8 percent decrease in the number of live births to Kansas residents in 2016 also contributed.

Between 1997 and 2016, the overall five-year average infant mortality rate has continued to decline. Charting the five-year average rates provides a more reliable indicator of the state’s trend, since it accounts for the fluctuating number of annual deaths. The trend for White non-

Hispanics based on five-year average mortality rates was down, while the trend for Black non-Hispanics and Hispanics any race was upward.

In 2016, the Kansas one-year infant mortality rate of 5.9 infant deaths per 1,000 live births remained lower 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 6.6 percent of Kansas resident births in 2012-2016, while Black non-Hispanic infant deaths accounted for 14.1 percent of all infant deaths.

Table 1. Infant Deaths by Age Group by Year, Kansas, 2012-2016

Age Group	Year				
	2012	2013	2014	2015	2016
Under 1 hour	45	30	43	40	26
1 hour to under 1 day	64	85	71	64	58
1 day to under 1 week	33	25	24	28	35
1 week to under 1 month	31	26	37	28	26
1 month to under 1 year	81	82	71	70	78
Total	254	248	246	230	223

Table 2. Infant Deaths by Cause of Death Group by Year, Kansas, 2012-2016

Cause Group (ICD-10 Code)	Year				
	2012	2013	2014	2015	2016
Congenital Anomalies (Q00-Q99)	51	59	56	54	49
Length Gestation/Low Birthweight (P07)	58	53	48	50	28
Maternal Complications/Factors (P00-P04)	20	17	29	20	21
SUID (SIDS/Suffocation in Bed, Unknown) (R95, R99, W75)	40	51	37	40	49
Other External Causes * (V01-Y89)	10	7	8	14	7
Other Causes	75	61	68	52	69
Total	254	248	246	230	223

* Excludes Suffocation in Bed

Table 3. Infant Deaths by Race/Hispanic Origin by Year, Kansas, 2012-2016

Population group	Year				
	2012	2013	2014	2015	2016
White NH*	145	137	142	130	139
Black NH*	38	39	27	27	38
Native American NH*	1	1	2	2	1
Asian NH*	3	3	9	5	3
Native Hawaiian and other Pacific Islander	0	1	0	1	0
Other NH*	3	1	2	4	0
Multi-race NH*	8	18	17	11	9
Hispanic (any race)	54	44	46	48	32
Not Specified (n.s.)	2	4	1	2	1
Total	254	248	246	230	223

* 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.