



Selected Special Statistics
Stillbirths and Infant Deaths
Kansas, 2010

Research
Summary

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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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Executive Summary

Infant mortality is an important indicator of the health of a community or state. It is associated with a variety of factors such as economic development, general living conditions, social wellbeing where basic needs are met, rates of illness such as diabetes and hypertension, and quality of the environment. The purpose of this report is to move beyond single-year statistics reported in the *Annual Summary of Vital Statistics* and provide a long-term view of underlying percentages or rates. Time periods used predominately in this report are five years and 20 years. At least five years are used to evaluate or present trends.

In the last century, the Kansas infant mortality rate (IMR) has decreased dramatically (91.4%) from 73.5 deaths per 1,000 live births in 1912 (2,795 infant deaths) to 6.3 in 2010 (253 infant deaths).

- The overall trend for infant mortality rates has decreased significantly the last 20 years (1991-2010).
- The overall decline in infant mortality rates in the last five years was not a statistically significant trend.
- The Black non-Hispanic infant mortality rate in the last 20 years (1991-2010), has remained at least twice that of the White non-Hispanic population for most years.
- Low birthweight (62.5% of infant deaths) and prematurity (62.2%) were primary mortality risk factors based on analysis of the 2006-2010 linked birth/death file.
- Prematurity is an important risk factor for the Black non-Hispanic population (72.0% of infant deaths), White non-Hispanic population (59.1%), and the Hispanic population (65.6%).
- The infant mortality rate of 46.5/1,000 live births for premature infants was 16 times higher than the rate for infants born at term (2.9/1,000).
- The infant mortality rate for very premature infants (206.5/1,000) was 72 times higher than the rate for infants born at term (2.9/1,000).
- The maternal factors category was the leading cause of stillbirths (51.8%), while the prematurity or low birthweight category was the leading cause of death for hebdomadal period deaths (32.4%). In the last five years, there were 1,688 perinatal deaths (8.1/1,000 live births and stillbirths).

The *Selected Special Statistics, Stillbirths, and Infant Deaths Kansas, 2010* summarizes vital records data on stillbirths and infant deaths. This report can be found at <http://www.kdheks.gov/phi/index.htm>. Persons inquiring about additional data needs can call (785) 296-8627.

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Stillbirths and Infant Deaths

Introduction

One of the basic indicators of the health of a community or state is infant mortality, the death of an infant before one year of age. The calculated infant mortality rate (IMR), while not a true measure of population health, serves as one proxy indicator of population health. It reflects the apparent association between the causes of infant mortality and other factors that are likely to influence the health status of the whole population such as economic development, general living conditions, social wellbeing where basic needs are met, rates of illness such as diabetes and hypertension, and quality of the environment [1].

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 for mothers and infants. The Division's Bureau of Epidemiology and Public Health Informatics calculates the official state infant mortality rate as part of its ongoing mission to provide data and information to program managers, policy makers, health providers, and the public. This report augments information in the KDHE *Annual Summary of Vital Statistics*.

Methodology

Statistics

One feature of this report is to move beyond single-year statistics reported in the *Annual Summary of Vital Statistics* in order to provide more long-term estimates of the true underlying rates. Most health professionals are aware that estimates based on population samples are subject to random variation. This is also true for full population counts, especially when the rate or percentage has a small number of events in the numerator. This random variation may be substantial in rare events such as infant deaths, particularly at the county level. In a single year a county may have one, two, or even no infant deaths.

In an attempt to increase data reliability, years are combined with preselected intervals. The intervals include 5 years, 20 years, or approximately 100 years. The long-term (~100 years) infant mortality numbers and rates may be under-reported due to incomplete data collection in the early 1900s.

Additionally, this report uses the relative standard error to evaluate reliability of rates. Values with a relative standard error of 30 percent or less are considered reliable. Values with a relative standard error greater than 30 percent but less than 50 percent are considered unreliable, and rates calculated with values greater than 50 percent have been suppressed in this document. This is consistent with standard National Center for Health Statistics (NCHS) practice [2,3].

The following statistical tests have been applied where statistically significant differences have been noted in the document. The z-test was used for comparing two years of infant mortality rates and the Poisson Joinpoint regression model was used for trend anal-

ysis [4,5,6]. Confidence intervals were calculated at the 95% confidence level (this is a conservative estimation of significance). If confidence intervals don't overlap, the difference between the rates is statistically significant [7].

All data reported are based on Kansas residence, unless otherwise noted.

Five year moving averages were used to smooth data trends since year-to-year variation in infant mortality rates can result in a saw-tooth pattern that obscures underlying trends.

Cause of Death Data

The cause of death referred to in this report is the primary or underlying cause of death. It is defined as the disease or injury which initiated the chain of events leading directly to death, or the circumstances of the accident or violence which produced the fatal injury. The underlying causes of death are established through a system known as the International Classification of Diseases, 10th Revision (ICD-10). This system promotes uniformity and comparability in the collection and presentation of mortality data.

In this document, SIDS deaths (ICD-10 code R95) are combined with sleep related deaths (ICD-10, code W75) in some of the figures/tables since the American Academy of Pediatrics, "is expanding its recommendations from being only SIDS-focused to focusing on a safe sleep environment that can reduce the risk of all sleep-related deaths including SIDS." [8]

Data Linkage

This report also provides findings based on the linking of birth certificate and infant death certificate data. Where referenced, the linked birth/infant death statistics are based on a death cohort. The death cohort involves linkage of infant deaths with the corresponding live births. These births may have occurred in the same calendar year as the death or in the year earlier.

The birth-infant death data analyzed are based on a union of single year linked birth-infant death files created six months after a given event year ended. Linkage of the respective records is performed by the KDHE Office of Vital Statistics using deterministic methodology based on the presence of a birth certificate ID number in the death history file. A manual matching process is used for infant deaths that do not match automatically. Because of the timeframe for creating the annual linked birth-infant death statistical files, infant death reports received later than six months after the end of a given event year are not included in the given event year.

For Kansas, 2006-2010, there were 1,472 resident infant deaths reported to KDHE. Of those, 1,425 (96.8%) were linked to a birth record. Forty-two of the linked births occurred in 2005. Unlinked records were due to a number of factors beyond the scope of this summary.

Linking the infant deaths with their birth records is a valuable tool to monitor and explore the complex interrelationships between infant deaths, factors surrounding the infant's birth, and the mother's risk factors.

- The death file contains age at death and underlying cause.

- The birth file contains birthweight, gestational age, and information on the mother such as age, marital status, and maternal risk factors such as tobacco use.

Stillbirths are also included in this report. These events may have similar risk factors as infant deaths. In Kansas, a stillbirth is defined as a delivery of a fetus in excess of 350 grams other than a live birth and not an induced termination of pregnancy.

Results

In Kansas, 2010, the infant mortality rate was 6.3/1,000 live births (253 infant deaths), down from 7.0 (290 infant deaths) in 2009 (Tables 1, 2). The change was not statistically significant.

In the last century, the IMR has decreased dramatically (91.4%) from 73.5 deaths per 1,000 live births in 1912 (2,795 infant deaths) to 6.3 in 2010 (Figures 1, 2). Stillbirths decreased 84.7 percent from 26.8 deaths per 1,000 (live births + stillbirths) in 1912 (1,047 stillbirths) to 4.1 in 2010 (Figures 3, 4). Incomplete reporting in the early 1900s may have resulted in under-reporting of infant deaths and stillbirths, and thus higher rates in 1912 and a higher percent decrease from 1912 to 2010.

The IMR has also decreased in the last twenty years. The decreasing trend was statistically significant for the years 1991-2010 with an annual percent change (APC) of -1.0 (Figure 5). However, Poisson regression does not show a statistically significant decrease in infant mortality in the last five years (2006-2010). During this time the IMR has ranged from 7.2 in 2006, to a high of 7.9 in 2007 and a low of 6.3 in 2010 (Tables 2).

Population Groups

In Kansas, 2010, the White non-Hispanic population group had the highest number of infant deaths (142 infant deaths), while the Black non-Hispanic group had the highest rate per 1,000 live births (11.9) (Table 3). This disparity among Black non-Hispanic infant deaths was true in all periods of death (Table A).

Table A. Stillbirth, Perinatal Period III* and Infant Mortality Rates by Selected Population Groups and Period of Death, Kansas, 2010

| | Total | White non-Hispanic | Black non-Hispanic | Hispanic any race |
|------------------------|-------|--------------------|--------------------|-------------------|
| Infant deaths † | 6.3 | 4.9 | 11.9 | 7.8 |
| Neonatal deaths † | 4.2 | 3.3 | 8.3 | 5.0 |
| Post neonatal deaths † | 2.1 | 1.6 | 3.6 | 2.8 |
| Stillbirths ‡ | 5.2 | 4.7 | 12.1 | 5.1 |
| Perinatal period III ‡ | 7.7 | 6.3 | 12.9 | 10.2 |

* Perinatal period III = stillbirths + hebdomadal deaths (deaths that occur prior to the 7th day of life)

† Rate per 1,000 live births

‡ Rate per 1,000 (live births + stillbirths)

A population group comparison (20 years) based on five year moving averages (Figure 6) shows that the Black non-Hispanic population had the highest infant mortality rates,

with a high of 20.5 in 1992-1996 and a low of 14.3 in 1998-2002; since the 1998-2002 point, the rate has fluctuated ending with 15.6 in 2006-2010. In the same 20 years, the White non-Hispanic population showed a slight decreasing trend from 7.2 in 1991-1995 to 6.0 in 2006-2010, and the Hispanic population showed a fluctuating trend from a high in 1991-1995 of 7.8 to a low of 5.9 in 1995-1999; since then, the rate in the Hispanic population has increased in most years to 7.3 in 2006-2010. In this same 20 year period based on five year rolling averages, the Black non-Hispanic infant mortality rate has remained over twice that of the White non-Hispanic population, with an average ratio of 2.5.

The counties with the highest number of infant deaths (2006-2010) included Sedgwick (317 or 21.5% of the total), Johnson (227 or 15.4% of the total), Wyandotte (121 or 8.2% of the total) and Shawnee (106 or 7.2% of the total). These four counties accounted for 52.4 percent of the infant deaths (Table 4).

However, the counties with the highest infant mortality rates and a relative standard error of 30 percent or lower included Marion (22.2), Neosho (15.5), Cowley (10.9), Geary (10.4) and Reno (8.9) while the counties with the lowest rates were Leavenworth (5.0), Douglas and Finney (both 5.2), Riley (5.8), and Johnson and Butler (both 5.9) (Table 4).

Since the number of deaths was too small for analysis in many counties, counties were combined into the Public Health Regions (Appendix 1). The region with the highest infant mortality rate and a relative standard error of 30 percent or lower was the Northwest Bio-terrorism Region at 9.1/1,000 live births and the region with the lowest infant mortality rate was the South Central Coalition at 5.0/1,000. None of the rates by region were statistically significantly different from the state infant mortality rate (Figure 7).



Several zip-codes had enough deaths to allow analysis for 2006-2010. The zip-codes with the highest mortality rates and a relative standard error of 30% or lower included 66605 (Shawnee County, 16.2), 66720 (Neosho County, 14.9), 67156 (Cowley County, 13.1), 67218 (Sedgwick County, 12.7), and 67214 (Sedgwick County, 12.4). The zip-codes with the lowest rates were 67212 (Sedgwick County, 3.6), 66030 (Johnson County, 5.0), 66062 (Johnson County, 5.3), 66106 (Wyandotte County, 5.5), and 67846 (Finney County, 5.6).

Causes of Infant Death

For Kansas, 2006-2010, the leading cause of infant mortality was congenital anomalies (Figure A, Table 5). The most frequent congenital anomaly was congenital malformations of the circulatory system (22.7%, ICD-10 codes Q20-Q28), followed by chromosomal abnormalities (19.8%, ICD-10 codes Q90-Q99). Seventy-four percent (74.1) of deaths due to congenital anomalies occurred in the neonatal (under 28 day) time period. The category “other causes” includes respiratory distress of the newborn, primary atelectasis, cardiac failure/dysrhythmia, necrotizing enterocolitis, etc.

**Leading Causes of Infant Deaths
Kansas, 2006-2010**

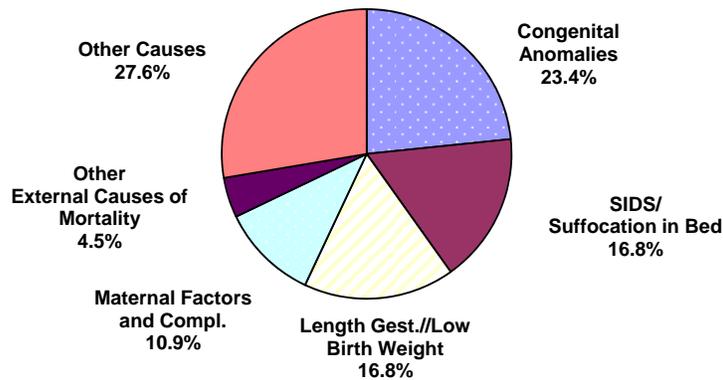


Figure A

Analysis of underlying cause of death by population group (2006-2010) shows that prematurity was the leading cause of death among Black non-Hispanic infants. Congenital anomalies was the leading cause of death among White non-Hispanic and Hispanic infants (Table B).

Table B. Percent of Infant Deaths by Selected Population Groups by Leading Causes of Death, Kansas, 2006-2010

| Population Group* | Percent | Number of Deaths |
|-----------------------------------|---------|------------------|
| Black non-Hispanic (n=233) | | |
| 1. Prematurity or Low Birthweight | 23.5 | 52 |
| 2. SIDS/Suffocation in Bed | 22.2 | 49 |
| 3. Congenital Anomalies | 10.9 | 24 |
| 4. Maternal Factors | 11.3 | 25 |
| White non-Hispanic (n=929) | | |
| 1. Congenital Anomalies | 25.6 | 228 |
| 2. SIDS/ Suffocation in Bed | 17.0 | 151 |
| 3. Prematurity or Low Birthweight | 14.9 | 133 |
| 4. Maternal Factors | 9.9 | 88 |
| Hispanic any-race (n=246) | | |
| 1. Congenital Anomalies | 26.3 | 64 |
| 2. Prematurity or Low Birthweight | 16.8 | 41 |
| 3. Maternal factors | 13.9 | 34 |
| 4. SIDS/ Suffocation in Bed | 9.4 | 23 |

*Non-Hispanic population group includes unknown Hispanic origin.

Age Period at Death

Timing of infant deaths is categorized as occurring in the neonatal period (first 27 days of life) and the post-neonatal period (28 to 364 days). The neonatal period is further sub-divided into early days or hebdomadal deaths (0-6 days) and post-hebdomadal deaths (7-27 days). Perinatal period III includes stillbirths and hebdomadal deaths.

Neonatal/Post-Neonatal Period Deaths

For Kansas, 2006-2010, there were 926 neonatal deaths (4.5/1,000 live births) and 546 post-neonatal deaths (2.7/1,000 live births) with 62.9 percent of deaths occurring in the neonatal age period (Tables 5, 6). Congenital anomalies were the leading cause of neonatal deaths, while SIDS was the leading cause of post-neonatal deaths (Table 5).

In Kansas, from 1991-2010, neonatal death rates fluctuated slightly (Table 2). Rolling five year averages showed a very slight, gradual decrease in most years from 5.0 in 1991-1995 to 4.5 in 2006-2010 (Figure 8). The post-neonatal death rolling five year averages showed a decrease from 3.2 in 1991-1995 to a low of 2.4 in 1998-2002 and 1999-2003 and a slight increase to 2.6 in 2006-2010 (Figure 8).

Perinatal Period III Deaths

For Kansas 2006-2010, there were 1,688 perinatal deaths (8.1/1,000 live births and stillbirths) including 941 stillbirths and 747 hebdomadal deaths (Table 1). Maternal factors (ICD-10 codes P00-P04) was the leading cause of stillbirths (51.8%) (Table 7) while “prematurity or low birthweight” was the leading cause of death for hebdomadal period deaths, (32.4%) (Table 5).

In Kansas, from 1991-2010, rolling five year averages showed a gradual decline in perinatal deaths with some fluctuation, decreasing from 9.8 in 1991-1995 to 8.2 in 2006-2010 (Figure 9).

Linked Birth-Infant Death Statistics

This section presents infant mortality statistics from the linked birth/infant death data file (linked file) by a variety of maternal and infant characteristics. The linked file differs slightly (both numbers and percents) from the mortality file, which is based entirely on death certificate data (Table C).

Table C. Linked Infant Birth /Deaths, Percent Linked, Kansas, 2006-2010

| Year | Infant Deaths, Total | Infant Deaths, Linked File | |
|--------|----------------------|----------------------------|------|
| | Number | Number | % |
| 2006 | 293 | 274 | 93.5 |
| 2007 | 333 | 316 | 94.9 |
| 2008 | 303 | 295 | 97.4 |
| 2009 | 290 | 289 | 99.7 |
| 2010 | 253 | 251 | 99.2 |
| Totals | 1472 | 1425 | 96.8 |

Of the 1,425 deaths linked to birth records, the mother reported Hispanic origin in 215 live births (15.1%), non-Hispanic origin in 1,203 live births (84.4 %) and unknown Hispanic origin in 7 live births (0.5%).

Of the 1,210 mothers that reported non-Hispanic or unknown Hispanic origin, 32 (2.6 %) reported Asian race, 200 (16.5%) reported black race, 20 (1.7%) reported multi race, 10 (0.8%) reported Native American race, 14 (1.2%) reported Native Hawaiian and other Pacific Islander/other race, and 931 (76.9%) reported white race. Race was unknown for three births (0.2%).

Of the 1,425 deaths, birth-weight of the infant was known for 1,417 deaths. Three hundred and twenty one (22.7%) of the deaths occurred to infants with birthweights of less than 500 grams; 334 (23.6%) of the deaths occurred to infants with birthweights of 500 to 1,499 grams; 230 (16.2%) of deaths occurred to infants with birthweights of 1,500 to 2,499 grams; and 532 (37.5%) of deaths occurred to infants with birthweights of 2,500 grams or more.

Among the infant deaths where birthweight was known, 885 infants (62.5%) were low birth weight (less than 2500 grams). This compares to 7.2 percent for all live births in the same time period as the infant deaths (2006-2010).

Gestational age was known for 1,414 of the 1,425 linked records. Six hundred and forty-eight of the infants (45.8%) were very premature (less than 32 weeks), 64 (4.5%) were moderately premature (32- 33 weeks), 167 (11.8%) were late preterm (34- 36 weeks), and 535 (37.8%) were term, (37 weeks or greater).

Among the infant deaths where gestational age was known, 879 (62.2%) were premature, or less than 37 weeks gestation. This compares to 8.7 percent among all live births in the same time period as the infant deaths (2006-2010).

Analysis of gestational age by the mother's population group shows that among the black non-Hispanic population, 72.0 percent of infants that died were premature; among the white non-Hispanic population, 59.1 percent were premature; and among the Hispanic population, 65.6 percent were premature.

The leading cause of death among the 1,425 infants in the 2006-2010 linked file was congenital anomalies (327 deaths, 22.9%). This was followed by SIDS/sleep related deaths (244 deaths, 17.1%), prematurity and low birthweight (240 deaths, 16.8%), and maternal factors (157 deaths, 11.0%) (Table 8).

Even when the primary cause of death (linked birth/death file) was not classified as "prematurity or low birthweight", prematurity may be an important factor in an infant's death. Among infants with the primary cause of death classified as congenital anomalies, over half (52.6%) were born prematurely – mainly late preterm. Among deaths where the cause was classified as maternal factors, almost 96 percent (95.5%) were born prematurely – mostly very premature (Table 8). Maternal factors include complications such as premature rupture of the membrane, placental separation, chorioamnionitis, and maternal hypertensive disorders.

Among infants where the underlying or primary cause of death was classified SIDS or sleep related deaths, 84.8 percent were at least 37 weeks gestation or full term (Table 8).

Prenatal care (yes or no) was known for 1,425 of the linked infant deaths. No prenatal care was indicated for 6.3 percent of the infant deaths. This compared to 1.1 percent for all live births in the same time period as the infant deaths (2006-2010).

Birth plurality (the total number of births resulting from a single pregnancy) was known for 1,424 of the 1,425 linked deaths. Eighty-six percent (86.2%) of the infants were singletons at birth (1,227), 12.1 percent (172) were part of twin deliveries, and 1.8 percent (25) were triplet or above deliveries. Almost 14 percent (13.8) of linked deaths occurred among multiple births compared to 3.1 percent of all births in the same time period (2006-2010).

Age-group of the mother was known for 1,421 of the deaths. The highest percentage of deaths occurred to infants born to women aged 20-24 (31.1%), followed by women aged 25-29 (26.4%), women aged 30-34 (17.2%) and women aged 15-19 (14.9%). The highest age-specific rates of infant mortality per 1,000 births occurred among 15-19 year old mothers (10.2), followed by 20-24 year old mothers (7.8).

Smoking status was reported in 1,393 (97.8%) of the linked infant deaths. Mothers reported smoking at some time during pregnancy in 25.3 percent of the deaths compared with 15.7 percent of all live births (2006-2010).

Marital status was known for 1,418 (99.5%) of the linked deaths (2006-2010). In fifty percent (50.7%), the mother was not married at the time of her pregnancy or delivery. This compared with 36.9 percent of live births where the mother reported she was not married (2006-2010).

Delivery payer was known for 1,350 of infant deaths (linked file, 2006-2010). Private insurance was the payer for the highest percent of births where the infant died (41.9%), followed by Medicaid (36.6%) and self pay (9.4%). When evaluating all births 2006-2010, Private insurance was the payer for the highest percent of births (52.5%) followed by Medicaid (28.1%), and self pay.

Discussion

In the last century, the Kansas infant mortality rate (IMR) decreased dramatically (91.4%), from 73.5 deaths per 1,000 live births in 1912 (2,795 infant deaths) to 6.3 in 2010. Even when considering the last 20 years (1991-2010), the overall trend in infant mortality rates decreased significantly; however in the last five years the trend didn't show a statistically significant increase or decrease.

The IMR in Kansas, which reached an historic low of 6.3 in 2010, still exceeds the Healthy People 2020 (HP20120) objective of 6.0 deaths per 1,000 live births. Data analysis by population groups for Kansas, 2010 showed that the White non-Hispanic infant mortality rate met the HP20120 target but the rates for Hispanic or the Black non-Hispanic groups did not.

Overall in Kansas 2006-2010, 23.4 percent of infant deaths were attributed to congenital anomalies, 16.8 percent were attributed to prematurity or low birth weight, and 16.8 percent were attributed to SIDS/sleep related causes. Black non-Hispanics were at an in-

creased risk of infant deaths from prematurity. White non-Hispanic and Hispanic infants were at an increased risk of death due to congenital anomalies.

In Kansas 2006-2010, most infant deaths occurred soon after birth. Almost two-thirds (62.9% or 926 deaths) happened in the neonatal time period (less than 28 days), 50.7 percent or 747 deaths in the first week.

Analysis of the linked file shows that low birthweight (62.5% of infant deaths) or prematurity (62.2%) were primary risk factors for infant death even when the underlying or primary cause of death was not “prematurity or low birthweight”.

Prematurity was an important risk factor for the Black non-Hispanic population (72.0% of infant deaths), Hispanic population (65.6%), and the White non-Hispanic population (59.1%).

Gestational age-specific analysis (linked file) shows an infant mortality rate of 46.5/1,000 live births for infants born prematurely, 16 times that for infants born at term (2.9/1,000). Similarly, the infant mortality rate for very premature infants (206.5/1,000) was 72 times higher than the rate for infants born at term (2.9/1,000).

Because of their much greater risk of infant mortality, premature and very premature infants have a large impact on the total infant mortality rate. Over sixty percent (62.2%) of Kansas resident infant deaths (linked file, 2006-2010) occurred among infants born premature, while 8.7 percent of live births 2006-2010 were preterm. Similarly, 45.8 percent of infant deaths occurred among infants born very premature, while 1.5 percent of live births were very preterm.

Additional risk factors for infant deaths (linked file) included no prenatal care (6.3% of linked deaths), multiple births (13.8%), cigarette smoking (25.3 %), and out-of-wedlock births (50.7%). Analysis of mother’s age showed the highest percent of infant deaths among mothers age 20-24 (31.0%); but the highest rate per 1,000 live births was among 15-19 year old adolescents (10.2/1,000).

Conclusion

Analysis of infant mortality by combining years shows a more stable estimate of infant mortality in Kansas – a significant decreasing trend in infant mortality rates (1991-2010) with fluctuation, but no significant decrease in the last five years (2006-2010).

Combining years with the linked file shows that prematurity was a primary risk factor for infant deaths (62%). Studies indicate that many of the factors associated with preterm birth occur together [8,9]. Thus, there is a clear need to understand the causes of premature birth as well as risk factors such as population group of the mother, age of mother and no prenatal care and how they interrelate.

Limitations

This report’s findings are subject to several limitations. An important concern is the issue of receiving vital events from other states within the KDHE reporting deadline. Vital statistics are gathered on an occurrence basis but are traditionally reported on a resi-

dence basis. For complete residence statistics, reports must be received from other states for events occurring to Kansas residents. Because of delays or other late reporting, some out-of-state vital event reports have not been received by KDHE by the cutoff date of June 30 of the year following the event year. Past evaluations indicate that over 99 percent of all vital events to Kansas residents are received before the cutoff date.

Evaluation of the linked birth infant death cohort was subject to limitations due to the inability to link all deaths to a corresponding birth report. This inability may be due to a number of reasons related to receipt of the corresponding record from another state, name differences between the two reports, both events not occurring in Kansas, or residency changes.

The ICD10 death classification system limits the bias of human coding of mortality information. The system also attempts to reduce the effect of spelling errors or placement of literal information in the cause of death fields. One limitation is the system's inability to take into account differences in knowledge and attitudes among physicians who complete the cause of death information. Individual biases, unfamiliarity with the patient, or inability to perform an autopsy may affect the information available to the physician when certifying the cause of death. While many death certificates contain four full lines of detailed information on the events or illnesses leading up to the death, some death certificates contain only limited information.

The causes of stillbirths are not as well documented as those of infant deaths. The American Congress of Obstetricians and Gynecologists recommends an increase in the percentage of stillbirths for which placental evaluation is preformed and autopsy is offered [10]. Additionally, since KSA 65-2401 [11] defines stillbirth by weight of the fetus (>350 grams), vital records data does not represent the full picture of all fetal deaths.

Smoking status and other potential risk factors are under-reported on birth certificates.

References

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Table 1
Births, Stillbirths, and Infant Deaths by Period of Death
Kansas, 1991-2010

| Year | Total * Deliveries | Live Births | Stillbirth | Hebdomadal † Deaths | Perinatal ‡ Deaths | Neonatal§ Deaths | Postneonatal Deaths ¶ | Infant Deaths # |
|----------|-----------------------|----------------|------------|------------------------|-----------------------|---------------------|--------------------------|--------------------|
| 1991.... | 37,835 | 37,630 | 205 | 158 | 363 | 191 | 146 | 337 |
| 1992.... | 38,064 | 37,848 | 216 | 165 | 381 | 199 | 133 | 332 |
| 1993.... | 37,505 | 37,283 | 222 | 171 | 393 | 201 | 124 | 325 |
| 1994.... | 37,500 | 37,269 | 231 | 140 | 371 | 177 | 108 | 285 |
| 1995.... | 37,270 | 37,087 | 183 | 134 | 317 | 166 | 90 | 256 |
| 1996.... | 36,703 | 36,524 | 179 | 157 | 336 | 199 | 100 | 299 |
| 1997.... | 37,393 | 37,191 | 202 | 147 | 349 | 173 | 101 | 274 |
| 1998.... | 38,571 | 38,372 | 199 | 132 | 331 | 172 | 91 | 263 |
| 1999.... | 38,923 | 38,748 | 175 | 159 | 334 | 189 | 92 | 281 |
| 2000.... | 39,831 | 39,654 | 177 | 146 | 323 | 174 | 92 | 266 |
| 2001.... | 39,041 | 38,832 | 209 | 148 | 357 | 178 | 107 | 285 |
| 2002.... | 39,484 | 39,338 | 146 | 155 | 301 | 192 | 90 | 282 |
| 2003.... | 39,559 | 39,353 | 206 | 138 | 344 | 177 | 85 | 262 |
| 2004.... | 39,739 | 39,553 | 186 | 144 | 330 | 176 | 108 | 284 |
| 2005.... | 39,895 | 39,701 | 194 | 153 | 347 | 196 | 101 | 297 |
| 2006.... | 41,088 | 40,896 | 192 | 137 | 329 | 176 | 117 | 293 |
| 2007.... | 42,137 | 41,951 | 186 | 163 | 349 | 211 | 122 | 333 |
| 2008.... | 41,997 | 41,815 | 182 | 160 | 342 | 193 | 110 | 303 |
| 2009.... | 41,601 | 41,388 | 213 | 144 | 357 | 176 | 114 | 290 |
| 2010.... | 40,607 | 40,439 | 168 | 143 | 311 | 170 | 83 | 253 |

* Total Deliveries = Live Births + Stillbirths

† Hebdomadal Deaths = Deaths at less than 7 days of age

‡ Perinatal Deaths = Stillbirths + Hebdomadal Deaths

§ Neonatal Deaths = Deaths at less than 28 days of age

¶ Postneonatal Deaths = Deaths between 28 days and 1 year of age

Infant Deaths = Deaths under 1 year of age

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
Kansas Department of Health and Environment

Table 2
Perinatal/Infant Mortality Rates by Period of Death
Kansas, 1991-2010

| Year | Stillbirth* | Hebdomadal Deaths† | Perinatal Deaths* | Neonatal Deaths† | | Postneonatal Deaths† | Infant Deaths† | |
|----------|-------------|--------------------|-------------------|------------------|------|----------------------|----------------|------|
| | | | | KS | US | | KS | US |
| 1991.... | 5.4 | 4.2 | 9.6 | 5.1 | 5.6 | 3.9 | 9.0 | 8.9 |
| 1992.... | 5.7 | 4.4 | 10.0 | 5.3 | 5.4 | 3.5 | 8.8 | 8.5 |
| 1993.... | 5.9 | 4.6 | 10.5 | 5.4 | 5.3 | 3.3 | 8.7 | 8.4 |
| 1994.... | 6.2 | 3.8 | 9.9 | 4.7 | 5.1 | 2.9 | 7.6 | 8.0 |
| 1995.... | 4.9 | 3.6 | 8.5 | 4.5 | 4.9 | 2.4 | 6.9 | 7.6 |
| 1996.... | 4.9 | 4.3 | 9.2 | 5.4 | 4.8 | 2.7 | 8.2 | 7.3 |
| 1997.... | 5.4 | 4.0 | 9.3 | 4.7 | 4.8 | 2.7 | 7.4 | 7.2 |
| 1998.... | 5.2 | 3.4 | 8.6 | 4.5 | 4.8 | 2.4 | 6.9 | 7.2 |
| 1999.... | 4.5 | 4.1 | 8.6 | 4.9 | 4.7 | 2.4 | 7.3 | 7.1 |
| 2000.... | 4.4 | 3.7 | 8.1 | 4.4 | 4.6 | 2.3 | 6.7 | 6.9 |
| 2001.... | 5.4 | 3.8 | 9.1 | 4.6 | 4.5 | 2.8 | 7.3 | 6.9 |
| 2002.... | 3.7 | 3.9 | 7.6 | 4.9 | 4.7 | 2.3 | 7.2 | 7.0 |
| 2003.... | 5.2 | 3.5 | 8.7 | 4.5 | 4.6 | 2.2 | 6.7 | 6.9 |
| 2004.... | 4.7 | 0.1 | 8.3 | 4.4 | 4.5 | 2.7 | 7.2 | 6.8 |
| 2005.... | 4.9 | 3.9 | 8.7 | 4.9 | 4.5 | 2.5 | 7.5 | 6.9 |
| 2006.... | 4.7 | 3.3 | 8.0 | 4.3 | 4.5 | 2.9 | 7.2 | 6.7 |
| 2007.... | 4.4 | 3.9 | 8.3 | 5.0 | 4.4 | 2.9 | 7.9 | 6.8 |
| 2008.... | 4.3 | 3.8 | 8.1 | 4.6 | 4.3 | 2.6 | 7.2 | 6.6 |
| 2009.... | 5.1 | 3.5 | 8.6 | 4.3 | 4.2‡ | 2.8 | 7.0 | 6.4‡ |
| 2010... | 4.1 | 3.5 | 7.7 | 4.2 | NA | 2.1 | 6.3 | NA |

*Per 1,000 (live births + stillbirths)

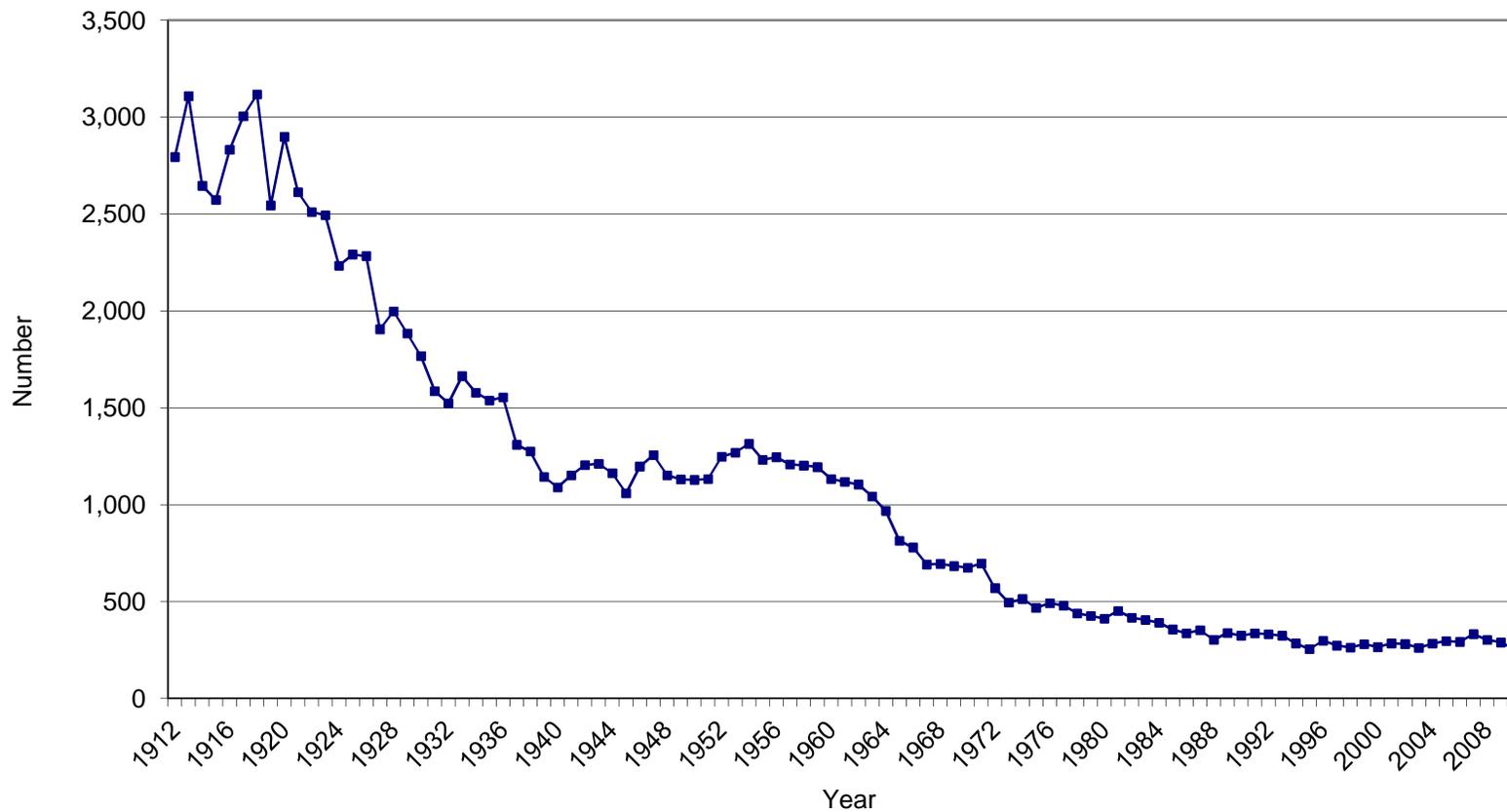
†Per 1,000 live births

‡Provisional data

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
Kansas Department of Health and Environment

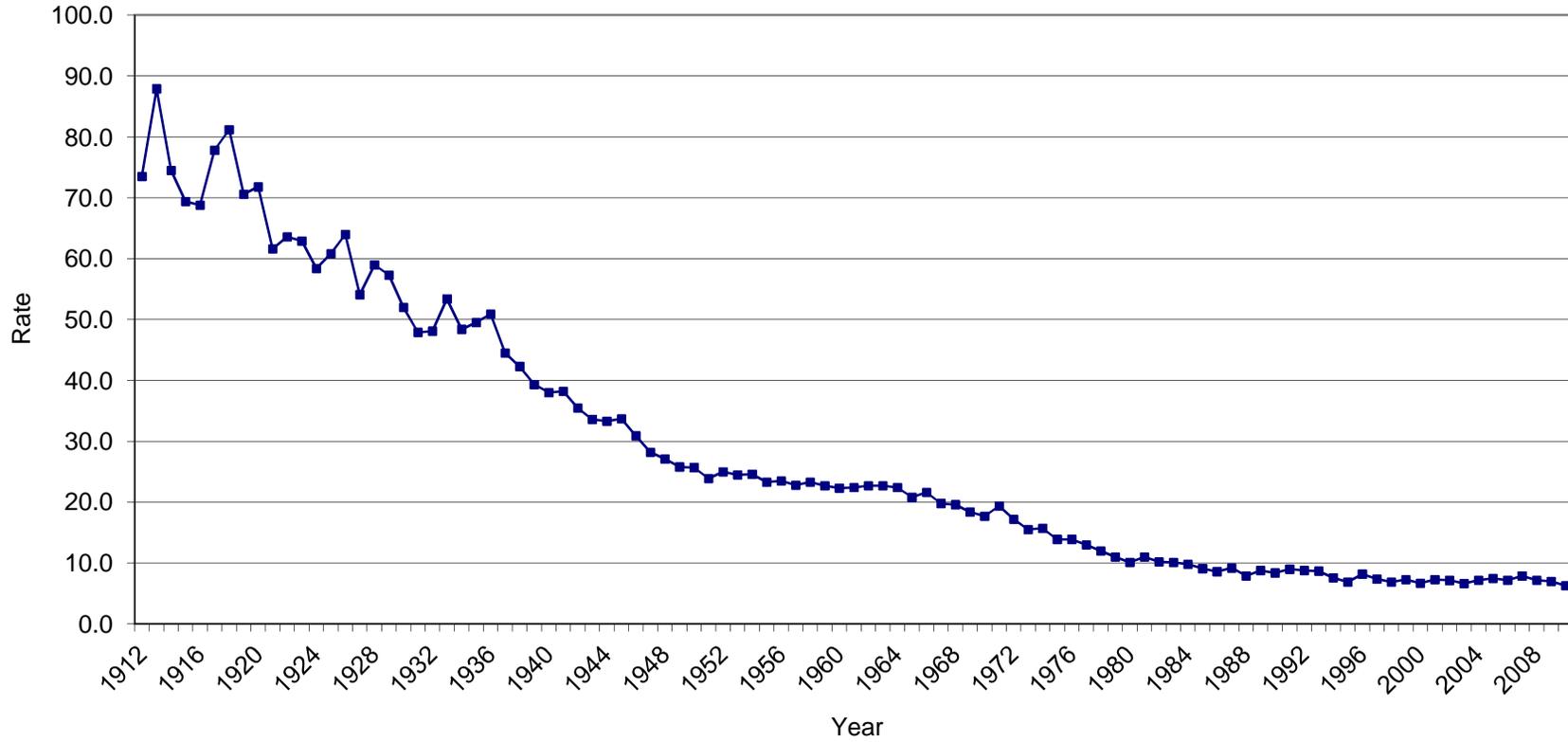
Figure 1
Infant Deaths by Year
Kansas, 1912-2010



Residence data

Source: Bureau of Epidemiology and Public Health Informatics
Kansas Department of Health and Environment

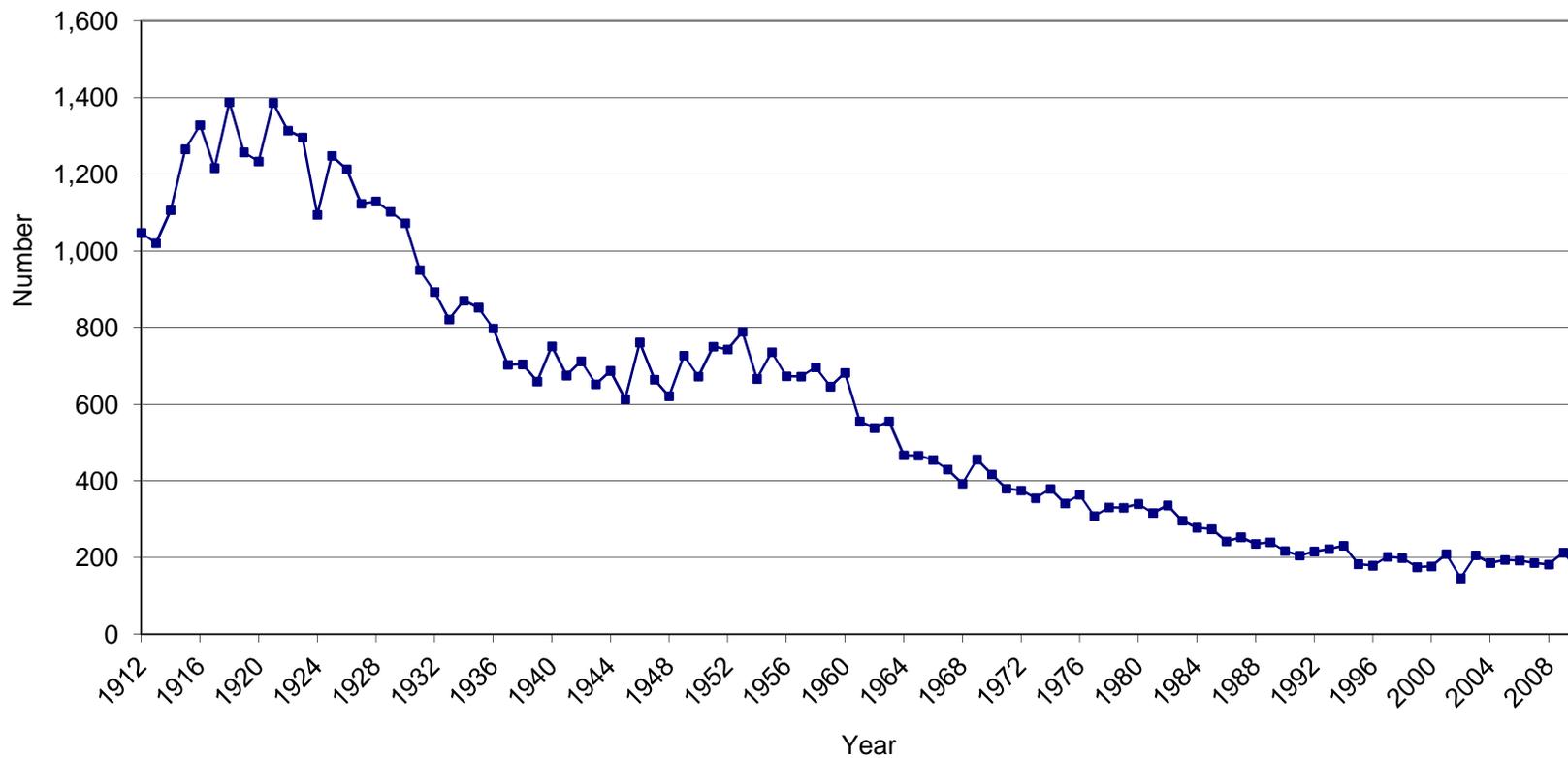
Figure 2
Infant Mortality Rates*
Kansas, 1912-2010



*Rate per 1,000 live births
Residence data

Source: Bureau of Epidemiology and Public Health Informatics
Kansas Department of Health and Environment

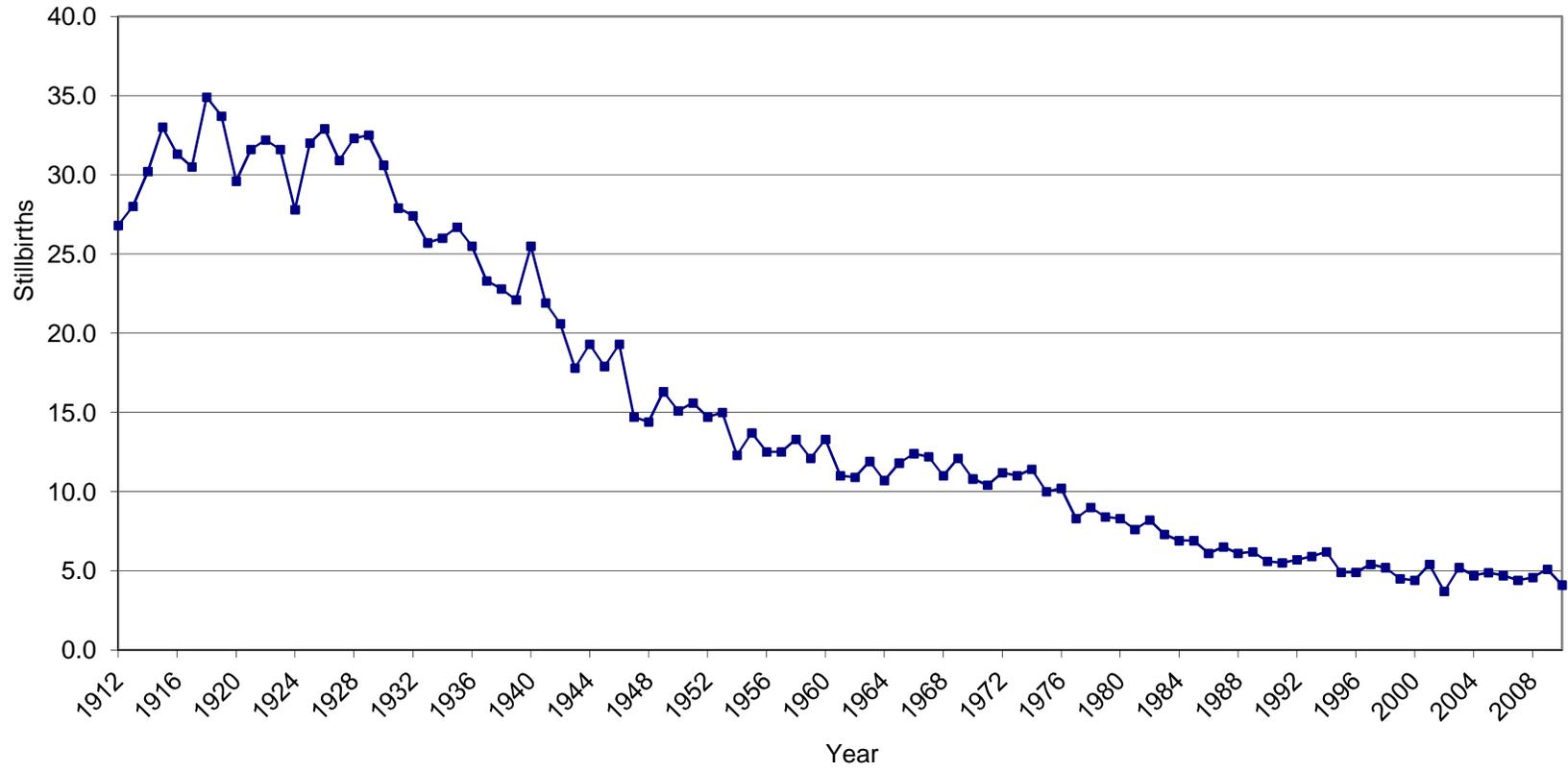
Figure 3
Stillbirths by Year
Kansas, 1912-2010



Residence data

Source: Bureau of Epidemiology and Public Health Informatics
Kansas Department of Health and Environment

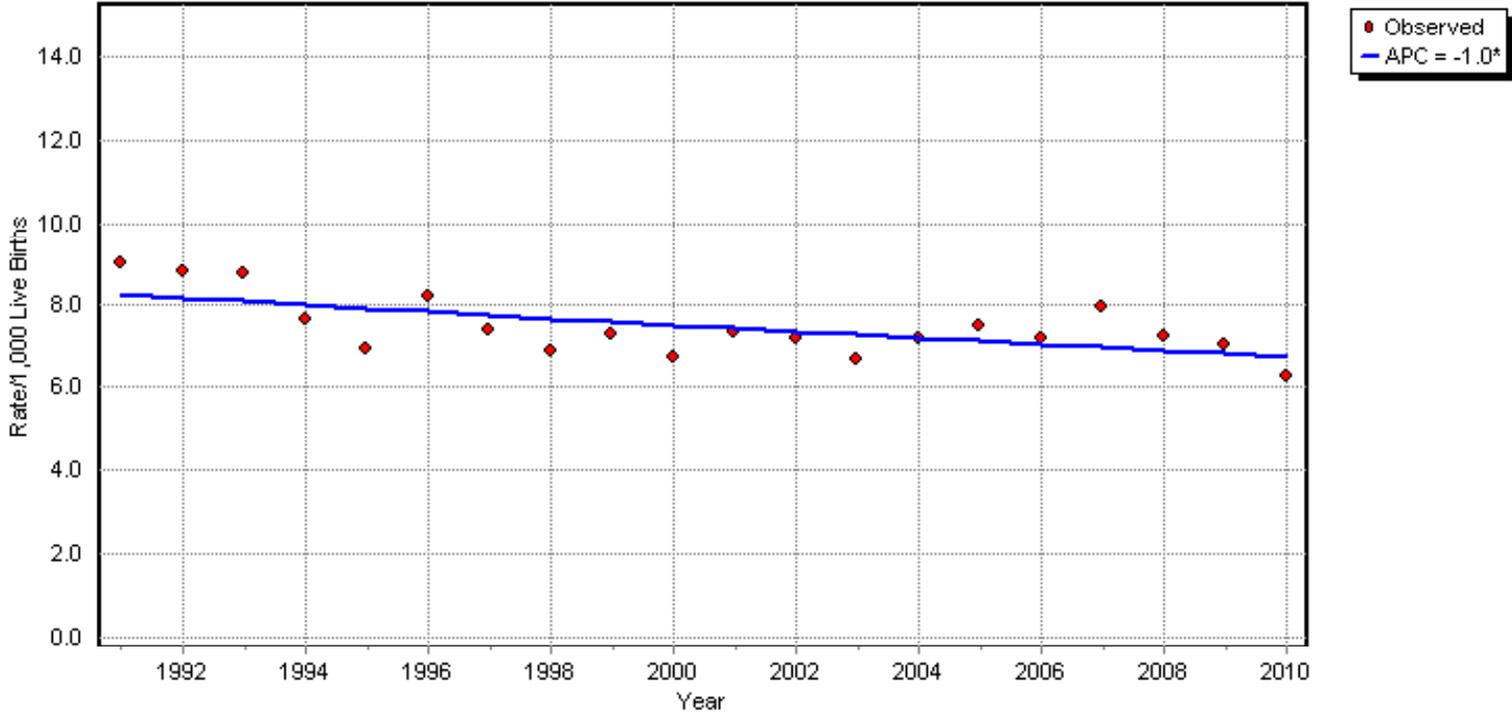
Figure 4
 Stillbirth Mortality Rates*
 Kansas, 1912-2010



*Rate per 1,000 (live births + stillbirths)
 Residence data

Source: Bureau of Epidemiology and Public Health Informatics
 Kansas Department of Health and Environment

Figure 5
Trend in Infant Mortality Rates
Kansas, 1991-2010



*The Annual Percent Change (APC) shows a statistically significant trend, alpha = 0.05.

Residence data

Source: Bureau of Epidemiology and Public Health Informatics

Kansas Department of Health and Environment

Table 3
 Infant Deaths/Mortality Rates*
 By Selected Population Group of Mothers‡
 Kansas, 1991-2010

| Year | White Non-Hispanic† | | | Black Non-Hispanic† | | | Black NH‡ to White NH‡ Ratio | Hispanic Any Race | | | Total Infant Mortality Rate |
|------------|---------------------|------------------|------|---------------------|------------------|------|------------------------------------|-------------------|------------------|------|-----------------------------------|
| | Live Births | Infant Deaths | Rate | Live Births | Infant Deaths | Rate | | Live Births | Infant Deaths | Rate | |
| 1991 | 31,453 | 245 | 7.8 | 3,137 | 62 | 19.8 | 2.5 | 1,990 | 25 | 12.6 | 9.0 |
| 1992 | 31,294 | 234 | 7.5 | 3,291 | 72 | 21.9 | 2.9 | 2,223 | 19 | 8.5 | 8.8 |
| 1993 | 30,650 | 224 | 7.3 | 3,206 | 76 | 23.7 | 3.2 | 2,305 | 18 | 7.8 | 8.7 |
| 1994 | 30,453 | 215 | 7.1 | 3,101 | 49 | 15.8 | 2.2 | 2,656 | 15 | 5.6 | 7.6 |
| 1995 | 30,221 | 184 | 6.1 | 2,850 | 51 | 17.9 | 2.9 | 2,812 | 17 | 6.0 | 6.9 |
| 1996 | 29,473 | 212 | 7.2 | 2,738 | 63 | 23.0 | 3.2 | 3,198 | 18 | 5.6 | 8.2 |
| 1997 | 29,659 | 189 | 6.4 | 2,766 | 46 | 16.6 | 2.6 | 3,525 | 29 | 8.2 | 7.4 |
| 1998 | 30,389 | 209 | 6.9 | 2,746 | 27 | 9.8 | 1.4 | 3,873 | 25 | 6.5 | 6.9 |
| 1999 | 30,362 | 215 | 7.1 | 2,815 | 42 | 14.9 | 2.1 | 4,204 | 15 | 3.6 | 7.3 |
| 2000 | 30,538 | 192 | 6.3 | 2,822 | 33 | 11.7 | 1.9 | 4,742 | 32 | 6.7 | 6.7 |
| 2001 | 29,703 | 190 | 6.4 | 2,745 | 54 | 19.7 | 3.1 | 4,875 | 36 | 7.4 | 7.3 |
| 2002 | 29,811 | 187 | 6.3 | 2,845 | 44 | 15.5 | 2.5 | 5,006 | 40 | 8.0 | 7.2 |
| 2003 | 29,482 | 172 | 5.8 | 2,730 | 40 | 14.7 | 2.5 | 5,417 | 45 | 8.3 | 6.7 |
| 2004 | 29,624 | 200 | 6.8 | 2,782 | 46 | 16.5 | 2.4 | 5,458 | 28 | 5.1 | 7.2 |
| 2005 | 28,903 | 181 | 6.3 | 2,670 | 45 | 16.9 | 2.7 | 6,073 | 52 | 8.6 | 7.5 |
| 2006 | 29,392 | 181 | 6.2 | 2,801 | 49 | 17.5 | 2.8 | 6,568 | 41 | 6.2 | 7.2 |
| 2007 | 30,170 | 205 | 6.8 | 2,856 | 56 | 19.6 | 2.9 | 6,676 | 56 | 8.4 | 7.9 |
| 2008 | 29,863 | 184 | 6.2 | 2,936 | 39 | 13.3 | 2.2 | 6,781 | 57 | 8.4 | 7.2 |
| 2009 | 29,471 | 178 | 6.0 | 2,830 | 44 | 15.5 | 2.6 | 6,790 | 40 | 5.9 | 7.0 |
| 2010 | 29,000 | 142 | 4.9 | 2,780 | 33 | 11.9 | 2.4 | 6,407 | 50 | 7.8 | 6.3 |

*Rate per 1,000 live births

†Due to changes in the collection of the race item on certificates, use caution when comparing 2005-2010 data to prior years. See Technical Notes.

‡NH = non-Hispanic

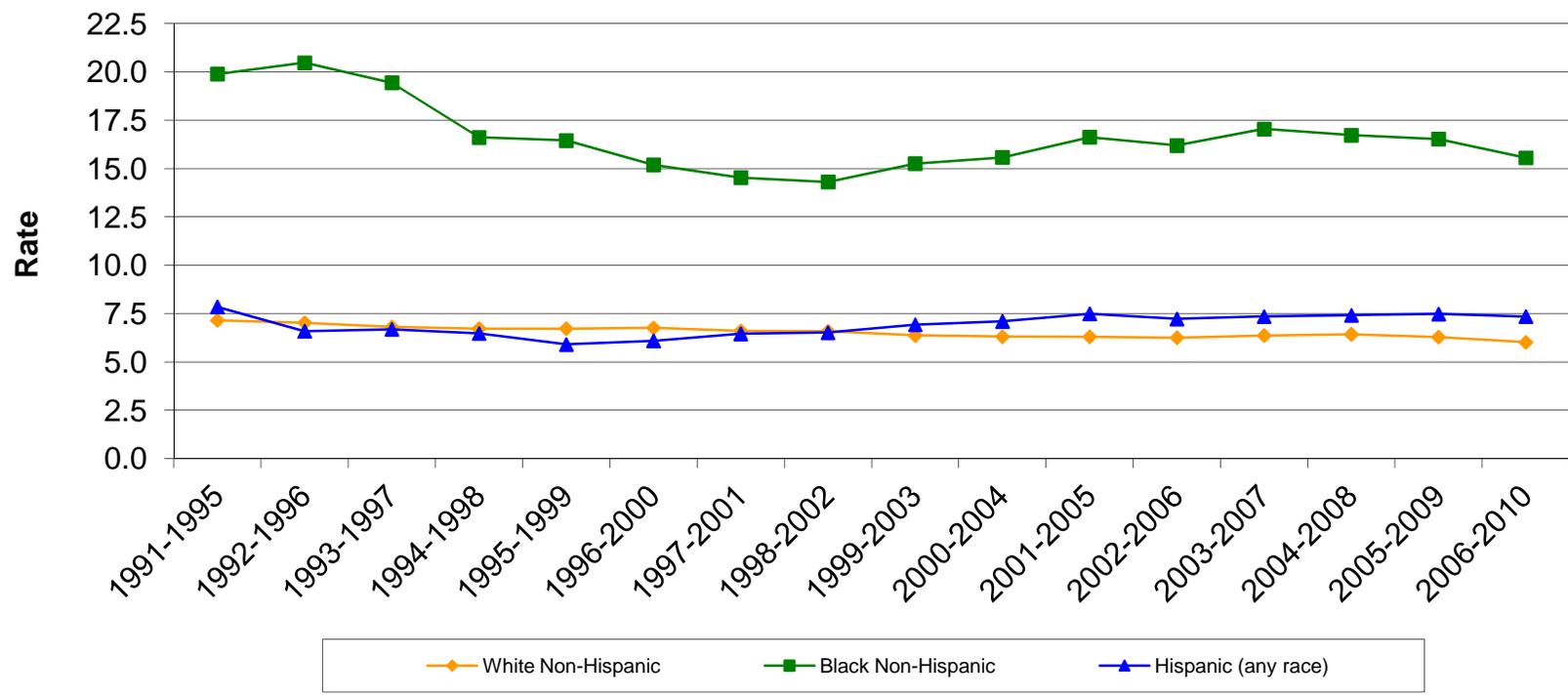
Non-Hispanic population group includes unknown Hispanic origin.

§Other non-Hispanic data is not included in this table due to the small numbers but is available upon request.

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
 Kansas Department of Health and Environment

Figure 6
 Infant Mortality Rates* - Rolling Five Year Averages
 By Population Group of Mother,
 Kansas, 1991-2010



*Rate per 1,000 live births

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
 Kansas Department of Health and Environment

Table 4
 Infant Deaths/Mortality Rates by County of Residence
 And Peer Group*
 Kansas, 2006-2010

ERRATA see Page 45

| County of Residence | | | | | | Total Infant Deaths | Live Births | Infant Mortality Rate† | 95% Confidence Intervals | |
|---------------------|------|------|------|------|------|---------------------|-------------|------------------------|--------------------------|-------|
| | 2006 | 2007 | 2008 | 2009 | 2010 | 2006-2010 | 2006-2010 | 2006-2010 | Lower | Upper |
| Kansas | 293 | 333 | 303 | 290 | 253 | 1,472 | 206,489 | 7.1 | 6.8 | 7.5 |
| Allen | 2 | 4 | 1 | 1 | 0 | 8 | 864 | 9.3 ‡ | 4.0 | 18.2 |
| Anderson | 2 | 0 | 1 | 1 | 0 | 4 | 540 | 7.4 ‡ | 2.0 | 19.0 |
| Atchison | 3 | 1 | 1 | 2 | 1 | 8 | 1,097 | 7.3 ‡ | 3.1 | 14.4 |
| Barber | 0 | 1 | 0 | 0 | 0 | 1 | 318 | na | na | na |
| Barton | 6 | 3 | 2 | 1 | 3 | 15 | 1,896 | 7.9 | 4.4 | 13.0 |
| Bourbon | 2 | 1 | 3 | 1 | 2 | 9 | 1,152 | 7.8 ‡ | 3.6 | 14.8 |
| Brown | 1 | 1 | 3 | 0 | 0 | 5 | 714 | 7.0 ‡ | 2.3 | 16.3 |
| Butler | 1 | 6 | 6 | 3 | 8 | 24 | 4,045 | 5.9 | 3.8 | 8.8 |
| Chase | 0 | 0 | 0 | 0 | 0 | 0 | 134 | 0.0 | 0.0 | 0.0 |
| Chautauqua | 2 | 0 | 1 | 1 | 1 | 5 | 185 | 27.0 ‡ | 8.8 | 63.1 |
| Cherokee | 1 | 3 | 3 | 1 | 2 | 10 | 1,316 | 7.6 ‡ | 3.6 | 14.0 |
| Cheyenne | 0 | 0 | 0 | 1 | 0 | 1 | 119 | na | na | na |
| Clark | 0 | 0 | 0 | 0 | 0 | 0 | 125 | 0.0 | 0.0 | 0.0 |
| Clay | 1 | 1 | 1 | 3 | 1 | 7 | 558 | 12.5 ‡ | 5.0 | 25.8 |
| Cloud | 0 | 3 | 5 | 0 | 1 | 9 | 637 | 14.1 ‡ | 6.5 | 26.8 |
| Coffey | 0 | 2 | 1 | 0 | 1 | 4 | 459 | 8.7 ‡ | 2.4 | 22.3 |
| Comanche | 0 | 0 | 0 | 0 | 0 | 0 | 89 | 0.0 | 0.0 | 0.0 |
| Cowley | 3 | 11 | 3 | 4 | 5 | 26 | 2,394 | 10.9 | 7.1 | 15.9 |
| Crawford | 7 | 7 | 3 | 2 | 2 | 21 | 2,654 | 7.9 | 4.9 | 12.1 |
| Decatur | 0 | 0 | 1 | 0 | 0 | 1 | 115 | na | na | na |
| Dickinson | 1 | 0 | 1 | 1 | 1 | 4 | 1,235 | 3.2 ‡ | 0.9 | 8.3 |
| Doniphan | 0 | 1 | 0 | 0 | 0 | 1 | 441 | na | na | na |
| Douglas | 6 | 10 | 12 | 1 | 4 | 33 | 6,333 | 5.2 | 3.6 | 7.3 |
| Edwards | 0 | 0 | 0 | 0 | 0 | 0 | 209 | 0.0 | 0.0 | 0.0 |
| Elk | 0 | 0 | 0 | 1 | 0 | 1 | 165 | na | na | na |
| Ellis | 1 | 0 | 1 | 1 | 1 | 4 | 1,896 | 2.1 ‡ | 0.6 | 5.4 |
| Ellsworth | 0 | 0 | 0 | 0 | 0 | 0 | 297 | 0.0 | 0.0 | 0.0 |
| Finney | 2 | 5 | 5 | 6 | 2 | 20 | 3,829 | 5.2 | 3.2 | 8.1 |
| Ford | 5 | 2 | 9 | 5 | 7 | 28 | 3,404 | 8.2 | 5.5 | 11.9 |
| Franklin | 3 | 4 | 3 | 1 | 1 | 12 | 1,763 | 6.8 | 3.5 | 11.9 |
| Geary | 7 | 6 | 11 | 10 | 9 | 43 | 4,148 | 10.4 | 7.5 | 14.0 |
| Gove | 1 | 0 | 0 | 0 | 0 | 1 | 160 | na | na | na |
| Graham | 0 | 0 | 0 | 1 | 0 | 1 | 129 | na | na | na |
| Grant | 1 | 2 | 1 | 0 | 0 | 4 | 702 | 5.7 ‡ | 1.6 | 14.6 |
| Gray | 1 | 0 | 0 | 1 | 0 | 2 | 480 | na | na | na |
| Greeley | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 0.0 | 0.0 | 0.0 |
| Greenwood | 0 | 1 | 1 | 0 | 0 | 2 | 369 | na | na | na |
| Hamilton | 0 | 0 | 0 | 0 | 0 | 0 | 241 | 0.0 | 0.0 | 0.0 |
| Harper | 1 | 0 | 1 | 1 | 1 | 4 | 387 | 10.3 ‡ | 2.8 | 26.5 |
| Harvey | 4 | 2 | 2 | 4 | 3 | 15 | 2,299 | 6.5 | 3.7 | 10.8 |
| Haskell | 0 | 1 | 1 | 1 | 2 | 5 | 346 | 14.5 ‡ | 4.7 | 33.7 |
| Hodgeman | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 0.0 | 0.0 | 0.0 |
| Jackson | 1 | 1 | 1 | 1 | 1 | 5 | 854 | 5.9 ‡ | 1.9 | 13.7 |
| Jefferson | 0 | 3 | 0 | 1 | 4 | 8 | 1,039 | 7.7 ‡ | 3.3 | 15.2 |
| Jewell | 1 | 0 | 0 | 0 | 0 | 1 | 138 | na | na | na |
| Johnson | 52 | 47 | 56 | 41 | 31 | 227 | 38,424 | 5.9 | 5.1 | 6.7 |
| Kearny | 0 | 1 | 0 | 1 | 0 | 2 | 305 | na | na | na |
| Kingman | 0 | 0 | 0 | 0 | 0 | 0 | 443 | 0.0 | 0.0 | 0.0 |
| Kiowa | 0 | 0 | 0 | 2 | 1 | 3 | 134 | na | na | na |
| Labette | 2 | 1 | 2 | 3 | 4 | 12 | 1,500 | 8.0 | 4.1 | 14.0 |
| Lane | 0 | 2 | 0 | 0 | 0 | 2 | 97 | na | na | na |
| Leavenworth | 8 | 3 | 4 | 5 | 4 | 24 | 4,784 | 5.0 | 3.2 | 7.5 |
| Lincoln | 1 | 1 | 0 | 0 | 0 | 2 | 192 | na | na | na |
| Linn | 2 | 0 | 0 | 0 | 0 | 2 | 538 | na | na | na |
| Logan | 0 | 0 | 0 | 1 | 1 | 2 | 140 | na | na | na |

Table 4
 Infant Deaths/Mortality Rates by County of Residence
 And Peer Group*
 Kansas, 2006-2010

ERRATA see Page 45

| County of Residence | | | | | | Total Infant Deaths | Live Births | Infant Mortality Rate† | 95% Confidence Intervals | |
|------------------------|------|------|------|------|------|---------------------|-------------|------------------------|--------------------------|-------|
| | 2006 | 2007 | 2008 | 2009 | 2010 | | | | | |
| | | | | | | 2006-2010 | 2006-2010 | 2006-2010 | Lower | Upper |
| Lyon | 3 | 4 | 3 | 5 | 4 | 19 | 2,488 | 7.6 | 4.6 | 11.9 |
| McPherson | 5 | 1 | 2 | 5 | 2 | 15 | 1,736 | 8.6 | 4.8 | 14.3 |
| Marion | 2 | 3 | 1 | 5 | 2 | 13 | 585 | 22.2 | 11.8 | 38.0 |
| Marshall | 1 | 0 | 1 | 1 | 1 | 4 | 605 | 6.6 ‡ | 1.8 | 16.9 |
| Meade | 0 | 2 | 0 | 0 | 0 | 2 | 281 | na | na | na |
| Miami | 2 | 3 | 1 | 2 | 4 | 12 | 1,972 | 6.1 | 3.1 | 10.6 |
| Mitchell | 0 | 0 | 2 | 1 | 1 | 4 | 338 | 11.8 ‡ | 3.2 | 30.3 |
| Montgomery | 5 | 2 | 1 | 2 | 0 | 10 | 2,420 | 4.1 ‡ | 2.0 | 7.6 |
| Morris | 0 | 0 | 0 | 0 | 0 | 0 | 285 | 0.0 | 0.0 | 0.0 |
| Morton | 0 | 1 | 0 | 0 | 0 | 1 | 235 | na | na | na |
| Nemaha | 2 | 1 | 1 | 1 | 0 | 5 | 645 | 7.8 ‡ | 2.5 | 18.1 |
| Neosho | 3 | 2 | 2 | 7 | 3 | 17 | 1,100 | 15.5 | 9.0 | 24.7 |
| Ness | 0 | 0 | 0 | 0 | 0 | 0 | 150 | 0.0 | 0.0 | 0.0 |
| Norton | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 0.0 | 0.0 | 0.0 |
| Osage | 0 | 1 | 0 | 1 | 0 | 2 | 939 | na | na | na |
| Osborne | 0 | 1 | 0 | 0 | 0 | 1 | 196 | na | na | na |
| Ottawa | 1 | 1 | 0 | 0 | 1 | 3 | 347 | na | na | na |
| Pawnee | 0 | 2 | 0 | 1 | 0 | 3 | 365 | na | na | na |
| Phillips | 0 | 1 | 0 | 0 | 0 | 1 | 281 | na | na | na |
| Pottawatomie | 0 | 4 | 3 | 1 | 2 | 10 | 1,762 | 5.7 ‡ | 2.7 | 10.4 |
| Pratt | 0 | 0 | 1 | 1 | 1 | 3 | 622 | na | na | na |
| Rawlins | 0 | 0 | 1 | 0 | 1 | 2 | 118 | na | na | na |
| Reno | 11 | 6 | 6 | 7 | 7 | 37 | 4,179 | 8.9 | 6.2 | 12.2 |
| Republic | 1 | 1 | 0 | 0 | 0 | 2 | 237 | na | na | na |
| Rice | 0 | 1 | 0 | 0 | 1 | 2 | 609 | na | na | na |
| Riley | 4 | 6 | 5 | 12 | 4 | 31 | 5,369 | 5.8 | 3.9 | 8.2 |
| Rooks | 1 | 0 | 1 | 1 | 0 | 3 | 329 | na | na | na |
| Rush | 0 | 0 | 0 | 0 | 0 | 0 | 159 | 0.0 | 0.0 | 0.0 |
| Russell | 0 | 2 | 0 | 1 | 3 | 6 | 416 | 14.4 ‡ | 5.3 | 31.4 |
| Saline | 7 | 9 | 8 | 5 | 6 | 35 | 4,116 | 8.5 | 5.9 | 11.8 |
| Scott | 0 | 2 | 0 | 2 | 1 | 5 | 348 | 14.4 ‡ | 4.7 | 33.5 |
| Sedgwick | 57 | 76 | 55 | 69 | 60 | 317 | 40,784 | 7.8 | 6.9 | 8.6 |
| Seward | 7 | 2 | 6 | 0 | 2 | 17 | 2,653 | 6.4 | 3.7 | 10.3 |
| Shawnee | 18 | 25 | 22 | 25 | 16 | 106 | 12,703 | 8.3 | 6.7 | 9.9 |
| Sheridan | 1 | 0 | 0 | 0 | 0 | 1 | 138 | na | na | na |
| Sherman | 1 | 2 | 0 | 0 | 0 | 3 | 398 | na | na | na |
| Smith | 0 | 0 | 0 | 0 | 0 | 0 | 166 | 0.0 | 0.0 | 0.0 |
| Stafford | 1 | 0 | 0 | 0 | 0 | 1 | 242 | na | na | na |
| Stanton | 0 | 0 | 1 | 0 | 0 | 1 | 172 | na | na | na |
| Stevens | 1 | 0 | 1 | 0 | 0 | 2 | 450 | na | na | na |
| Sumner | 2 | 2 | 1 | 2 | 1 | 8 | 1,517 | 5.3 ‡ | 2.3 | 10.4 |
| Thomas | 0 | 0 | 5 | 3 | 0 | 8 | 541 | 14.8 ‡ | 6.4 | 29.1 |
| Trego | 0 | 1 | 0 | 0 | 0 | 1 | 149 | na | na | na |
| Wabaunsee | 0 | 1 | 0 | 0 | 0 | 1 | 425 | na | na | na |
| Wallace | 0 | 0 | 0 | 0 | 0 | 0 | 62 | 0.0 | 0.0 | 0.0 |
| Washington | 1 | 0 | 0 | 0 | 0 | 1 | 312 | na | na | na |
| Wichita | 0 | 0 | 1 | 0 | 0 | 1 | 168 | na | na | na |
| Wilson | 1 | 1 | 0 | 1 | 2 | 5 | 667 | 7.5 ‡ | 2.4 | 17.5 |
| Woodson | 0 | 0 | 1 | 0 | 1 | 2 | 187 | na | na | na |
| Wyandotte | 24 | 30 | 25 | 19 | 23 | 121 | 14,278 | 8.5 | 7.0 | 10.0 |
| Peer Group | | | | | | | | | | |
| Frontier | 4 | 10 | 4 | 7 | 4 | 29 | 5,250 | 5.5 | 3.7 | 7.9 |
| Rural | 29 | 31 | 32 | 31 | 20 | 143 | 16,545 | 8.6 | 7.2 | 10.1 |
| Densely -Settled Rural | 41 | 46 | 44 | 39 | 47 | 217 | 32,361 | 6.7 | 5.8 | 7.6 |
| Semi-Urban | 62 | 58 | 53 | 58 | 44 | 275 | 38,865 | 7.1 | 6.2 | 7.9 |
| Urban | 157 | 188 | 170 | 155 | 138 | 808 | 113,468 | 7.1 | 6.6 | 7.6 |

* See Technical Notes for peer group definition

† Rate per 1,000 live births

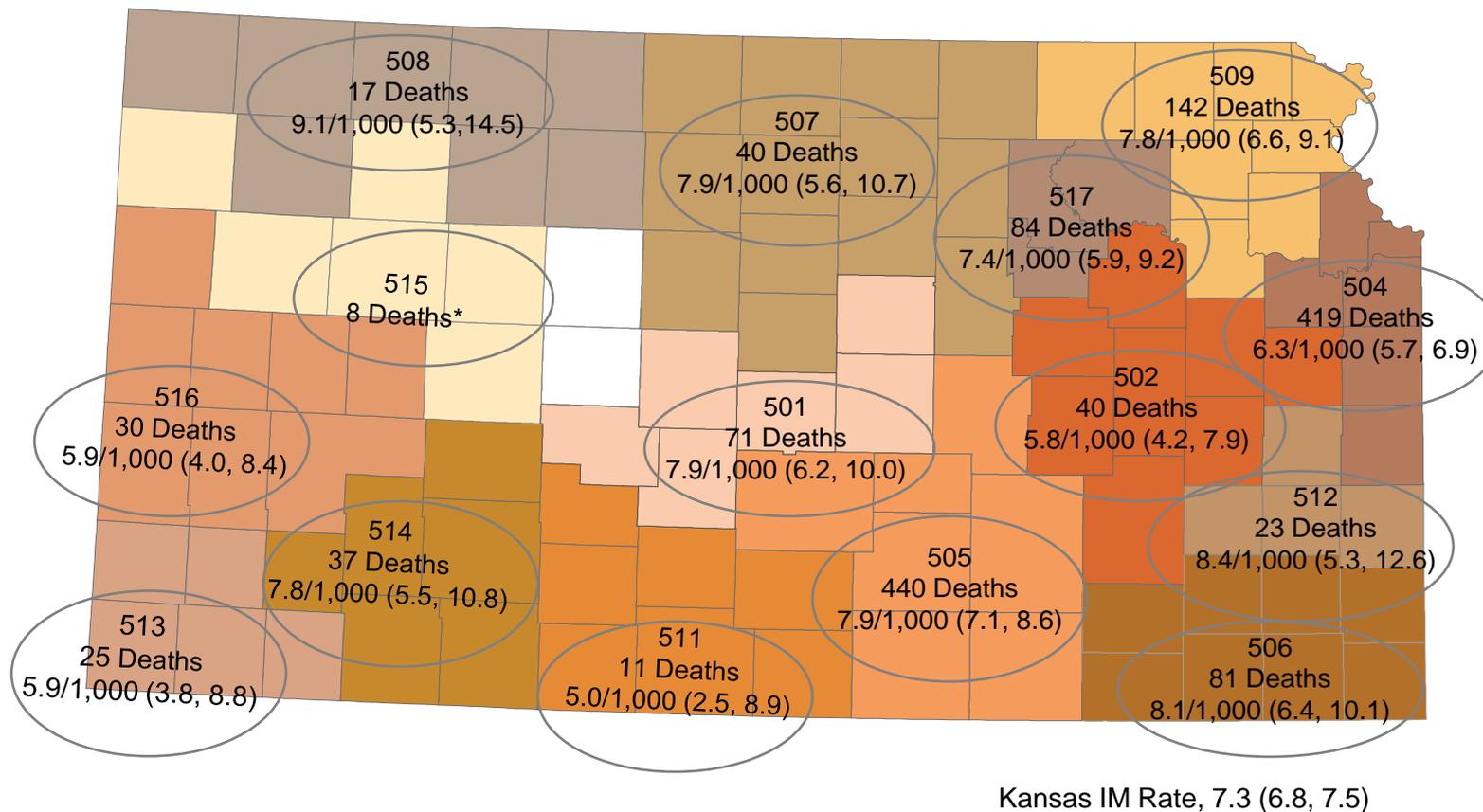
‡ Rate has a relative standard error greater than 30, should be used with caution since it doesn't meet the standard of reliability

na = Rates with an relative standard error greater than 50% have been suppressed

Residence data

Source: Bureau of Epidemiology and Public Health Informatics, Kansas Department of Health and Environment

Figure 7. Infant Deaths, Mortality (IM) Rates with 95% Confidence Intervals
By Public Health Regions, 2006-2010



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Kansas Public Health Regions

*Numbers too small to calculate rates (≥ 30 Relative Standard Error)†

- | | | | |
|-------------------------------|---|--------------------------------|-------------------|
| 501 - Central Kansas | 502 - EC Coalition | 504 - KC Metro | 505 - KS SC Metro |
| 506 - Lower 8 of SE KS | 507 - North Central Kansas Public Health Initiative | 508 - Northwest BT Region | |
| 509 - Northeast Corner | 511 - SC Coalition | 512 - SEK | |
| 513 - SW KS Health Initiative | 514 - SW Surveillance | 515 - WC Pub Health Initiative | |
| 516 - Western Pyramid | 517 - Wildcat | | |

†See technical notes

Table 5
 Infant Deaths by Cause of Death and Period of Death
 Kansas, 2006-2010

| Cause of Death (ICD-10 Code) | Age-Group of Infant | | | | | |
|---|---------------------|-------------|------------------|-------------------|-----------------|-----------------|
| | Under 1 Day | 1-6 Days | Under 7 Days* | Under 28 Days† | 28-364 Days‡ | Under 1 Year |
| All Causes | 625 | 122 | 747 | 926 | 546 | 1472 |
| Infectious and Parasitic Diseases (A00-B99) | 0 | 0 | 0 | 4 | 19 | 23 |
| Other Diseases and Disorders (C00-O99) | 6 | 5 | 11 | 25 | 104 | 129 |
| Certain Conditions Originating in the Perinatal Period (P00-P96) | 462 | 62 | 524 | 602 | 19 | 621 |
| -Maternal Factors and Complications of Pregnancy, Labor and Delivery (P00-P04) | 139 | 14 | 153 | 160 | 0 | 160 |
| -Disorders Relating to Short Gestation and Low Birthweight (P07) | 237 | 5 | 242 | 244 | 4 | 248 |
| -Birth Trauma (P10-P15) | 0 | 0 | 0 | 0 | 0 | 0 |
| -Hypoxia and Birth Asphyxia (P20-P21) | 4 | 3 | 7 | 7 | 0 | 7 |
| -Respiratory Distress of Newborn (P22) | 9 | 5 | 14 | 16 | 2 | 18 |
| -Congenital Pneumonia (P23) | 0 | 1 | 1 | 5 | 0 | 5 |
| -Other Respiratory Conditions of Newborn (P24-P28) | 20 | 9 | 29 | 33 | 6 | 39 |
| -Bacterial Sepsis of Newborn (P36) | 8 | 7 | 15 | 24 | 0 | 24 |
| -Omphalitis of Newborn w/wo Mild Hemorrhage (P38) (P50-P61) | 0 | 0 | 0 | 0 | 0 | 0 |
| -Fetal and Neonatal Hemorrhage (P50-P61) | 4 | 6 | 10 | 21 | 0 | 21 |
| -Other Perinatal Conditions (P05, P08, P29, P35, P37, P39, P70-P96) | 41 | 12 | 53 | 92 | 7 | 99 |
| Congenital Anomalies (Q00-Q99) | 152 | 46 | 198 | 255 | 89 | 344 |
| Symptoms and Abnormal Findings (R00-R99) | 3 | 7 | 10 | 26 | 225 | 251 |
| -Sudden Infant Death Syndrome (R95) | 1 | 3 | 4 | 14 | 195 | 209 |
| -Other (R00-R94, R96-R99) | 2 | 4 | 6 | 12 | 30 | 42 |
| Suffocation in Bed (W75) | 0 | 0 | 0 | 7 | 31 | 38 |
| External Causes of Mortality (V01-Y89) excluding Suffocation in Bed | 2 | 2 | 4 | 7 | 59 | 66 |

*Hebdomadal Deaths

†Neonatal Deaths

‡Postneonatal Deaths

Residence data

Source: Bureau of Epidemiology and Public Health Informatics Kansas Department of Health and Environment

Table 6
 Infant Deaths by Period of Death and
 County of Residence, Kansas, 2006 - 2010

| County of Residence | Hebdomadal Deaths Under 7 Days | Neonatal Deaths Under 28 Days | Post-Neonatal Deaths 28-364 Days | Total Infant Deaths Under 1 Year |
|---------------------|--------------------------------|-------------------------------|----------------------------------|----------------------------------|
| Kansas..... | 747 | 926 | 546 | 1,472 |
| Allen..... | 3 | 5 | 3 | 8 |
| Anderson..... | 3 | 4 | 0 | 4 |
| Atchison..... | 4 | 4 | 4 | 8 |
| Barber..... | 0 | 1 | 0 | 1 |
| Barton..... | 10 | 11 | 4 | 15 |
| Bourbon..... | 5 | 7 | 2 | 9 |
| Brown..... | 2 | 3 | 2 | 5 |
| Butler..... | 11 | 12 | 12 | 24 |
| Chase..... | 0 | 0 | 0 | 0 |
| Chautauqua..... | 0 | 4 | 1 | 5 |
| Cherokee..... | 4 | 6 | 4 | 10 |
| Cheyenne..... | 1 | 1 | 0 | 1 |
| Clark..... | 0 | 0 | 0 | 0 |
| Clay..... | 3 | 5 | 2 | 7 |
| Cloud..... | 7 | 7 | 2 | 9 |
| Coffey..... | 4 | 4 | 0 | 4 |
| Comanche..... | 0 | 0 | 0 | 0 |
| Cowley..... | 10 | 13 | 13 | 26 |
| Crawford..... | 12 | 15 | 6 | 21 |
| Decatur..... | 0 | 0 | 1 | 1 |
| Dickinson..... | 2 | 2 | 2 | 4 |
| Doniphan..... | 1 | 1 | 0 | 1 |
| Douglas..... | 22 | 26 | 7 | 33 |
| Edwards..... | 0 | 0 | 0 | 0 |
| Elk..... | 0 | 0 | 1 | 1 |
| Ellis..... | 2 | 2 | 2 | 4 |
| Ellsworth..... | 0 | 0 | 0 | 0 |
| Finney..... | 7 | 10 | 10 | 20 |
| Ford..... | 15 | 19 | 9 | 28 |
| Franklin..... | 5 | 7 | 5 | 12 |
| Geary..... | 16 | 21 | 22 | 43 |
| Gove..... | 0 | 1 | 0 | 1 |
| Graham..... | 0 | 1 | 0 | 1 |
| Grant..... | 2 | 2 | 2 | 4 |
| Gray..... | 0 | 0 | 2 | 2 |
| Greeley..... | 0 | 0 | 0 | 0 |
| Greenwood..... | 1 | 2 | 0 | 2 |
| Hamilton..... | 0 | 0 | 0 | 0 |
| Harper..... | 1 | 1 | 3 | 4 |
| Harvey..... | 7 | 9 | 6 | 15 |
| Haskell..... | 1 | 2 | 3 | 5 |
| Hodgeman..... | 0 | 0 | 0 | 0 |
| Jackson..... | 1 | 1 | 4 | 5 |
| Jefferson..... | 6 | 7 | 1 | 8 |
| Jewell..... | 0 | 0 | 1 | 1 |
| Johnson..... | 127 | 153 | 74 | 227 |
| Kearny..... | 1 | 1 | 1 | 2 |
| Kingman..... | 0 | 0 | 0 | 0 |
| Kiowa..... | 0 | 0 | 3 | 3 |
| Labette..... | 8 | 8 | 4 | 12 |
| Lane..... | 2 | 2 | 0 | 2 |
| Leavenworth..... | 13 | 15 | 9 | 24 |
| Lincoln..... | 0 | 0 | 2 | 2 |
| Linn..... | 2 | 2 | 0 | 2 |
| Logan..... | 2 | 2 | 0 | 2 |

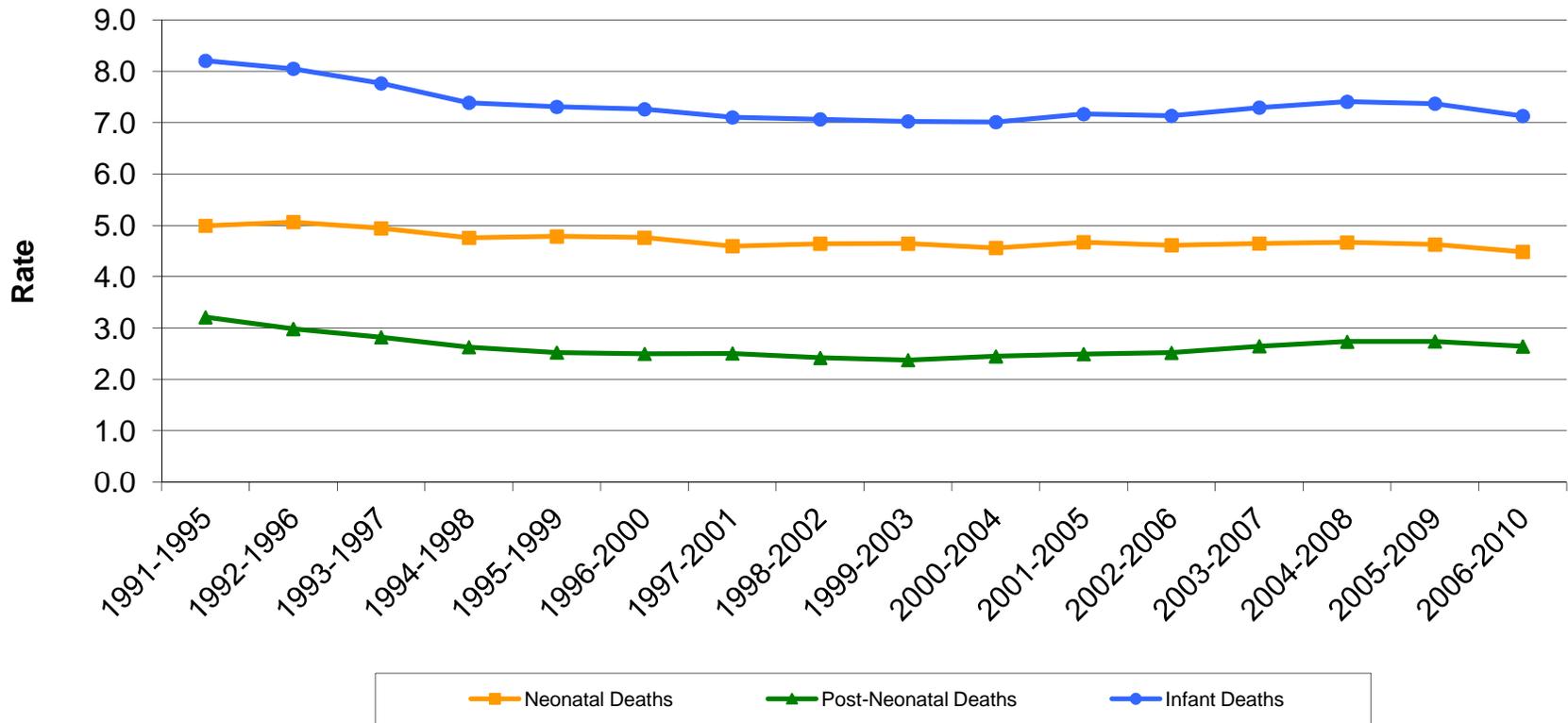
Table 6
 Infant Deaths by Period of Death and
 County of Residence, Kansas, 2006 - 2010

| County of Residence | Hebdomadal Deaths Under 7 Days | Neonatal Deaths Under 28 Days | Post-Neonatal Deaths 28-364 Days | Total Infant Deaths Under 1 Year |
|---------------------|--------------------------------|-------------------------------|----------------------------------|----------------------------------|
| Lyon..... | 7 | 12 | 7 | 19 |
| McPherson..... | 7 | 10 | 5 | 15 |
| Marion..... | 7 | 10 | 3 | 13 |
| Marshall..... | 2 | 2 | 2 | 4 |
| Meade..... | 1 | 1 | 1 | 2 |
| Miami..... | 4 | 4 | 8 | 12 |
| Mitchell..... | 3 | 3 | 1 | 4 |
| Montgomery..... | 3 | 4 | 6 | 10 |
| Morris..... | 0 | 0 | 0 | 0 |
| Morton..... | 1 | 1 | 0 | 1 |
| Nemaha..... | 5 | 5 | 0 | 5 |
| Neosho..... | 9 | 10 | 7 | 17 |
| Ness..... | 0 | 0 | 0 | 0 |
| Norton..... | 0 | 0 | 0 | 0 |
| Osage..... | 1 | 1 | 1 | 2 |
| Osborne..... | 1 | 1 | 0 | 1 |
| Ottawa..... | 1 | 1 | 2 | 3 |
| Pawnee..... | 2 | 3 | 0 | 3 |
| Phillips..... | 0 | 1 | 0 | 1 |
| Pottawatomie..... | 5 | 7 | 3 | 10 |
| Pratt..... | 2 | 2 | 1 | 3 |
| Rawlins..... | 1 | 1 | 1 | 2 |
| Reno..... | 14 | 18 | 19 | 37 |
| Republic..... | 1 | 1 | 1 | 2 |
| Rice..... | 1 | 1 | 1 | 2 |
| Riley..... | 14 | 19 | 12 | 31 |
| Rooks..... | 2 | 2 | 1 | 3 |
| Rush..... | 0 | 0 | 0 | 0 |
| Russell..... | 4 | 6 | 0 | 6 |
| Saline..... | 15 | 17 | 18 | 35 |
| Scott..... | 2 | 2 | 3 | 5 |
| Sedgwick..... | 158 | 202 | 115 | 317 |
| Seward..... | 11 | 13 | 4 | 17 |
| Shawnee..... | 59 | 68 | 38 | 106 |
| Sheridan..... | 1 | 1 | 0 | 1 |
| Sherman..... | 1 | 1 | 2 | 3 |
| Smith..... | 0 | 0 | 0 | 0 |
| Stafford..... | 1 | 1 | 0 | 1 |
| Stanton..... | 1 | 1 | 0 | 1 |
| Stevens..... | 2 | 2 | 0 | 2 |
| Sumner..... | 2 | 3 | 5 | 8 |
| Thomas..... | 5 | 6 | 2 | 8 |
| Trego..... | 1 | 1 | 0 | 1 |
| Wabaunsee..... | 0 | 0 | 1 | 1 |
| Wallace..... | 0 | 0 | 0 | 0 |
| Washington..... | 1 | 1 | 0 | 1 |
| Wichita..... | 0 | 0 | 1 | 1 |
| Wilson..... | 1 | 1 | 4 | 5 |
| Woodson..... | 1 | 1 | 1 | 2 |
| Wyandotte..... | 64 | 80 | 41 | 121 |

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
 Kansas Department of Health and Environment

Figure 8
 Infant Mortality Rates* - Rolling Five Year Averages
 By Period of Death,
 Kansas, 1991-2010



*Rate per 1,000 Live Births

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
 Kansas Department of Health and Environment

Table 7
Stillbirths by Cause of Death and Weeks Gestation
Kansas, 2006-2010

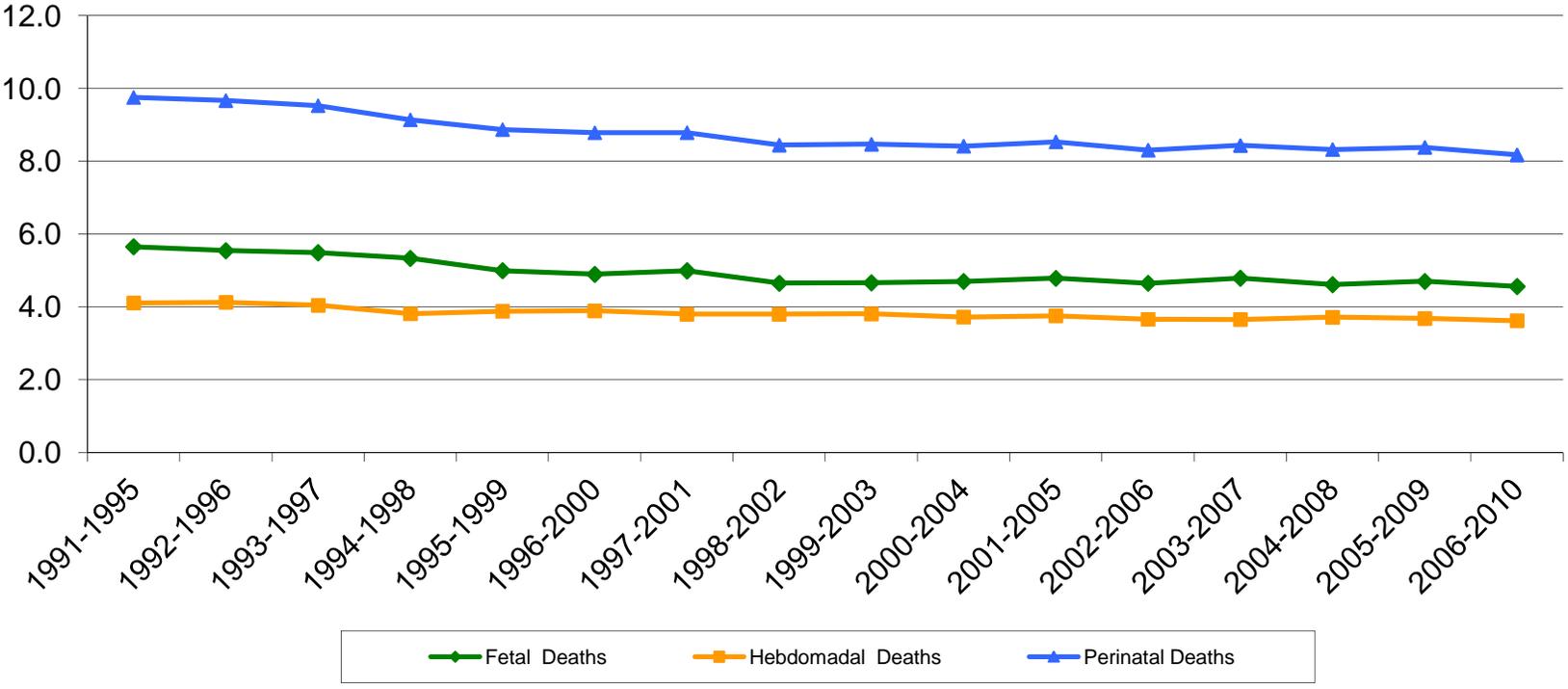
| Cause of Death (ICD-10 Code) | Total Stillbirths | Weeks Gestation | | | | |
|--|----------------------|-----------------|-------|-------|-----------|------|
| | | Under 20 | 20-31 | 32-41 | 42 & Over | N.S. |
| All Causes..... | 941 | 11 | 453 | 455 | 5 | 17 |
| Certain Conditions Originating in the Perinatal Period (P00-P96)..... | 813 | 10 | 388 | 398 | 2 | 15 |
| -Fetus Affected by Maternal Conditions (P00)..... | 96 | 3 | 47 | 45 | 0 | 1 |
| -Fetus Affected by Maternal Complications of Pregnancy (P01)..... | 97 | 1 | 71 | 24 | 0 | 1 |
| -Fetus Affected by Complications of Placenta, Cord & Membrane (P02)..... | 282 | 2 | 115 | 160 | 0 | 5 |
| -Fetus Affected by Complications of Labor & Delivery (P03)..... | 5 | 0 | 2 | 1 | 1 | 1 |
| -Fetus Affected by Maternal Use of Tobacco, Alcohol, and Drugs of Abuse (P04)..... | 7 | 0 | 2 | 5 | 0 | 0 |
| -Disorders Related to Short Gestation & Low Birth Weight (P07)..... | 22 | 1 | 16 | 4 | 0 | 1 |
| -Hypoxia and Birth Asphyxia (P20-P21)..... | 5 | 0 | 1 | 4 | 0 | 0 |
| -Cardiovascular Disorders (P29)..... | 0 | 0 | 0 | 0 | 0 | 0 |
| -Hemorrhagic & Hematologic Disorders of Fetus (P50-P54, P56).... | 0 | 0 | 0 | 0 | 0 | 0 |
| -Unspecified Cause (P95)..... | 247 | 1 | 114 | 126 | 1 | 5 |
| -Other Perinatal Conditions (P05, P08-P15, P22-P28, P35-P39, P55, P57-P94, P96)..... | 52 | 2 | 20 | 29 | 0 | 1 |
| Congenital Anomalies (Q00-Q99)..... | 116 | 1 | 56 | 54 | 3 | 2 |
| All other Causes (A00-N00, R00-R99, V06-Y36)..... | 12 | 0 | 9 | 3 | 0 | 0 |

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
Kansas Department of Health and Environment

Figure 9
 Perinatal Period III Mortality Rates* - Rolling Five Year Averages
 By Period of Death
 Kansas, 1991-2010

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*Rate per 1,000 Live Births

Residence data

Source: Bureau of Epidemiology and Public Health Informatics
 Kansas Department of Health and Environment

Table 8
Linked Birth and Death File
Cause of Death by Gestational Age
Kansas 2006-2010

| Cause of Death | Total Deaths | Very Premature <32 weeks | | Moderate Premature 32-33 weeks | | Late Preterm 34-36 weeks | | Total Preterm <37 weeks | | Term >=37 weeks | | N.S. |
|---|--------------|--------------------------|-------|--------------------------------|------|--------------------------|------|-------------------------|-------|-----------------|------|------|
| | | N | % | N | % | N | % | N | % | N | % | |
| Kansas | 1,425 | 648 | 45.8 | 64 | 4.5 | 167 | 11.8 | 879 | 62.2 | 535 | 37.8 | 11 |
| Infectious and Parasitic Diseases (A00-B99) | 22 | 7 | 31.8 | 0 | 0.0 | 2 | 9.1 | 9 | 40.9 | 13 | 59.1 | 0 |
| Other Diseases and Disorders (C00-O99).. | 124 | 44 | 35.5 | 8 | 6.5 | 16 | 12.9 | 68 | 54.8 | 56 | 45.2 | 0 |
| Maternal Factors & Compl of Pregnancy, Labor and Delivery (P00-P04)..... | 157 | 138 | 88.5 | 4 | 2.6 | 8 | 5.1 | 150 | 96.2 | 6 | 3.8 | 1 |
| Disorders rel. to Short Gestation & Low Birth Weight (P07)..... | 240 | 234 | 98.7 | 2 | 0.8 | 1 | 0.4 | 237 | 100.0 | 0 | 0.0 | 3 |
| Hypoxia and Birth Asphyxia (P20-P21)..... | 7 | 2 | 28.6 | 0 | 0.0 | 1 | 14.3 | 3 | 42.9 | 4 | 57.1 | 0 |
| Respiratory Distress of Newborn (P22)..... | 18 | 18 | 100.0 | 0 | 0.0 | 0 | 0.0 | 18 | 100.0 | 0 | 0.0 | 0 |
| Congenital Pneumonia (P23)..... | 5 | 4 | 80.0 | 0 | 0.0 | 0 | 0.0 | 4 | 80.0 | 1 | 20.0 | 0 |
| Other Respiratory Conditions of Newborn (P24-P28)..... | 38 | 30 | 78.9 | 3 | 7.9 | 0 | 0.0 | 33 | 86.8 | 5 | 13.2 | 0 |
| Bacterial Sepsis of Newborn (P36)..... | 22 | 17 | 77.3 | 1 | 4.5 | 1 | 4.5 | 19 | 86.4 | 3 | 13.6 | 0 |
| Hemorrhagic and Hematolog Disorders of Fetus and Newborn (P50-P61)..... | 21 | 18 | 85.7 | 0 | 0.0 | 0 | 0.0 | 18 | 85.7 | 3 | 14.3 | 0 |
| Other Perinatal Conditions (P05, P08, P29, P35, P37, P39, P70-P96)..... | 95 | 76 | 80.0 | 7 | 7.4 | 5 | 5.3 | 88 | 92.6 | 7 | 7.4 | 0 |
| Congenital Anomalies (Q00-Q99)..... | 327 | 47 | 14.4 | 35 | 10.7 | 90 | 27.5 | 172 | 52.6 | 155 | 47.4 | 0 |
| Other Symptoms and Abnormal Findings (R00-R94, R96-R99)..... | 41 | 5 | 12.5 | 1 | 2.5 | 5 | 12.5 | 11 | 27.5 | 29 | 72.5 | 1 |
| Sudden Infant Death Syndrome (R95)..... | 206 | 5 | 2.5 | 2 | 1.0 | 24 | 11.8 | 31 | 15.2 | 173 | 84.8 | 2 |
| Suffocation in Bed (W75)..... | 38 | 1 | 2.6 | 0 | 0.0 | 3 | 7.9 | 4 | 10.5 | 34 | 89.5 | |
| External Causes of Mortality (V01-Y89), excluding sleep related deaths..... | 64 | 2 | 3.3 | 1 | 1.7 | 11 | 18.3 | 14 | 23.3 | 46 | 76.7 | 4 |

Unknowns are excluded in calculating percents

Source: Bureau of Epidemiology and Public Health Informatics, Kansas Department of Health and Environment

Technical Notes

Data for 2005 and years following are based on Kansas implementation of the 2003 revision of the U.S. Standard Certificates of Live Birth, Death, and Stillbirth. Data for prior years is based on the 1989 revision of the U.S. Standard Certificate of Live Birth, Death, and Stillbirth.

Data analysis involving the 2005 Kansas Certificate of Live Birth is affected in several ways:

- Changes in both question wording and sources for the information collected make it inappropriate to evaluate trends across 2004 and 2005 in some variables such as month prenatal care began and education level
- Calculating Month Prenatal Care Began – prior to 2005 – the mother was asked for the month prenatal care began. Starting in 2005, the dates used to calculate the month prenatal care began included the first day of the last menses before pregnancy and the date of the first prenatal visit. This change makes rates calculated after 2004 incompatible with earlier years. Such comparisons are inappropriate.
- KDHE publishes data on resident births and deaths. If the event occurs out of state and the state is not using the 2003 revision of the birth certificate, missing data may result. This is an important factor in border counties.
- KDHE excludes unknowns from the denominator for all calculations that result in percentage rates involving birth data. Other states chose to include unknowns in the denominator. The Kansas method provides a more accurate representation of the rates.
- The 2003 revision process resulted in recommendations that the prenatal care information be gathered from the prenatal care or medical records, whereas the 1989 revision did not recommend a source for these data. In the case of premature births, sometimes these records aren't available when the infant is delivered.

Infant mortality rates reported by NCHS may vary slightly from rates reported by KDHE. NCHS rates are based on data reported to it by all states. Some of those out-of-state occurrence infant deaths may not be reported to KDHE in time for inclusion in the respective year's *Annual Summary of Vital Statistics* or subsequent reports.

Percentages may not add to 100 percent due to rounding.

This report uses the concept of reporting race and Hispanic origin combined into distinct categories of population groups. This was done to preserve the self-reported information on race and origin reported in the expanded categories. The use of

population groups assures a better uniformity of the numerators and denominators in rate calculations.

Because of different tabulation methods, totals for population groups may not equal those tabulated by either race or Hispanic origin individually. Rates calculated exclusively on Hispanic origin treat unknowns differently.

The aggregation grid for population groups is listed on page 160 of the *2009 Annual Summary of Vital Statistics*. Application of this grid assures that every combination of race and origin is assigned to a population group. In instances where the Hispanic origin of an individual is unknown, the person is assigned to a population group solely on the basis of race and is considered non-Hispanic.

Appendix 1. Kansas Public Health Regions and Counties

| HEALTH PREPAREDNESS REGION | COUNTY NAME |
|---|---|
| CENTRAL KANSAS REGION | Barton McPherson Pawnee Rice Saline Stafford |
| EAST CENTRAL COALITION | Chase Coffey Franklin Greenwood Lyon Morris Osage Wabaunsee |
| ELLIS COUNTY HEALTH DEPARTMENT | Ellis |
| KANSAS CITY METRO REGION | Douglas Johnson Leavenworth Linn Miami Wyandotte |
| KS SOUTH-CENTRAL METRO | Butler Cowley Harvey Marion Reno Sedgwick Sumner |
| LOWER 8 OF SE | Chautauqua Cherokee Crawford Elk Labette Montgomery Neosho Wilson |
| NORTH CENTRAL KANSAS PUBLIC HEALTH INITIATIVE | Clay Cloud Dickinson Ellsworth Jewell Lincoln Mitchell Osborne Ottawa Republic Russell Smith Washington |

| | |
|---------------------------------------|--|
| NORTH WEST BIOTERRORISM REGION | Cheyenne Decatur Graham Norton Phillips Rawlins Rooks Thomas |
| NORTHEAST CORNER REGIONAL INITIATIVE | Atchison Brown Doniphan Jackson Jefferson Marshall Nemaha Shawnee |
| RUSH COUNTY HEALTH DEPARTMENT | Rush |
| S CENTRAL COALITION | Barber Comanche Edwards Harper Kingman Kiowa Pratt |
| SEK MULTI-COUNTY | Allen Anderson Bourbon Woodson |
| SW KS HEALTH INITIATIVE | Grant Morton Seward Stanton Stevens |
| SW SURVEILLANCE | Clark Ford Gray Haskell Hodgeman Meade |
| WEST CENTRAL PUBLIC HEALTH INITIATIVE | Gove Logan Ness Sheridan Sherman Trego |
| WEST PYRAMID PUBLIC HEALTH REGION | Finney Greeley Hamilton Kearny Lane Scott Wallace Wichita |
| WILDCAT REGION | Geary Pottawatomie Riley |

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Kansas Department of Health and Environment
Office of Vital Statistics

CERTIFICATE OF LIVE BIRTH

115-

State File Number

| | | | | | |
|--|--|--|---|--|--|
| 1. CHILD'S NAME (First, Middle, Last, Suffix) | | 2. DATE OF BIRTH (Month, Day, Year) | | 3. TIME OF BIRTH M | |
| 4. SEX | 5. BIRTH WEIGHT (Grams) | 6. CITY, TOWN, OR LOCATION OF BIRTH | | 7. COUNTY OF BIRTH | |
| 8. PLACE OF BIRTH <input type="checkbox"/> Hospital <input type="checkbox"/> Freestanding Birthing Center <input type="checkbox"/> Home Birth <input type="checkbox"/> Clinic/Doctor's Office <input type="checkbox"/> Other (Specify) _____ | | | 9. FACILITY NAME (If not institution, give street and number) | | |
| 10. I CERTIFY THAT THE STATED INFORMATION CONCERNING THIS CHILD IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF. Certifier's Signature ➤ _____ | | 11. DATE SIGNED (Month, Day, Year) | 12. ATTENDANT'S NAME AND TITLE (Type) Name _____ <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. <input type="checkbox"/> C.N.M. <input type="checkbox"/> Other Midwife <input type="checkbox"/> Other (Specify) _____ | | |
| 13. Certifier's Name and Title (Type) Name _____ <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. <input type="checkbox"/> Hosp Adm. <input type="checkbox"/> C.N.M. <input type="checkbox"/> Other Midwife <input type="checkbox"/> Other (Specify) _____ | | 14. ATTENDANT'S MAILING ADDRESS (Street and Number or Rural Route, City, or Town, State, Zip Code) | | | |
| 15. MOTHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix) | | | 16. MOTHER'S LAST NAME PRIOR TO FIRST MARRIAGE | | |
| 17. DATE OF BIRTH (Month, Day, Year) | | 18. BIRTHPLACE (State, Territory, or Foreign Country) | | 19. PRESENT RESIDENCE-STATE | |
| 20. COUNTY | | 21. CITY, TOWN, OR LOCATION | | 22. STREET AND NUMBER OF PRESENT RESIDENCE | |
| 23. ZIP CODE | 24. INSIDE CITY LIMITS? <input type="checkbox"/> YES <input type="checkbox"/> NO | 25. MOTHER'S MAILING ADDRESS (If same as residence, leave blank) | | | |
| 26. FATHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix) | | 27. DATE OF BIRTH (Month, Day, Year) | | 28. BIRTHPLACE (State, Territory, or Foreign Country) | |
| 29. PARENTS REQUEST SOCIAL SECURITY NUMBER ISSUANCE? <input type="checkbox"/> YES <input type="checkbox"/> NO | | 30. IMMUNIZATION REGISTRY I wish to enroll my child in the Immunization Registry <input type="checkbox"/> YES <input type="checkbox"/> NO | | | |
| 31. I CERTIFY THAT THE PERSONAL INFORMATION PROVIDED ON THE CERTIFICATE IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. Signature of Parent (or Other Informant) ➤ _____ | | 32. DATE SIGNED (Month, Day, Year) | | 33. DATE FILED BY STATE REGISTRAR (Month, Day, Year) (Vital Statistics only) | |

CERTIFICATE OF LIVE BIRTH (Cont.)

CONFIDENTIAL INFORMATION FOR INTERNAL USE ONLY

| | | | | | |
|--|--|---|--|--|--|
| 34. IF HOME BIRTH, WAS DELIVERY PLANNED AT HOME? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown | | | | | |
| 35. MOTHER'S SOCIAL SECURITY NUMBER | | | 36. FATHER'S SOCIAL SECURITY NUMBER | | |
| 37a. WAS MOTHER EVER MARRIED? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown | | 37b. MOTHER MARRIED? (At birth, conception or any time between) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown | | | |
| 37c. IF NO, HAS PATERNITY ACKNOWLEDGMENT BEEN SIGNED? <input type="checkbox"/> Yes <input type="checkbox"/> No | | 37d. MOTHER REFUSES TO GIVE HUSBAND'S INFORMATION <input type="checkbox"/> Yes <input type="checkbox"/> No | | | |
| 38. WHAT IS THE PRIMARY LANGUAGE SPOKEN IN THE HOME? <input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Vietnamese <input type="checkbox"/> German <input type="checkbox"/> French <input type="checkbox"/> Russian <input type="checkbox"/> Ukrainian <input type="checkbox"/> Mandarin <input type="checkbox"/> Cantonese <input type="checkbox"/> Sign Language <input type="checkbox"/> Other (Specify) _____ | | | | | |
| 39. PARENT'S HISPANIC ORIGIN (Check the box or boxes that best describes whether the parent is Spanish, Hispanic, or Latino. Check the "No" box if the parent is not Spanish, Hispanic, or Latino.) | | 40. PARENT'S RACE (Check one or more races to indicate what you consider yourself to be.) | | | |
| 39a. MOTHER | | 39b. FATHER | | 40a. MOTHER | |
| <input type="checkbox"/> No, not Spanish/Hispanic/Latina <input type="checkbox"/> Yes, Mexican/Mexican American/Chicana <input type="checkbox"/> Yes, Puerto Rican <input type="checkbox"/> Yes, Cuban <input type="checkbox"/> Yes, Central American <input type="checkbox"/> Yes, South American <input type="checkbox"/> Yes, other Spanish/Hispanic/Latina (Specify) _____ <input type="checkbox"/> Unknown | | <input type="checkbox"/> No, not Spanish/Hispanic/Latino <input type="checkbox"/> Yes, Mexican/Mexican American/Chicano <input type="checkbox"/> Yes, Puerto Rican <input type="checkbox"/> Yes, Cuban <input type="checkbox"/> Yes, Central American <input type="checkbox"/> Yes, South American <input type="checkbox"/> Yes, other Spanish/Hispanic/Latino (Specify) _____ <input type="checkbox"/> Unknown | | <input type="checkbox"/> White <input type="checkbox"/> Black or African American <input type="checkbox"/> American Indian or Alaska Native (Name of the enrolled or principal tribes) _____ <input type="checkbox"/> Asian Indian <input type="checkbox"/> Chinese <input type="checkbox"/> Filipino <input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input type="checkbox"/> Vietnamese <input type="checkbox"/> Other Asian (Specify) _____ <input type="checkbox"/> Native Hawaiian <input type="checkbox"/> Guamanian or Chamorro <input type="checkbox"/> Samoan <input type="checkbox"/> Other Pacific Islander (Specify) _____ <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Unknown | |
| | | | | 40b. FATHER | |
| | | | | <input type="checkbox"/> White <input type="checkbox"/> Black or African American <input type="checkbox"/> American Indian or Alaska Native (Name of the enrolled or principal tribes) _____ <input type="checkbox"/> Asian Indian <input type="checkbox"/> Chinese <input type="checkbox"/> Filipino <input type="checkbox"/> Japanese <input type="checkbox"/> Korean <input checked="" type="checkbox"/> Vietnamese <input type="checkbox"/> Other Asian (Specify) _____ <input type="checkbox"/> Native Hawaiian <input type="checkbox"/> Guamanian or Chamorro <input type="checkbox"/> Samoan <input type="checkbox"/> Other Pacific Islander (Specify) _____ <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Unknown | |
| 41. ANCESTRY - What is the parents' ancestry or ethnic origin? - Italian, German, Dominican, Vietnamese, Hmong, French Canadian, etc. (Specify below) | | | 42. OCCUPATION AND BUSINESS/INDUSTRY | | |
| | | | Occupation | Business/Industry (Do not give name of company.) | |
| 41a. MOTHER | | 42a. MOTHER (Most recent) | | 42c. MOTHER | |
| 41b. FATHER | | 42b. FATHER (Usual) | | 42d. FATHER | |
| 43. EDUCATION (Check the box that best describes the highest degree or level of school completed at the time of delivery.) | | | | | |
| 43a. MOTHER'S EDUCATION | | 43b. FATHER'S EDUCATION | | | |
| <input type="checkbox"/> 8 th grade or less <input type="checkbox"/> Some College credit, but no degree <input type="checkbox"/> Unknown <input type="checkbox"/> Master's degree (e.g., MA, MS, MEd, MEd, MSW, MBA) | | <input type="checkbox"/> 8 th grade or less <input type="checkbox"/> Some College credit, but no degree <input type="checkbox"/> Unknown <input type="checkbox"/> Master's degree (e.g., MA, MS, MEd, MEd, MSW, MBA) | | <input type="checkbox"/> 9 th - 12 th grade; no diploma <input type="checkbox"/> Associate degree (e.g., AA, AS) <input type="checkbox"/> Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD) | |
| | | | | <input type="checkbox"/> High school graduate or GED <input type="checkbox"/> Bachelor's degree (e.g., BA, AB, BS) | |
| 44. PREVIOUS LIVE BIRTHS (Do not include this child.) | | 45. NUMBER OF OTHER OUTCOMES (Spontaneous or induced losses or ectopic or stillbirth pregnancies) | | 46. PRENATAL CARE? <input type="checkbox"/> Yes <input type="checkbox"/> No | 47. DATE OF FIRST PRENATAL CARE VISIT (Month, Day, Year) |
| 44a. Now living Number _____ <input type="checkbox"/> None | 44b. Now dead Number _____ <input type="checkbox"/> None | 45a. Before 20 weeks Number _____ <input type="checkbox"/> None | 45b. 20 weeks & over Number _____ <input type="checkbox"/> None | 48. DATE OF LAST PRENATAL CARE VISIT (Month, Day, Year) | |
| 44c. DATE OF LAST LIVE BIRTH (Month Year) | | 45c. DATE OF LAST OTHER PREGNANCY OUTCOME (Month, Year) | | 49. PRENATAL VISITS-Total Number (If none, enter "0") | |
| 50. DATE LAST NORMAL MENSES BEGAN (Month, Day, Year) | 51. OBSTETRIC ESTIMATE OF GESTATION (Completed Weeks) | | 52. PLURALITY - Single, Twin, Triplet, etc. (Specify) | 53. IF NOT A SINGLE BIRTH - Born First, Second, Third, etc. (Specify) | 54. TOTAL LIVE BIRTHS AT THIS DELIVERY |
| 55. IS INFANT ALIVE AT THE TIME OF THIS REPORT? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown | 56. IS INFANT BEING BREAST-FED AT DISCHARGE? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown | | 57. CIGARETTE SMOKING BEFORE & DURING PREGNANCY: Did mother smoke 3 mos. before or during pregnancy? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown For each time period, enter either the number of cigarettes or the number of packs of cigarettes smoked. If none, enter "0". Average number of cigarettes or packs of cigarettes smoked per day: No. No. Three months before pregnancy: _____ cigarettes or _____ packs First three months of pregnancy: _____ cigarettes or _____ packs Second three months of pregnancy: _____ cigarettes or _____ packs Third Trimester of pregnancy: _____ cigarettes or _____ packs | | |
| 58. PRINCIPAL SOURCE OF PAYMENT FOR THIS DELIVERY <input type="checkbox"/> Medicaid <input type="checkbox"/> Private/Employer Ins. <input type="checkbox"/> Self-pay <input type="checkbox"/> Indian Health Service <input type="checkbox"/> CHAMPUS/TRICARE <input type="checkbox"/> Other government <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Unknown | | | 59. MOTHER'S MEDICAL RECORD NO. | 60. NEWBORN'S MEDICAL RECORD NO. | |
| 61. MOTHER TRANSFERRED IN FOR DELIVERY DUE TO MATERNAL, MEDICAL, OR FETAL INDICATIONS? <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes, enter facility name) FACILITY TRANSFERRED FROM: _____ | | | 62. INFANT TRANSFERRED (Within 24 hours of delivery) <input type="checkbox"/> Yes <input type="checkbox"/> No (If yes, enter facility name) FACILITY TRANSFERRED TO: _____ | | |

CERTIFICATE OF LIVE BIRTH (Cont.)

CHILD'S NAME _____

MOTHER'S NAME _____

| PRENATAL (Birth) | LABOR-DELIVERY/NEWBORN | | | | |
|--|--|---|-------|-------|--------|
| <p>63. NUTRITION OF MOTHER</p> <p>1. Height _____</p> <p>2. Prepregnancy Weight _____</p> <p>3. Weight at delivery _____</p> <p>4. Did mother get WIC food for herself? Yes _____ No _____ Unknown _____</p> | <p>66. OBSTETRICAL PROCEDURES (Check all that apply.)</p> <p>1. <input type="checkbox"/> Cervical cerclage</p> <p>2. <input type="checkbox"/> Tocolysis</p> <p>3. External cephalic version: <input type="checkbox"/> Successful <input type="checkbox"/> Failed</p> <p>4. <input type="checkbox"/> None of the above</p> | <p>70. INFECTIONS PRESENT AND/OR TREATED (During this pregnancy, check all that apply.)</p> <p>1. <input type="checkbox"/> Gonorrhea 5. <input type="checkbox"/> Hepatitis B</p> <p>2. <input type="checkbox"/> Syphilis 6. <input type="checkbox"/> Hepatitis C</p> <p>3. <input type="checkbox"/> Herpes Simplex Virus (HSV) 7. <input type="checkbox"/> AIDS or HIV antibody</p> <p>4. <input type="checkbox"/> Chlamydia 8. <input type="checkbox"/> None of the above</p> | | | |
| <p>64. MEDICAL RISK FACTORS (Check all that apply.)</p> <p>1. <input type="checkbox"/> Diabetes, prepregnancy</p> <p>2. <input type="checkbox"/> Diabetes, gestational</p> <p>3. Hypertension <input type="checkbox"/> Prepregnancy (Chronic) <input type="checkbox"/> Gestational (PIH, preeclampsia) <input type="checkbox"/> Eclampsia</p> <p>4. <input type="checkbox"/> Previous preterm birth</p> <p>5. <input type="checkbox"/> Other previous poor pregnancy outcome (SGA, perinatal death, etc.)</p> <p>6. <input type="checkbox"/> Vaginal bleeding during this pregnancy prior to labor</p> <p>7. <input type="checkbox"/> Pregnancy resulted from infertility treatment (If yes, check all that apply.) <input type="checkbox"/> Fertility-enhancing drugs, Artificial insemination or Intrauterine insemination <input type="checkbox"/> Assisted reproductive technology (e.g. in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT))</p> <p>8. <input type="checkbox"/> Mother had a previous cesarean delivery, if yes, how many? Number: _____</p> <p>9. <input type="checkbox"/> Alcohol use No. of drinks per week _____</p> <p>10. <input type="checkbox"/> None of the above</p> | <p>67. ONSET OF LABOR (Check all that apply.)</p> <p>1. <input type="checkbox"/> Premature Rupture of the Membranes (prolonged, ≥ 12 hours)</p> <p>2. <input type="checkbox"/> Precipitous Labor (< 3 hrs)</p> <p>3. <input type="checkbox"/> Prolonged Labor (≥ 20 hrs)</p> <p>4. <input type="checkbox"/> None of the above</p> | <p>71. ABNORMAL CONDITIONS OF NEWBORN (Check all that apply)</p> <p>1. <input type="checkbox"/> Assisted ventilation required immediately following delivery</p> <p>2. <input type="checkbox"/> Assisted ventilation required for more than six hours</p> <p>3. <input type="checkbox"/> NICU admission</p> <p>4. <input type="checkbox"/> Newborn given surfactant replacement therapy</p> <p>5. <input type="checkbox"/> Antibiotics received by the newborn for suspected neonatal sepsis</p> <p>6. <input type="checkbox"/> Seizure or serious neurologic dysfunction</p> <p>7. <input type="checkbox"/> Significant birth injury (skeletal fracture(s), peripheral nerve injury, and/or soft tissue/solid organ hemorrhage which requires intervention)</p> <p>8. <input type="checkbox"/> None of the above</p> | | | |
| <p>65. METHOD OF DELIVERY</p> <p>1. Forceps attempted? Yes _____ No _____ Successful Yes _____ No _____</p> <p>2. Vacuum extraction attempted? Yes _____ No _____ Successful Yes _____ No _____</p> <p>3. Fetal presentation at delivery <input type="checkbox"/> Cephalic <input type="checkbox"/> Breech <input type="checkbox"/> Other</p> <p>4. Final route and method of delivery (check one) <input type="checkbox"/> Vaginal/spontaneous <input type="checkbox"/> Vaginal/forceps <input type="checkbox"/> Vaginal/vacuum <input type="checkbox"/> Cesarean, if cesarean was a trial of labor attempted? Yes _____ No _____</p> | <p>68. CHARACTERISTICS OF LABOR AND DELIVERY (Check all that apply.)</p> <p>1. <input type="checkbox"/> Induction of labor</p> <p>2. <input type="checkbox"/> Augmentation of labor</p> <p>3. <input type="checkbox"/> Non-vertex presentation</p> <p>4. <input type="checkbox"/> Steroids (glucocorticoids) for fetal lung maturation received by the mother prior to delivery</p> <p>5. <input type="checkbox"/> Antibiotics received by the mother during labor</p> <p>6. <input type="checkbox"/> Clinical chorioamnionitis diagnosed during labor or maternal temperature ≥ 38 C (100.4 F)</p> <p>7. <input type="checkbox"/> Moderate/heavy meconium staining of the amniotic fluid</p> <p>8. <input type="checkbox"/> Fetal intolerance of labor: (examples: in-utero resuscitative measures, further fetal assessment, or operative delivery)</p> <p>9. <input type="checkbox"/> Epidural or spinal anesthesia during labor</p> <p>10. <input type="checkbox"/> None of the above</p> | <p>72. VACCINES ADMINISTERED TO NEWBORN</p> <p>1. <input type="checkbox"/> Hepatitis B Date Given: _____</p> <p>2. <input type="checkbox"/> Other* Specify: _____ Date Given: _____</p> | | | |
| | | <p>73. APGAR SCORE</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 33%; text-align: center;">1 min</td> <td style="width: 33%; text-align: center;">5 min</td> <td style="width: 33%; text-align: center;">10 min</td> </tr> </table> | 1 min | 5 min | 10 min |
| 1 min | 5 min | 10 min | | | |
| | | <p>74. CONGENITAL ANOMALIES OF THE NEWBORN (Check all that apply.)</p> <p>1. <input type="checkbox"/> Anencephaly</p> <p>2. <input type="checkbox"/> Meningocele/Spina bifida</p> <p>3. <input type="checkbox"/> Cyanotic congenital heart disease</p> <p>4. <input type="checkbox"/> Congenital diaphragmatic hernia</p> <p>5. <input type="checkbox"/> Omphalocele</p> <p>6. <input type="checkbox"/> Gastroschisis</p> <p>7. <input type="checkbox"/> Limb reduction defect (excluding congenital amputation and dwarfing syndromes)</p> <p>8. <input type="checkbox"/> Cleft Lip with or without Cleft Palate</p> <p>9. <input type="checkbox"/> Cleft Palate alone</p> <p>10. <input type="checkbox"/> Down Syndrome <input type="checkbox"/> Karyotype confirmed <input type="checkbox"/> Karyotype pending</p> <p>11. <input type="checkbox"/> Suspected chromosomal disorder <input type="checkbox"/> Karyotype confirmed <input type="checkbox"/> Karyotype pending</p> <p>12. <input type="checkbox"/> Hypospadias</p> <p>13. <input type="checkbox"/> Fetal alcohol syndrome</p> <p>14. <input type="checkbox"/> Other congenital anomalies (Specify) _____</p> <p>15. <input type="checkbox"/> None of the above</p> | | | |
| | <p>69. MATERNAL MORBIDITY (Check all that apply.) (These are complications associated with labor and delivery.)</p> <p>1. <input type="checkbox"/> Maternal transfusion</p> <p>2. <input type="checkbox"/> Third or fourth degree perineal laceration</p> <p>3. <input type="checkbox"/> Ruptured uterus</p> <p>4. <input type="checkbox"/> Unplanned hysterectomy</p> <p>5. <input type="checkbox"/> Admission to intensive care unit</p> <p>6. <input type="checkbox"/> Unplanned operating room procedure following delivery</p> <p>7. <input type="checkbox"/> None of the above</p> | | | | |

CERTIFICATE OF LIVE BIRTH (Cont.)

CHILD'S NAME _____

MOTHER'S NAME _____

| | | | | | |
|---|--|---|-----------------------------|---|--|
| <p>Test required by K.S.A. 65-153f 153G Serological Test Made:</p> <p>_____ 1st _____ 2nd _____ 3rd (Trimester)</p> <p>_____ At Delivery _____ Not Performed</p> <p>If no test made, state reason:</p> | <p>Test required by K.S.A. 65-180 Infant Neonatal Screening specimen taken:</p> <p>_____ Yes _____ No</p> <p>If no test made, state reason:</p> | <p>Test required by K.S.A. 65-1157A Newborn Hearing Screening Accomplished:</p> <p>_____ Yes _____ No</p> | | | |
| <p>Infant's patient number:</p> | | | | | |
| <p>Infant's Primary Care Physician</p> | | | | | |
| <p>First</p> | <p>Middle</p> | <p>Last</p> | <p>Title (MD, DO, etc.)</p> | | |
| <p>If screening accomplished, Date hearing screened _____</p> <p style="text-align: center;">Month / Day / Year</p> | | <p>The results of the hearing screening ✓:</p> <p>Right ear: _____ Pass _____ Refer for further testing</p> <p>Left ear: _____ Pass _____ Refer for further testing</p> | | | |
| <p>Physiologic equipment used ✓: _____ OAE _____ ABR _____ ABR</p> | | | | | |
| <p>If screening not accomplished, ✓ one reason:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <p>_____ b – missed appointment</p> <p>_____ c – could not test</p> <p>_____ d – deceased</p> <p>_____ i – Incomplete test</p> <p>_____ m – Infant discharged before screening</p> <p>_____ n – transferred to NICU</p> </td> <td style="width: 50%; border: none;"> <p>_____ o – other</p> <p>_____ r – did not consent</p> <p>_____ s – scheduled but not completed</p> <p>_____ t – transferred to another hospital</p> <p>_____ u – no information</p> <p>_____ x – invalid results</p> </td> </tr> </table> | | | | <p>_____ b – missed appointment</p> <p>_____ c – could not test</p> <p>_____ d – deceased</p> <p>_____ i – Incomplete test</p> <p>_____ m – Infant discharged before screening</p> <p>_____ n – transferred to NICU</p> | <p>_____ o – other</p> <p>_____ r – did not consent</p> <p>_____ s – scheduled but not completed</p> <p>_____ t – transferred to another hospital</p> <p>_____ u – no information</p> <p>_____ x – invalid results</p> |
| <p>_____ b – missed appointment</p> <p>_____ c – could not test</p> <p>_____ d – deceased</p> <p>_____ i – Incomplete test</p> <p>_____ m – Infant discharged before screening</p> <p>_____ n – transferred to NICU</p> | <p>_____ o – other</p> <p>_____ r – did not consent</p> <p>_____ s – scheduled but not completed</p> <p>_____ t – transferred to another hospital</p> <p>_____ u – no information</p> <p>_____ x – invalid results</p> | | | | |

Kansas Department Of Health And Environment
Office of Vital Statistics

CERTIFICATE OF DEATH

State File Number

| | | | | | | | | | | | |
|---|--|--|--|---|--|---|--|--|--|--|--|
| 1. DECEDENT'S LEGAL NAME (First, Middle, Last) | | | | 2. SEX | | 3. DATE OF DEATH (Month, Day, Year) | | | | | |
| 4. SOCIAL SECURITY NUMBER | | 5. DATE OF BIRTH (Month, Day, Year) | | 6a. AGE-Last Birthday (Years) | | 6b. UNDER 1 YEAR Months Days | | 6c. UNDER 1 DAY Hours Minutes | | 7. PLACE OF BIRTH (City and State or Foreign Country) | |
| 8. WAS DECEDENT EVER IN U.S. ARMED FORCES? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown | | 9a. PLACE OF DEATH (Check only one) | | | | | | | | | |
| HOSPITAL <input type="checkbox"/> Inpatient <input type="checkbox"/> DOA <input type="checkbox"/> ER/Outpatient | | | | <input type="checkbox"/> Nursing Home | | <input type="checkbox"/> Hospice Facility | | <input type="checkbox"/> Assisted Living Facility | | | |
| | | | | <input type="checkbox"/> Decedent's Residence | | <input type="checkbox"/> Other (Specify) _____ | | | | | |
| 9b. FACILITY NAME (If not institution, give street and number) | | | | 9c. CITY OR TOWN OF DEATH | | | | 9d. ZIP CODE | | 9e. COUNTY OF DEATH | |
| 10. MARITAL STATUS <input type="checkbox"/> Married <input type="checkbox"/> Married, but separated <input type="checkbox"/> Widowed <input type="checkbox"/> Divorced <input type="checkbox"/> Never Married <input type="checkbox"/> Unknown | | | | | | 11. SURVIVING SPOUSE (If wife, give name before first marriage) | | | | | |
| 12a. RESIDENCE-STATE | | | | 12b. COUNTY | | | | 12c. CITY or TOWN | | | |
| 12d. STREET ADDRESS & APARTMENT NO. | | | | | | | | 12e. ZIP CODE | | 12f. INSIDE CITY LIMITS? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| 13. FATHER'S NAME (First, Middle, Last) | | | | | | 14. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last) | | | | | |
| 15a. INFORMANT'S NAME (First, Middle, Last) | | | | 15b. MAILING ADDRESS (Street and Number, City, State, Zip Code) | | | | 15c. RELATIONSHIP TO DECEDENT | | | |
| 16. METHOD OF DISPOSITION <input type="checkbox"/> Burial <input type="checkbox"/> Cremation <input type="checkbox"/> Removal from State <input type="checkbox"/> Donation <input type="checkbox"/> Entombment <input type="checkbox"/> Other (Specify) _____ | | | | 17a. PLACE OF DISPOSITION (Name of cemetery, crematory, or other place) | | | | 17b. LOCATION-City or Town, and State | | | |
| 18. FUNERAL SERVICE LICENSEE & LICENSE NO. (Signature) | | | | | | 19. NAME OF EMBALMER & LICENSE NO. | | | | | |
| 20. NAME AND ADDRESS OF FIRM | | | | | | | | | | | |
| 21. CAUSE OF DEATH – Part I. Enter the chain of events - diseases, injuries, or complications-that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines, if necessary. | | | | | | | | | | | |
| IMMEDIATE CAUSE (Final disease or condition resulting in death) | | | | | | | | | | Approximate Interval: Onset to Death | |
| a. DUE TO (OR AS A CONSEQUENCE OF): | | | | | | | | | | | |
| b. DUE TO (OR AS A CONSEQUENCE OF): | | | | | | | | | | | |
| c. DUE TO (OR AS A CONSEQUENCE OF): | | | | | | | | | | | |
| d. DUE TO (OR AS A CONSEQUENCE OF): | | | | | | | | | | | |
| PART II. Enter other significant conditions contributing to death, but not resulting in the underlying cause given in Part I. | | | | | | 22a. AUTOPSY <input type="checkbox"/> Yes <input type="checkbox"/> No | | 22b. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> No | | 22c. WAS CORONER CONTACTED? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| 23. DID TOBACCO USE CONTRIBUTE TO DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Unknown | | 24. IF FEMALE <input type="checkbox"/> Not pregnant within past year <input type="checkbox"/> Pregnant at time of death <input type="checkbox"/> Not pregnant, but pregnant within 42 days of death | | | | <input type="checkbox"/> Not pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> Unknown if pregnant within the last year | | | | 25. MANNER OF DEATH <input type="checkbox"/> Natural <input type="checkbox"/> Homicide <input type="checkbox"/> Accident <input type="checkbox"/> Pending Investigation <input type="checkbox"/> Suicide <input type="checkbox"/> Could not be determined | |
| 26a. DATE OF INJURY (Month, Day, Year) | | 26b. TIME OF INJURY A.M. P.M. | | 26c. INJURY AT WORK <input type="checkbox"/> Yes <input type="checkbox"/> No | | 26d. DESCRIBE HOW INJURY OCCURRED | | | | | |
| 26e. PLACE OF INJURY-Residence, farm, street, factory, building, etc. (Specify) | | | | | | 26f. LOCATION (Street and Number or Rural Route, City or Town, State, Zip Code) | | | | | |
| 27a. DATE PRONOUNCED DEAD (Month, Day, Year) | | 27b. TIME PRONOUNCED DEAD A.M. P.M. | | 27c. ACTUAL OR PRESUMED TIME OF DEATH A.M. P.M. | | 27d. NAME OF PERSON PRONOUNCING DEATH (If applicable) | | | | 27e. LICENSE NO. | |
| 28a. CERTIFIER (Check only one) <input type="checkbox"/> Certifying physician - To the best of my knowledge, death occurred due to the cause(s) and manner stated. <input type="checkbox"/> Pronouncing & Certifying physician - To the best of my knowledge, death occurred at the time, date, and place, and due to the cause(s) and manner stated. <input type="checkbox"/> Coroner - On the basis of examination, and/or investigation, in my opinion, death occurred at the time, date, and place, and due to the cause(s) and manner stated. | | | | | | | | | | | |
| Signature of certifier > | | | | | | LICENSE NO. | | DATE CERTIFIED (Month, Day, Year) | | | |
| 28b. NAME, ADDRESS, AND ZIP CODE OF PERSON COMPLETING CAUSE OF DEATH | | | | | | <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. | | 29. DATE FILED BY STATE REGISTRAR (Month, Day, Year) | | | |

CERTIFICATE OF DEATH (Cont.)

| | | |
|---|--|---|
| <p>30. ANCESTRY-What is this person's ancestry or ethnic origin? Italian, German, Dominican, Vietnamese, Hmong, French Canadian, etc. (Specify below)</p> | <p>32. RACE (Check one or more boxes to indicate what race(s) the decedent considered himself or herself to be.)</p> <p><input type="checkbox"/> White</p> <p><input type="checkbox"/> Black or African American</p> <p><input type="checkbox"/> American Indian or Alaska Native (Name of the enrolled or principal tribes)</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> Asian Indian</p> <p><input type="checkbox"/> Chinese</p> <p><input type="checkbox"/> Filipino</p> <p><input type="checkbox"/> Japanese</p> <p><input type="checkbox"/> Korean</p> <p><input type="checkbox"/> Vietnamese</p> <p><input type="checkbox"/> Other Asian (Specify)</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> Native Hawaiian</p> <p><input type="checkbox"/> Guamanian or Chamorro</p> <p><input type="checkbox"/> Samoan</p> <p><input type="checkbox"/> Other Pacific Islander (Specify)</p> <p>_____</p> <p><input type="checkbox"/> Other (Specify)</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> Unknown</p> | <p>33. EDUCATION (Check the box that best describes the highest degree or level of school completed at the time of death.)</p> <p><input type="checkbox"/> 8th grade or less</p> <p><input type="checkbox"/> 9th - 12th grade; no diploma</p> <p><input type="checkbox"/> High school graduate or GED</p> <p><input type="checkbox"/> Some College credit, but no degree</p> <p><input checked="" type="checkbox"/> Associate degree (e.g., AA, AS)</p> <p><input type="checkbox"/> Bachelor's degree (e.g., BA, AB, BS)</p> <p><input type="checkbox"/> Master's degree (e.g., MA, MS, MEng, MEd, MSW, MBA)</p> <p><input type="checkbox"/> Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD)</p> <p><input type="checkbox"/> Unknown</p> |
| <p>31. HISPANIC ORIGIN (Check the box or boxes that best describes whether the decedent is Spanish/Hispanic/Latino. Check the "no" box if the decedent is not Spanish/Hispanic/Latino)</p> <p><input type="checkbox"/> No, not Spanish/Hispanic/Latino</p> <p><input type="checkbox"/> Yes, Mexican/Mexican American/Chicano</p> <p><input type="checkbox"/> Yes, Puerto Rican</p> <p><input type="checkbox"/> Yes, Cuban</p> <p><input type="checkbox"/> Yes, Central American</p> <p><input type="checkbox"/> Yes, South American</p> <p><input type="checkbox"/> Yes, other Spanish/Hispanic/Latino (Specify)</p> <p>_____</p> <p><input type="checkbox"/> Unknown</p> | <p>34. DECEDENT'S USUAL OCCUPATION (Give kind of work done during most of working life. Do not use retired.)</p> | <p>35. KIND OF BUSINESS/INDUSTRY (Do not give name of company.)</p> |

Kansas Department of Health and Environment
Office of Vital Statistics

CERTIFICATE OF STILLBIRTH (FETAL DEATH)

State File Number

| | | | |
|--|---|---|---|
| 1. NAME (First, Middle, Last, Suffix) | | 2. DATE OF DELIVERY (Month, Day, Year) | 3. TIME OF DELIVERY M |
| 4. SEX | 5. CITY, TOWN, OR LOCATION OF DELIVERY | | 6. COUNTY OF DELIVERY |
| 7. PLACE OF DELIVERY <input type="checkbox"/> Hospital <input type="checkbox"/> Freestanding Birthing Center <input type="checkbox"/> Home Delivery <input type="checkbox"/> Clinic/Doctor's Office <input type="checkbox"/> Other (Specify) _____ | | 8. FACILITY NAME (If not institution, give street and number and zip code) | |
| 9. MOTHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix) | | 10. MOTHER'S LAST NAME PRIOR TO FIRST MARRIAGE | |
| 11. DATE OF BIRTH (Month, Day, Year) | 12. BIRTHPLACE (State, Territory, or Foreign Country) | 13. PRESENT RESIDENCE-STATE | |
| 14. COUNTY | 15. CITY, TOWN, OR LOCATION | 16. STREET AND NUMBER OF PRESENT RESIDENCE | |
| 17. ZIPCODE | 18. INSIDE CITY LIMITS? <input type="checkbox"/> Yes <input type="checkbox"/> No | 19. MOTHER'S MAILING ADDRESS (If same as residence, leave blank) | |
| 20. FATHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix) | | 21. DATE OF BIRTH (Month, Day, Year) | 22. BIRTHPLACE (State, Territory, or Foreign Country) |
| 23. I CERTIFY THAT THE PERSONAL INFORMATION PROVIDED ON THE CERTIFICATE IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. | | | 24. DATE SIGNED (Month, Day, Year) |
| Signature of Parent (or Other Informant) > | | | |
| 25. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH | | | |
| 25a. INITIATING CAUSE/CONDITION (Among the choices below, please select the one which most likely began the sequence of events resulting in the death of the fetus.) | | | |
| Maternal Conditions/Diseases (Specify) _____ | | | |
| Complications of Placenta, Cord, or Membranes – <input type="checkbox"/> Rupture of membranes prior to onset of labor <input type="checkbox"/> Abruptio placenta <input type="checkbox"/> Placental insufficiency <input type="checkbox"/> Prolapsed cord | | | |
| <input type="checkbox"/> Chorioamnionitis <input type="checkbox"/> Other (Specify) _____ | | | |
| Other Obstetrical or Pregnancy Complications (Specify) _____ | | Fetal Anomaly (Specify) _____ | |
| Fetal Injury (Specify) _____ | | Fetal Infection (Specify) _____ | |
| Other Fetal Conditions/Disorders (Specify) _____ | | <input type="checkbox"/> Unknown | |
| 25b. OTHER SIGNIFICANT CAUSES OR CONDITIONS (Select or specify all other conditions contributing to death in item 25a.) | | | |
| Maternal Conditions/Diseases (Specify) _____ | | | |
| Complications of Placenta, Cord, or Membranes – <input type="checkbox"/> Rupture of membranes prior to onset of labor <input type="checkbox"/> Abruptio placenta <input type="checkbox"/> Placental insufficiency <input type="checkbox"/> Prolapsed cord | | | |
| <input type="checkbox"/> Chorioamnionitis <input type="checkbox"/> Other (Specify) _____ | | | |
| Other Obstetrical or Pregnancy Complications (Specify) _____ | | Fetal Anomaly (Specify) _____ | |
| Fetal Injury (Specify) _____ | | Fetal Infection (Specify) _____ | |
| Other Fetal Conditions/Disorders (Specify) _____ | | <input type="checkbox"/> Unknown | |
| 26. ESTIMATED TIME OF FETAL DEATH <input type="checkbox"/> Dead at time of first assessment, no labor ongoing <input type="checkbox"/> Dead at time of first assessment, labor ongoing <input type="checkbox"/> Died during labor, after first assessment <input type="checkbox"/> Unknown time of fetal death | | 27a. WAS AN AUTOPSY PERFORMED? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Planned | 27b. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Planned |
| 28. I CERTIFY THAT THIS DELIVERY OCCURRED ON THE DATE STATED ABOVE AND THE FETUS WAS BORN DEAD. | | 27c. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> No | |
| Signature > | | 29. DATE SIGNED (Month, Day, Year) | |
| 31. CERTIFIER'S NAME AND TITLE (Type) <input type="checkbox"/> M.D. <input type="checkbox"/> D.O. <input type="checkbox"/> Other (Specify) _____ | | 30. ATTENDANT'S NAME AND TITLE (If delivery not attended by physician) Name (Type) _____ <input type="checkbox"/> CNM/CM <input type="checkbox"/> Other Midwife <input type="checkbox"/> Other (Specify) _____ | |
| 32. CERTIFIER'S MAILING ADDRESS (Street and Number or Rural Route, City or Town, State, Zip Code) | | 33a. METHOD OF DISPOSITION <input type="checkbox"/> Burial <input type="checkbox"/> Cremation <input type="checkbox"/> Donation <input type="checkbox"/> Hospital Disposition <input type="checkbox"/> Removal from State <input type="checkbox"/> Other (Specify) _____ | |
| 33b. PLACE OF DISPOSITION (Name of cemetery, crematory, or other place) | | 33c. LOCATION (City or Town, and State) | |
| 34. FUNERAL DIRECTOR OR HOSPITAL ADMINISTRATOR Signature > | | 35. FIRM OR HOSPITAL NAME AND ADDRESS | |
| | | 36. DATE FILED BY STATE REGISTRAR (Month, Day, Year) | |

CERTIFICATE OF STILLBIRTH (Cont.)

| PRENATAL | LABOR-DELIVERY/STILLBORN FETUS |
|---|---|
| <p>59. NUTRITION OF MOTHER</p> <p>1. Height _____</p> <p>2. Prepregnancy Weight _____</p> <p>3. Weight at delivery _____</p> <p>4. Did mother get WIC food for herself? Yes _____ No _____ Unknown _____</p> <p>60. MEDICAL RISK FACTORS (Check all that apply.)</p> <p>1. <input type="checkbox"/> Diabetes, prepregnancy</p> <p>2. <input type="checkbox"/> Diabetes, gestational</p> <p>3. Hypertension <input type="checkbox"/> Prepregnancy (Chronic) <input type="checkbox"/> Gestational (PIH, preeclampsia) <input type="checkbox"/> Eclampsia</p> <p>4. <input type="checkbox"/> Previous preterm birth</p> <p>5. <input type="checkbox"/> Other previous poor pregnancy outcome (SGA, perinatal death, etc.)</p> <p>6. <input type="checkbox"/> Vaginal bleeding during this pregnancy prior to labor</p> <p>7. <input type="checkbox"/> Pregnancy resulted from infertility treatment (If yes, check all that apply.) <input type="checkbox"/> Fertility-enhancing drugs, Artificial insemination or Intrauterine insemination <input type="checkbox"/> Assisted reproductive technology (e.g. in vitro fertilization (IVF), gamete intrafallopian transfer (GIFT))</p> <p>8. <input type="checkbox"/> Mother had a previous cesarean delivery, if yes, how many Number _____</p> <p>9. <input type="checkbox"/> Alcohol use No. of drinks per week: _____</p> <p>10. <input type="checkbox"/> None of the above</p> <p>61. METHOD OF DELIVERY</p> <p>1. Forceps attempted? Yes _____ No _____ Successful: Yes _____ No _____</p> <p>2. Vacuum extraction attempted? Yes _____ No _____ Successful: Yes _____ No _____</p> <p>3. Fetal presentation at delivery <input type="checkbox"/> Cephalic <input type="checkbox"/> Breech <input type="checkbox"/> Other</p> <p>4. Final route and method of delivery (check one) <input type="checkbox"/> Vaginal/spontaneous <input type="checkbox"/> Vaginal/forceps <input type="checkbox"/> Vaginal/vacuum <input type="checkbox"/> Cesarean, if cesarean was a trial of labor attempted? Yes _____ No _____</p> <p>5. Hysterotomy/Hysterectomy Yes _____ No _____</p> | <p>62. MATERNAL MORBIDITY (Check all that apply.) (These are complications associated with labor and delivery.)</p> <p>1. <input type="checkbox"/> Maternal transfusion</p> <p>2. <input type="checkbox"/> Third or fourth degree perineal laceration</p> <p>3. <input type="checkbox"/> Ruptured uterus</p> <p>4. <input type="checkbox"/> Unplanned hysterectomy</p> <p>5. <input type="checkbox"/> Admission to intensive care unit</p> <p>6. <input type="checkbox"/> Unplanned operating room procedure following delivery</p> <p>7. <input type="checkbox"/> None of the above</p> <p>63. INFECTIONS PRESENT AND/OR TREATED (During this pregnancy, check all that apply.)</p> <p>1. <input type="checkbox"/> Gonorrhea</p> <p>2. <input type="checkbox"/> Syphilis</p> <p>3. <input type="checkbox"/> Herpes Simplex Virus (HSV)</p> <p>4. <input type="checkbox"/> Chlamydia</p> <p>5. <input type="checkbox"/> Listeria</p> <p>6. <input type="checkbox"/> Group B Streptococcus</p> <p>7. <input type="checkbox"/> Cytomegalovirus</p> <p>8. <input type="checkbox"/> Parvo virus</p> <p>9. <input type="checkbox"/> Toxoplasmosis</p> <p>10. <input type="checkbox"/> AIDS or HIV antibody</p> <p>11. <input type="checkbox"/> None of the above</p> <p>12. <input type="checkbox"/> Other (Specify) _____</p> <p>64. CONGENITAL ANOMALIES OF THE NEWBORN (Check all that apply.)</p> <p>1. <input type="checkbox"/> Anencephaly</p> <p>2. <input type="checkbox"/> Meningocele/Spina bifida</p> <p>3. <input type="checkbox"/> Cyanotic congenital heart disease</p> <p>4. <input type="checkbox"/> Congenital diaphragmatic hernia</p> <p>5. <input type="checkbox"/> Omphalocele</p> <p>6. <input type="checkbox"/> Gastroschisis</p> <p>7. <input type="checkbox"/> Limb reduction defect (excluding congenital amputation and dwarfing syndromes)</p> <p>8. <input type="checkbox"/> Cleft Lip with or without Cleft Palate</p> <p>9. <input type="checkbox"/> Cleft Palate alone</p> <p>10. <input type="checkbox"/> Down Syndrome <input type="checkbox"/> Karyotype confirmed <input type="checkbox"/> Karyotype pending</p> <p>11. <input type="checkbox"/> Suspected chromosomal disorder <input type="checkbox"/> Karyotype confirmed <input type="checkbox"/> Karyotype pending</p> <p>12. <input type="checkbox"/> Hypospadias</p> <p>13. <input type="checkbox"/> Fetal alcohol syndrome</p> <p>14. <input type="checkbox"/> Other congenital anomalies (Specify) _____</p> <p>15. <input type="checkbox"/> None of the above</p> |

THIS IS NOT PART OF THE CERTIFICATE OF STILLBIRTH
Test required by K.S.A. 65-153F, 153G

Serological Test Made: _____ 1st _____ 2nd _____ 3rd (Trimester) _____ At Delivery _____ Not Performed

If no test made, state reason: _____

Errata

On May 14, 2012, the KDHE Bureau of Epidemiology and Public Health Informatics made the following correction on Page 4, replacing paragraph 5. The change has been applied to the PDF version. Original statistics were prepared using linked birth-infant death data instead of the cross sectional infant death data.

Old

~~Several zip codes had enough deaths to allow analysis for 2006-2010. The zip codes with the highest mortality rates and a relative standard error of 30% or lower included 66720 (Neosho County, 16.2), 66605 (Shawnee County, 13.8), 67218 (Sedgwick County, 13.5), 67156 (Cowley County, 13.1), and 67037 (Sedgwick County, 11.1). The zip codes with the lowest rates were 67212 (Sedgwick County, 3.6), 66062 (Johnson County, 5.2), 66061 (Johnson County, 5.3), 67846 (Finney County, 5.6), and 66030 (Johnson County, 5.9).~~

Revised

Several zip codes had enough deaths to allow analysis for 2006-2010. The zip codes with the highest mortality rates and a relative standard error of 30% or lower included 66605 (Shawnee County, 16.2), 66720 (Neosho County, 14.9), 67156 (Cowley County, 13.1), 67218 (Sedgwick County, 12.7), and 67214 (Sedgwick County, 12.4). The zip codes with the lowest rates were 67212 (Sedgwick County, 3.6), 66030 (Johnson County, 5.0), 66062 (Johnson County, 5.3), 66106 (Wyandotte County, 5.5), and 67846 (Finney County, 5.6).

Errata

On June 11, 2012 the KDHE Bureau of Epidemiology and Public Health Informatics made corrections to table 4 in the report *Selected Special Statistics, Stillbirths and Infant Deaths, Kansas, 2010*. These changes involved the assignment of one county to a different population peer group. Due to a methodological error, Doniphan County was incorrectly assigned to the “rural” peer group when it should have been in the “densely-settled rural” peer group. This correction, now applied to table 4, adjust the counts and rates for these two peer groups. Values for the other peer groups, counties and the state remain unchanged.