For every 1,000 children born in the United States, eight 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, some of the factors that contribute to infant mortality, and best practices addressing this issue in our county and throughout the state of Kansas.

Infant Mortality

Infant Mortality is defined as the number of babies who die before their first birthday. The rate is expressed as the number of infant deaths per 1,000 live births.

As the chart to the right indicates, infant mortality rates for Sedgwick County exceed those of the state of Kansas. From 1987 to 2013, Sedgwick County had higher rates of infant death than that of the state of Kansas.

While the infant mortality rates in Kansas for White, non-Hispanic, and Hispanic any race have decreased for the most recent period (2009-2013); the rate for Black, non-Hispanic has increased for that same time period. The Black non-Hispanic five-year rate is 2.7 times higher than the White non-Hispanic rate. The Hispanic five-year rate is 1.4 times higher than the White non-Hispanic rate.

Over the last 22 years Kansas has experienced a statistically significant declining trend in the annual infant mortality rate (with a lot of ups and downs in between). The Healthy People 2020 target is 6.0 infant deaths per 1,000 live births.

Sources: Kansas Department of Health and Environment, Period Cohort Infant Deaths Residence Data. 2013


KDH&E Kansas Health Matters, 2015

Disparities

The overall rate of infant death in Sedgwick County in the years 2009-2013 is 7.7 per 1,000 live births. The black, non-hispanic infant mortality rate has remained at least twice that of the white, non-hispanic rate for most of the last 20 years. The Sedgwick County Health Department administers the Fetal and Infant Mortality Review (FIMR) process, researching the issue and supporting other programs that are also combating infant mortality. Community partners include members of nonprofit, for-profit, academic and public entities. All are working together to shorten the disparate gap between the black, non-hispanic infant mortality rates and that of the other racial/ethnic groups. Within the health department, the Women, Infants and Children (WIC) and Healthy Babies programs continue to work with women and children educating residents of factors that contribute to infant mortality.

Although there has been a steady decline in black, non-hispanic infant mortality rates, both charts show these infants are affected to a greater degree than other races/ethnicities. From 2005 to 2013, the black infant mortality rate (17.2) and the “other” (classified as two or more races) infant mortality rate (16.2) in Sedgwick County has been three times that of white infant mortality.

Source: Bureau of Epidemiology and Public Health Informatics, KDH&E Period Cohort Mortality Files
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 but not limited to maternal health, access to equitable health care (or equitable access to quality health care), socioeconomic conditions and public health practices.

The leading causes of infant death in Sedgwick County and Kansas respectively are:

- Congenital anomalies (birth defects)
- Prematurity/low birth weight (baby is born preterm—less than 37 weeks or weighs less than 5 pounds 8 ounces)
- SUIDS (Sudden Unexpected/Unexplained Infant Death Syndrome)
- Maternal factors and complications (problems the mother may experience during pregnancy)
- Other and external causes may include complications of the umbilical cord, placenta or membranes

### Infant Deaths by Cause, 2009-2013

**Sedgwick County (n=304)**

- 23.9% Other and External Causes
- 19.4% Prematurity/Low Birth Weight
- 16.6% SUIDS
- 25.9% Congenital Anomalies
- 10% Maternal Factors and Complications

**Kansas (n=1,292)**

- 28.9% Other and External Causes
- 23.8% Congenital Anomalies
- 23.3% Prematurity/Low Birth Weight
- 17.3% SUIDS
- 10.5% Maternal Factors and Complications

Source: Bureau of Epidemiology and Public Health Informatics, KDHE Period Cohort Mortality & Natality Files, Linked Birth/Death File

### 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.

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

### Behavioral Factors

Of those women who reported smoking during pregnancy, 25.3 percent of babies born died before their first birthday.

It is recommended that pregnant women avoid tobacco as:

- “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 birth and/or low birth weight.

Source: Linked Birth-Death & Residential Birth File, Bureau of Epidemiology and Public Health Informatics, KDHE Residence Data
Major health issues, like infant mortality, can be difficult to accurately describe because they encompass so many different layers. 

Source: Koh, et al., 2010. As shown by the Social Ecological Model, above, layers are sometimes defined as factors that contribute to one’s overall health outcomes.

Thoughtfully and intentionally working to address personal, social and community factors that could positively impact a baby’s life is essential to empowering families to provide the best chances to a better life for that child.

Applying protective factors and lessening risk factors, early in life, can change a person’s overall health trajectory. “Looking at life as an integrated continuum instead of in disconnected stages is part of the Life Course Perspective. Integrating the Life Course Perspective into Maternal Child and Family Health curricula and programs contributes to health outcomes across the span of a person’s life.”


Mothers who actively engage in proper preventive health care activities help to reduce their baby’s risk of infant death. Key preventive strategies include:

- Consistent prenatal care, beginning in the first trimester and continuing throughout pregnancy
- Take folic acid, prior to and during pregnancy
- Oral health care
- Exclusive breastfeeding for the first six months of the child’s life
- Provide safe sleeping arrangements for the infant
- Make well-child doctor visits through the baby’s first two years
Community Programs

Kansas Blue Ribbon Panel on Infant Mortality
In 2009, the Kansas Blue Ribbon Panel on Infant Mortality was formed to tackle this problem. The panel brings together several organizations in Kansas with a broad range of expertise, including many that have been working for years to address infant mortality risk factors and improve birth outcomes. The panel has helped focus efforts among partners and generated new collaborative initiatives.

Project Imprint, Sedgwick County Fetal Infant Mortality Review (FIMR)
Project Imprint is a community initiative involving multiple disciplines, organizations and individuals seeking answers as to why infants are dying in our county. Based on data review and interviews with parents who have experienced a loss, Project Imprint’s Case Review Team (CRT) makes recommendations to the Community Action Team (CAT), which results in increased knowledge about the issue, changes to service delivery and policy changes.

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 births and low birth weight, and infant deaths among at-risk moms.

Maternal Infant Health Coalition (MIHC)
MIHC has a mission to improve maternal and infant health outcomes in Sedgwick County by assuring quality preconception and perinatal care, and using data-driven, evidence-based practice and quality improvement processes. The MIHC works in partnership with public and private organizations that have a vested interest in maternal and infant health. They strive to improve maternal health for women of reproductive age, enhance service integration and promote social equity. MIHC members advocate for quality health care and support health promotion efforts throughout the community.

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.

Count the Kicks Campaign (CTK)
The CTK Campaign aims to reduce preventable stillbirths by teaching expectant parents the importance of, and method for, self-monitoring and tracking babies’ daily movements during the third trimester. Recent research shows this simple, no-cost practice significantly decreases stillbirths. The ultimate goal of Count the Kicks is to improve the chances of delivering a healthy baby and to reduce stillbirth rates, which occur in one out of every 160 pregnancies nationwide. The Kansas CTK Ambassador partners with Project Imprint to help Kansas mothers give birth to strong, healthy and viable babies, thus giving them a “Healthy Birth Day.”

Recommended Strategies


- **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.

To Learn More

- Visit the Sedgwick County Health Department’s website at www.sedgwickcounty.org.
- Join Sedgwick County’s Coalition of Community Health Clinics (CCHC).
- Volunteer to inform others about accessing affordable health care.
- Use United Way of the Plains’ 2-1-1 Resource Call Line.
- 1-800-CHILDREN, KCSL Parent Helpline.