



# **Infant Mortality Kansas, 2011 Research Brief**

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**Bureau of Epidemiology and Public Health Informatics  
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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

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### Introduction

Infant mortality is an important indicator of the health of a community or state. It serves as one proxy indicator of population health since it reflects the potential association between the causes of infant mortality and other 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) maintains the Kansas civil registration system through the Office of Vital Statistics (OVS). All vital events that occur in Kansas are reported to KDHE. Vital events occurring in other states to Kansas residents are reported to OVS via inter-state jurisdictional exchange agreements. On July 1, history files of events that occurred the previous calendar year are created. Prior to the creation of history files, quality improvement programs validate the quality of the data or report records that need corrections. History files are then used as the basis of statistical summaries (annual tables) and the *Kansas Annual Summary of Vital Statistics*. All data reported herein are residence data, regardless of where the event occurred.

### Findings

The number of infant deaths to Kansas residents dropped from 253 in 2010 to 247 in 2011 (six fewer deaths). The number of Kansas resident births in 2011 was 39,628. This resulted in an infant mortality rate (IMR) of 6.2 per 1,000 live births. This is slightly lower than 6.3 in 2010. This rate of 6.2 was the lowest infant mortality rate in Kansas since record keeping began in 1912.

Over the last 20 years, Kansas has experienced a statistically significant declining trend in the annual infant mortality rate (with variation in between). The 2011 infant mortality rate represents a 29.5 percent decrease from the 1992 IMR of 8.8. That change is statistically significant at the 95% confidence level.

When looking at data with small numbers, fluctuations are common. The number of neonatal deaths (infants less than 28 days of age) has decreased each year from 2009 through 2011. Post-neonatal deaths (deaths at age equal to or greater than 28 days and less than 365 days) increased by seven deaths from 2010 to 2011. However, the number of post-neonatal infant deaths in 2011 was still 24 less than in 2009.

In 2011, most of the decreases in infant deaths occurred among Hispanic and multi race non-Hispanic infants who had shown an increase in the 2009 to 2010 time period. The number of deaths increased among White non-Hispanic and Black non-Hispanic infants, but the numbers continue to be lower than 2009. Among the Asian non-Hispanic and other non-Hispanic infants, the number of deaths was the same in 2010 and 2011, but

lower than 2009. The infant deaths among Native American infants fluctuated from three in 2009 to one in 2010 to five in 2011.

Most of the reductions occurred in two broad cause of death categories: congenital anomalies and prematurity/low birth weight.

Joinpoint Poisson regression analysis showed a statistically significant decrease in infant mortality rates in the last 20 years (1992 to 2011). Also, joinpoint regression analysis of IMR from 2007-2011 indicates a statistically significant decrease during the last five year period.

#### Discussion

In Kansas, for 2011, the infant mortality rate decreased slightly to 6.2 per 1,000 births. This continued reduction in infant mortality observed in Kansas is encouraging, but it is important to note that the relatively small number of events that occur are subject to volatility, and trends should not be based on analyses of single year fluctuations especially in drill downs by race and Hispanic population groups. BEPHI, with the initiation of an expanded report on infant mortality, began reporting statistics by grouping five years together and presenting trends on a rolling five-year basis. This methodology increases data stability, and smoothing of rates makes trends more apparent.

The year 2010 is the most current year national data is available. While the Kansas rate declined in 2011, the 2010 Kansas rate was still 3.3 percent above the national rate of 6.1 per 1,000 live births (preliminary data).

These findings are subject to at least two limitations. Some very small under-reporting of vital events may occur. Additionally some infant deaths occur in other states. Late reporting of those events may affect totals. BEPHI quality improvement processes have identified under-reporting by other state vital events jurisdictions.

These statistics are final. Additional analyses will be included as part of the *2011 Annual Summary of Vital Statistics*, and *Selected Special Statistics, Stillbirths and Infant Deaths, Kansas, 2011*.

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Source Data: Office of Vital Statistics, Public Health Informatics  
Bureau of Epidemiology and Public Health Informatics  
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Kansas Department of Health and Environment

Resident Infant Deaths by Selected Characteristics and change , Kansas, 2009, 2010, and 2011

<b>CAUSE OF DEATH GROUP BY YEAR</b>			
CAUSE GROUP	YEAR OF DEATH		
	2009	2010	2011
CONGENITAL ANOMALIES	72	66	59
LENGTH GESTATION/LOW BIRTHWEIGHT	36	35	28
MATERNAL FACTORS AND COMPLICATIONS	52	39	49
SIDS/SUFFOCATION IN BED	39	32	30
OTHER EXTERNAL CAUSES	17	10	13
OTHER CAUSES	74	71	68
TOTAL	290	253	247
<b>SEX BY YEAR</b>			
SEX	YEAR OF DEATH		
	2009	2010	2011
FEMALE	141	104	107
MALE	149	149	140
TOTAL	290	253	247
<b>AGE-GROUP BY YEAR</b>			
AGE-GROUP	YEAR OF DEATH		
	2009	2010	2011
UNDER 1 HOUR	45	45	39
1 HOUR TO UNDER 1 DAY	70	74	60
1 DAY TO UNDER 1 WEEK	29	24	22
1 WEEK TO UNDER 1 MONTH	32	27	36
1 MONTH TO UNDER 1 YEAR	114	83	90
TOTAL	290	253	247
<b>RACE/HISPANIC ORIGIN BY YEAR</b>			
POPULATION GROUP	YEAR OF DEATH		
	2009	2010	2011
WHITE NH*	178	142	150
BLACK NH*	44	33	35
NATIVE AMERICAN NH*	3	1	5
ASIAN NH*	6	5	5
NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER NH*	0	0	0
OTHER NH*	2	1	1
MULTI RACE NH*	13	19	8
HISPANIC*	40	50	42
N.S.	4	2	1
TOTAL	290	253	247

\*NH stands for non-Hispanic.

\*Per 1,000 live births, residence data

Source: Bureau of Epidemiology and Public Health Informatics

Kansas Department of Health and Environment

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