

INFANT MORTALITY

Health Issue Brief

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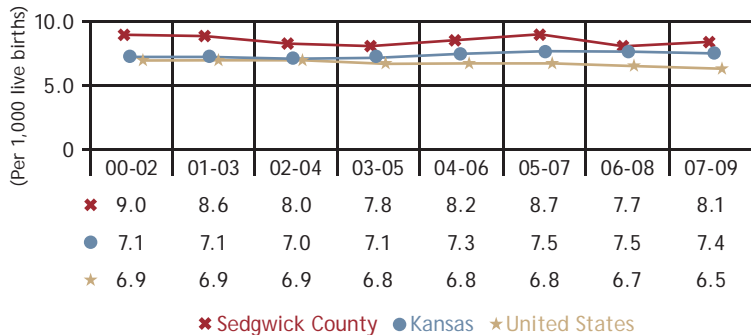


For every 1,000 children born in the United States, six will die before their first birthday. This is a troubling statistic on any level, though just how troubling is a matter of perspective. The U.S. infant mortality rate ranks well below the world average (46 per 1,000 live births) yet stacks up much less favorably when compared to that of other countries, ranking a distant 33rd overall.

In either case, numbers fail to tell the entire story. Pockets exist in some communities and demographic groups in which the infant mortality rate is much higher than that of the general population. This brief seeks to explore some of those disparities and the factors that contribute to them.



Infant Mortality Rates from 2000-2009 for United States, Kansas, and Sedgwick County based on three-year rolling averages (all races)



Infant Mortality

Infant Mortality is defined as the number of babies that die before their first birthday. The infant mortality rate is expressed as the number of infant deaths per 1,000 live births. As the chart to the left indicates, infant mortality rates for Kansas often exceed that of the United States. Between 2000 and 2009, Sedgwick County had rates of infant death that were higher than the state and national averages.

Sources: KDHE Vital Statistics, 2000-2009; National Vital Statistics System, 2000-2009

Infant Mortality cases are most often the result of premature births (delivery prior to 37 weeks) and low birth weight (less than five and a half pounds), but they are also impacted by a variety of other preconception, prenatal and postpartum factors, including maternal health, access to quality prenatal care, socioeconomic conditions and public health practices. The chart to the right shows that congenital malformations and birth defects, complications from premature birth and low birth weight, and sudden infant death syndrome (SIDS) are among the leading causes of infant death.

Leading Causes of Infant Death in the U.S., 2005^a

Cause of death	Number of deaths	Percent of all infant deaths ^b
Congenital malformations, deformations, and chromosomal abnormalities	5,552	19.5
Disorders related to short gestation and low birth weight	4,714	16.6
Sudden infant death syndrome (SIDS)	2,230	7.8
Newborn affected by maternal complications of pregnancy	1,776	6.2
Newborn affected by complications of placenta, cord and membranes	1,110	3.9
Accidents (unintentional injuries)	1,083	3.8
Respiratory distress of newborn	860	3.0
Bacterial sepsis of newborn	834	2.9
Neonatal hemorrhage	665	2.3
Necrotizing enterocolitis	546	1.9
All other causes	9,070	31.9

^a "Infant deaths" are those occurring before the age of one.

^b Totals may not add to 100 percent due to rounding.

Source: National Vital Statistics, 2000-2009

Causes of Infant Death in Sedgwick County (2005-2008)

Cause of death	Number	Percent
Conditions of perinatal periods	221	49.66
Birth defects	86	19.33
SIDS	67	15.06
Accidents	11	2.47
Other digestive diseases	8	1.80
Cerebrovascular disease	6	1.35
Other causes	19	4.27

Source: KDHE Vital Statistics, 2000-2009

SIDS

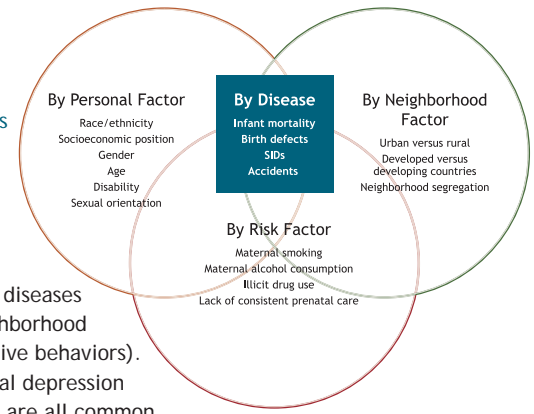
Sudden infant death syndrome (SIDS) most often claims infants between two and four months of age and typically occurs during sleep. Rates have dropped in recent years, thanks in part to better education and a greater awareness about safe sleeping practices for infants. Still, many of the contributing factors toward SIDS deaths remain a mystery. Studies suggest that poverty, a lack of prenatal care, and unsafe sleep environments can increase the risk of SIDS. Children born to mothers who used tobacco or other substances during pregnancy also are at a heightened risk. In Sedgwick County, more than 60 babies died between 2005 and 2008 due to SIDS.

Source: Centers for Disease Control and Prevention (CDC), 2009

Major health issues, like infant mortality, can be difficult to accurately describe because they encompass so many different layers. In these cases, it's much easier to peel back those layers one by one. An understanding of each individual layer can often lead to a better understanding of the whole.

This brief will attempt to view the crisis of infant mortality through three separate lenses: risk factors (including individual behaviors), neighborhood factors (neighborhood characteristics) and personal factors (race/ethnicity and socioeconomic status). Each of these viewpoints will help explore the reality of infant mortality in Sedgwick County.

Source: Koh, et al., 2010



Risk Factors

The reality is certain people find themselves at greater risk for developing specific diseases or disorders. Risk factors can be biological (genetic makeup), social (family or neighborhood characteristics) or behavioral (participation in risky behaviors or avoidance of positive behaviors). Infant mortality risks tend to weigh heavily on biological and social factors. Maternal depression or stress, instances of domestic violence, and premature or low-birth-weight births are all common contributors. Children born to mothers who are obese are also at greater risk for infant death.

Sources: Chen, et al., 2009; Health Resources and Services Administration (HRSA), 2009

Risky Behaviors

Some of the most common messages aimed at pregnant women center around substance use. Despite health warnings, studies show that women continue to smoke (18 percent), drink alcohol (9.8 percent) and use illicit drugs (4.3 percent) during their pregnancies.

- Infants born to smoking mothers are 40 percent more likely to die in their first year, as smoking has been connected to complications with pregnancy, low birth weight and SIDS.
- Exposure to alcohol during pregnancy can lead to low birth weight, premature delivery, congenital malformations and fetal alcohol syndrome (FAS).
- Illicit drug use during pregnancy doubles the likelihood of a premature and/or low-birth-weight birth.

Sources: Fanaroff et al., 2007; Salihu et al, 2003; U.S. Department of Health and Human Services, 2004; U.S. Health Resources and Services Administration (HRSA), 2009; Van Meurs, 1999

Preventive Care

Sometimes not doing anything at all can be its own form of risky behavior. Mothers who do not engage in proper preventive care also are at risk for infant death. Key preventive strategies include:

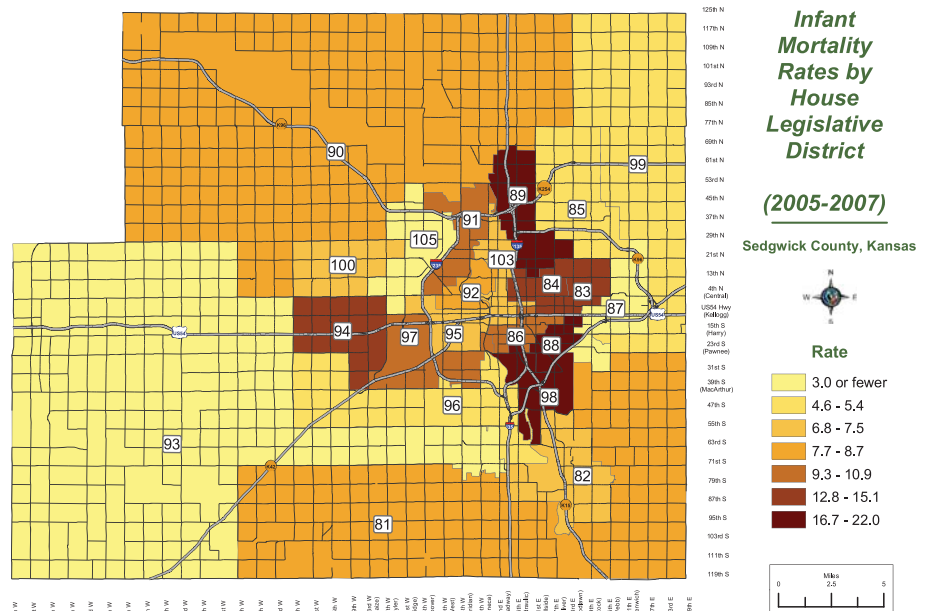
- Consistent *prenatal care*, beginning in the first trimester and continuing throughout pregnancy
- Consumption of *folic acid*, prior to and during pregnancy
- *Oral health care*
- Exclusive *breastfeeding* for the first six months of the child's life
- Providing *safe sleeping* arrangements for the infant
- Making *well-child doctor visits* through the baby's first two years



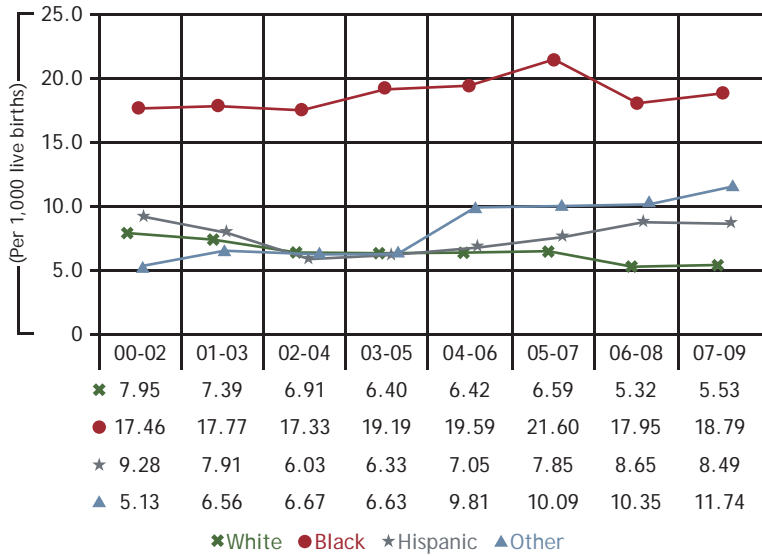
Neighborhood Factors

Infant mortality is a problem for everyone, but certain areas of Sedgwick County suffer from much higher rates of infant death than do others. Using data from 2005 to 2007, the map to the right illustrates which areas are most affected. The highest infant mortality rates in Sedgwick County are found in House District 89 (portions of northeast Wichita), 88 (portions of southeast Wichita, including the Planeview neighborhood), and 98 (portions of southeast Wichita, including the Oaklawn neighborhood). In these districts, infants are three to five times more likely to die than in the surrounding areas of Derby (District 82), Bel Aire (District 85) and portions of far east and west Wichita.

Note: Data by legislative district for 2008 were not available at the time of this publication



Infant mortality rates by race for Sedgwick County, Kan. based on three-year rolling averages from 2000-2009



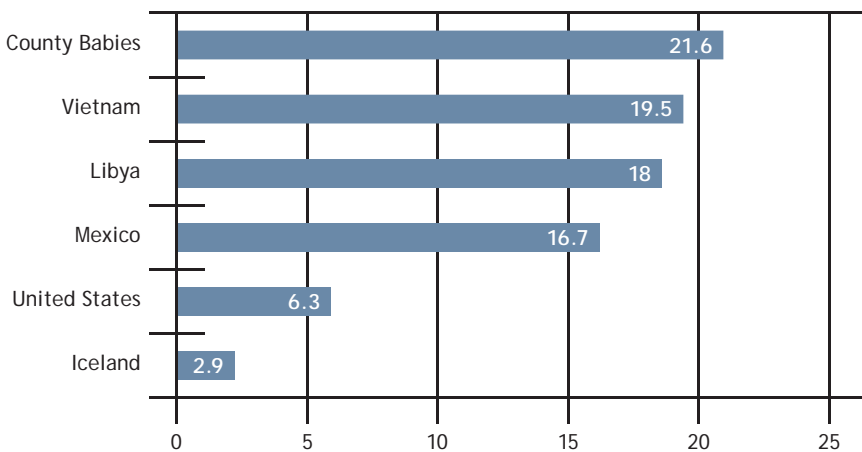
Source: KDHE Office of Health Informatics

The chart to the left shows that infant mortality affects black residents to a greater degree than other races/ethnicities. The black infant mortality rate in Sedgwick County more than doubles that of whites. From 2006-2008 in Sedgwick County, 13.8 percent of black babies and 8.3 percent of white babies were born prematurely, a risk factor for infant death.

“What this means is that, despite our highly advanced health care system, a black baby born today in Kansas has a lower chance of surviving to its first birthday than a baby born in war-torn Bosnia, or Brunei, or Costa Rica or the Ukraine.”

Dr. Jason Eberhart-Phillips,
Former Kansas State Health Director

Infant Mortality Rates, 2007 (Per 1,000 live births)



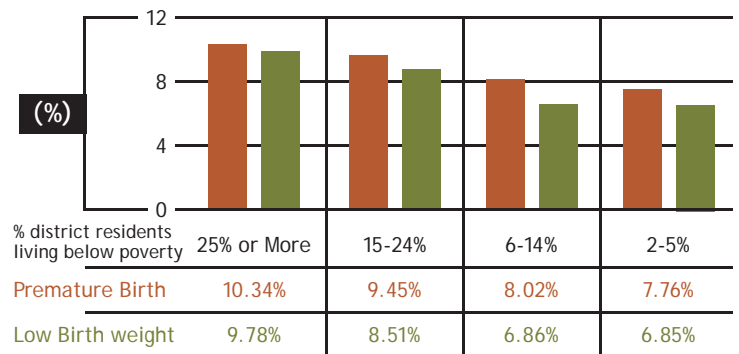
Source: CIA World Factbook, 2009; KDHE Vital Statistics, 2000-2009

Personal Factors

Socioeconomic Status

Disparities in infant mortality rates aren't just relegated to race factors. Based on poverty levels in state House districts within Sedgwick County (2005-2009), residents of districts with the highest poverty rates (84, 86, 88, 103) experienced higher rates of premature (10.34 percent) and low-birth-weight births (9.78 percent), compared to lowest poverty rate districts (82, 83, 85, 90, 94, 99, 100), where 6.85 percent of newborns were low birth weight and 7.76 percent were premature. The chart at the right collapses the 21 House districts in Sedgwick County into four poverty categories.

Sedgwick County, Kan. Percentages of Low Birth Weight and Premature Birth by House District Poverty Rate 2005-2007



Sources: KDHE Legislative Report Cards, 2005-2007; U.S. Census Bureau, 2005-2009
Percentages of persons living below the poverty line (based on Federal Poverty Guidelines - i.e. - \$22,050 annual income for a family of four)

Promising Practices

Kansas Blue Ribbon Panel on Infant Mortality

The Kansas Blue Ribbon Panel on Infant Mortality reviewed programs and policy initiatives around the United States and identified several best and promising practices for the reduction of infant mortality. For interventions to be effective, two fundamentally different types of approaches are needed: downstream (working with individuals to change behaviors) and upstream (working with policy makers to change community and social characteristics).

Sedgwick County Fetal Infant Mortality Review (FIMR)

Sedgwick County FIMR is a joint effort between the Sedgwick County Health Department, KDHE and Central Plains Regional Healthcare Foundation. Its mission is to enhance the health and well-being of women, infants and families by improving the community resources and service delivery systems available to them. The FIMR process brings together key members of the community to review information from stillbirth and infant death cases with the goal of identifying behavioral, social and environmental factors associated with those deaths; establishing whether they represent system problems; developing recommendations for change; assisting in the implementation of change and determining the effects of those changes on birth outcomes and the community as a whole.

Healthy Babies Program

Healthy Babies, a program of the Sedgwick County Health Department, is a FREE educational program designed to improve birth outcomes by reducing the incidence of premature and low-birth-weight births and infant deaths among at-risk moms. In 2010, registered nurses and community liaisons provided prenatal and parenting group education and individual visits to 1,286 moms and babies.

Women, Infants & Children (WIC)

WIC, another program of the Sedgwick County Health Department, is a nutrition education and supplemental food program for women, infants and children ages one to five. In 2010, Sedgwick County WIC provided nutrition education and breastfeeding support to more than 18,000 enrolled clients who met income and risk factor eligibility.

The "One-Stop-Shop" Approach

Twenty years ago in Dane County, Wis., the infant mortality rate among black babies was incredibly high. Then a number of interventions took place. Medicaid health insurance expanded for women, a one-stop clinic was established and five agencies joined forces to provide multiple services to clients. Over the past two decades, the rate of infant deaths among black babies in Dane County has dropped dramatically, from 73 deaths per 1,000 live births to just 17. While these numbers remain high and the exact causes are difficult to determine, the "one-stop-shop" approach appears to be effective.

Sources: CDC, *Mortality and Morbidity Weekly Report*, 2009

Reducing Racism to Reduce Infant Mortality

In Genesee County, Mich., multiple approaches were used to reduce the infant mortality rate from 12.4 per 1,000 live births in 1999 to 10.0 in 2006. Actions taken included a coordinated effort to reduce racism and mobilize community members through dialogue, education and enhanced support. In addition to overall gains, the black infant mortality rate dropped from 23.5 per 1,000 live births to 17.6 during the initiative.

Source: *Pestronk & Franks*, 2003

Recommendations for Practice

The Annie E. Casey Foundation has released four key strategies that are a vital part of efforts to reduce infant mortality.

● Take a Life-Course Approach to Maternal and Infant Health

Focus not only on pregnant women and newborn babies, but work to build better health before and in between pregnancies. Better general health among women will reduce infant mortality and produce other lasting benefits as well.

● Ensure Timely Prenatal Care for All Women

Women need access to care throughout all trimesters of a pregnancy. Studies show that mothers who received prenatal care in each trimester were three times more likely to have a healthy baby. These services should be specifically targeted toward young moms, one-third of which fail to receive any care in their first trimester of pregnancy.

● Address Racial and Ethnic Disparities in Infant Mortality

As demonstrated in this brief, disparities among racial groups continue to exist. More research needs to be done to explore why these disparities exist and how they may be eliminated via environmental, social and behavioral reform.

● Sustain Efforts to Prevent Infant Mortality After the First Month of Life

Emphasis needs to be placed on expanding breastfeeding, distributing safe-sleep information for the prevention of SIDS and ensuring that all young children have access to health care.

Source: *Annie E. Casey Foundation*, 2009

● Actions You Can Take

- Visit the Sedgwick County Health Department's website at www.sedgwickcounty.org
- Support Sedgwick County's Coalition of Community Health Clinics (CCHC)
- Volunteer to inform others about accessing affordable health care. Call 660-7402 to learn about the Community Health Navigator program
- Use United Way's 2-1-1 Call Line. Resource information is available 24 hours a day, seven days a week
- Participate in the annual "Take a Loved One to the Doctor Day" campaign
- Stay informed and voice your opinions and concerns to local and state officials

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For more information, contact the Sedgwick County Health Department's Center for Health Equity

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