

Infant Mortality

In 2013, 139 infants died in Nebraska. Death resulted primarily from birth defects, prematurity, and Sudden Infant Death Syndrome/ Sudden Unexpected Infant Death. Infant mortality is defined as the number of babies that die before their first birthday. The infant mortality rate is the number of infant deaths per 1,000 live births. Nebraska infants died at a rate of 5.3 per 1,000 live births in 2013, an increase from 2012. Although Nebraska's rate overall is lower than the US average (5.98), African Americans and American Indians have a significantly higher death rate than other racial/ethnic groups in Nebraska. A large disparity exists between Asian Americans- the lowest group at 2.4-and African Americans -the highest group at 11.4 (2009-2013 Vital Records). For the last 15 years African Americans have remained at the highest risk for infant mortality in Nebraska.

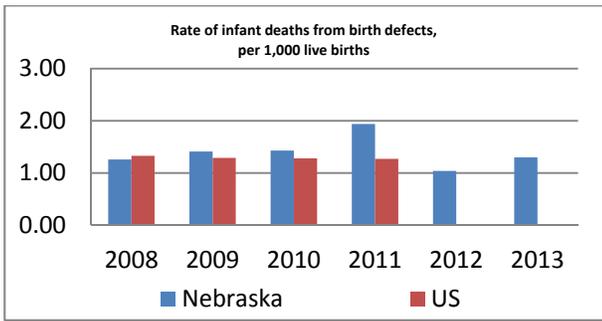
Children who die from birth defects in Nebraska die at a rate of 1.94/1,000 births. This has remained higher than the US rate since 2009 (Vital Records/Birth Defects Registry). Prematurity is the birth of an infant prior to 37 weeks gestation. It is the only contributing factor that continues to be lower than the US rate, but shows significant disparity across racial/ethnic groups in the state (2011 Nebraska Vital Records). Sudden Unexpected Infant Death (SUID) is the death of an infant (younger than 1 year of age) that occurs suddenly and unexpectedly. Sudden Infant Death Syndrome (SIDS) is one type of SUID, the sudden death of an infant that cannot be explained after a thorough investigation is completed. Although SUID at the rate of 8.49 is lower than the US rate, it remains significantly higher than the HP2020 Objective of 8.4. SIDS (6.03) has a significantly higher death rate than both the US average (4.78) and the HP 2020 Objective. If these contributing components are not each addressed, then the infant mortality rate will continue to be a generational issue leaving Nebraska families devastated over their loss.

Criterion 1: The Problem is Worse than the Benchmark or Increasing

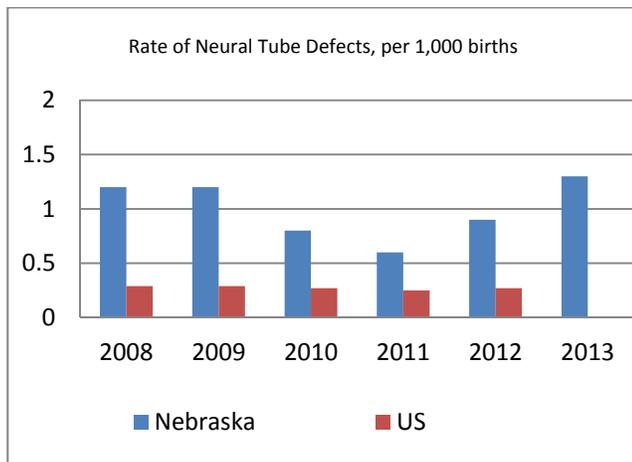
Birth Defects, Prematurity and SIDS/SUIDS are the leading causes of babies dying before their first birthday in Nebraska. The death rates from birth defects and SIDS in Nebraska are higher than both the nation's rate as well as the HP 2020 goal. Birth defects had a large increase in 2011 while SIDS numbers jumped in 2012. SUID in the nation have decreased slightly from 2008-2011 while Nebraska's SUID rate has see-sawed, ending on a higher note right under the nation. Prematurity is the only contributing factor that is lower than the nation; there is no specific HP 2020 goal for prematurity-related infant mortality.

Healthy People 2020 Targets and National Data

Indicator	Nebraska (year)	U.S. (year)	HP2020
Infant Mortality	5.3 (2013)	6.05 (2011)	6.0
Leading Causes			
SIDS	1.94 (2011)	1.27 (2011)	1.3
Prematurity	0.048 (2011)	1.03 (2011)	-
SIDS	6.03 (2011)	4.78 (2011)	5.0
SUID	8.49 (2011)	8.51 (2011)	8.4



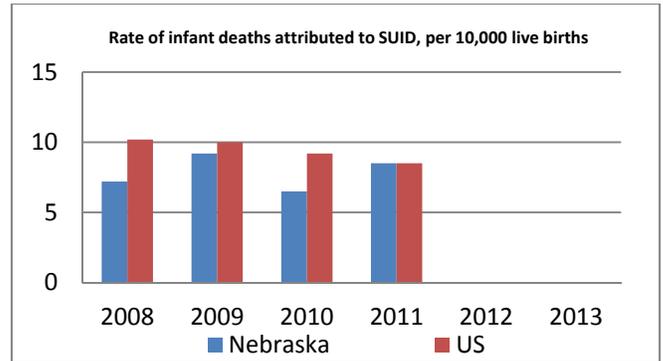
There are more than 120,000 babies (1 in 33) in the United States are born each year with birth defects. “Genetic and environmental factors, or some combination of these factors, can cause birth defects. Some of the most common birth defects, including heart defects, cleft lip/palate, and neural tube defects (serious birth defects of the brain and spinal cord) are believed to be caused by a combination of genetic and environmental factors. However, the causes of most birth defects are unknown” reported from March of Dimes. The rate of Nebraska infants born with a neural tube defect have risen in the past 2 years; 0.90 in 2012 and 1.3 /1,000 live births in 2013. Although this corresponds to a relatively small number of deaths, the rate continues to be substantially and significantly higher than the US rates.



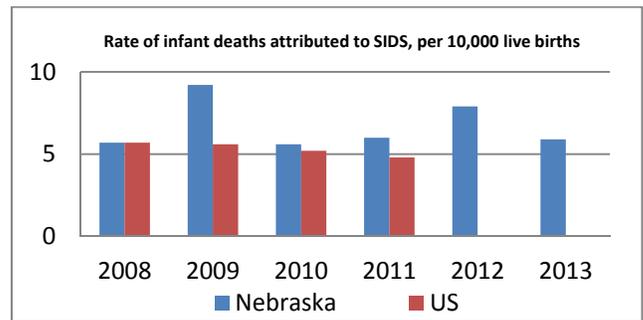
Nebraska Vital Statistics reported prematurity (babies born before 37 weeks gestation) as the second leading cause of infant mortality in 2013. While the overall number of preterm births has steadily decreased in Nebraska since 2010, the

number of infant deaths resulting from of a premature birth, specifically in African Americans, has increased.

Although Nebraska's SUID rate of 8.49 is lower than the US rate it remains higher than the HP2020 Objective of 8.4.



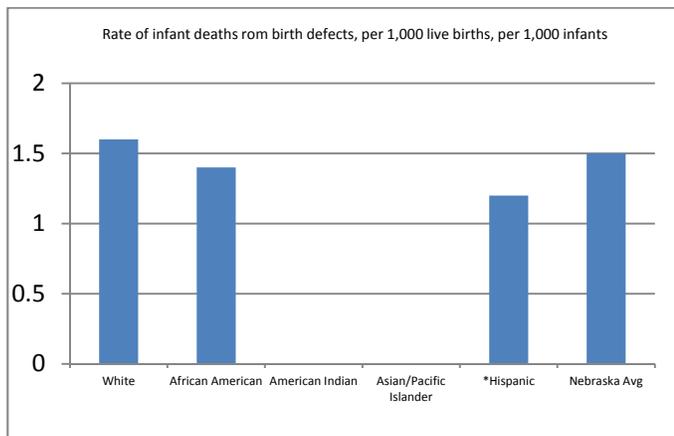
Nebraska has a higher SIDS death rate (6.03) than the US average (4.78) as well as the HP 2020 Objective. (Vital Records 2008-2013). "A lack of answers is part of what makes sudden infant death syndrome (SIDS) so frightening" according to Kids Health. "Most deaths due to SIDS occur between 2 and 4 months of age, and incidence increases during cold weather. African-American infants are twice as likely and Native American infants are about three times more likely to die of SIDS than Caucasian infants. More boys than girls fall victim to SIDS."



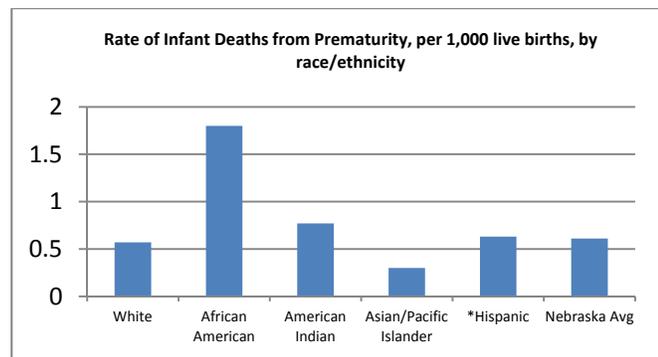
Criterion 2: Disparities Exist Related to Health Outcomes

In Nebraska, Caucasians have the highest infant death rate from birth defects. Caucasians at 1.6 are

slightly above the 1.5 Nebraska average, while African Americans are slightly under the average at 1.4 with Hispanics right behind at 1.2 (Vital Records/Birth Defects Registry 2011).

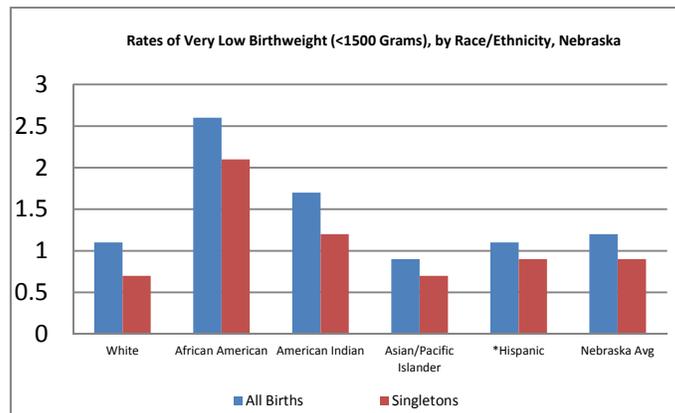


At 1.8 deaths per 1,000 births, African American babies are at the highest risk for death as a result of prematurity compared to rate of 0.77 for American Indians, 0.63 for Hispanic, and 0.57 for White babies.

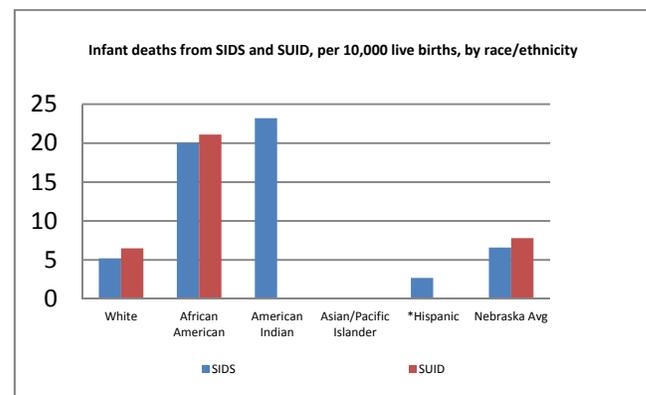


Premature babies born at a low (equal to or less than 2500 grams) or very low birth weight (less than 1500 grams) are at an increased risk for complications resulting in death. In 2013, NE Vital Statistics reported (Table 62) that of the 139 infant deaths in 2013, 98 (70.5%) had a low birth weight (LBW) and 73 (52.5%) fell into the very low birth weight (VLBW) category. At 7.05% in 2013, Nebraska is currently meeting Healthy People 2020 goal for all live births of less than 7.8 percent LBW. However, at 12.7%, African American babies are significantly more likely to be born LBW; American Indians are

close behind, with percentages and are considerably above the HP2020 goal.



American Indians had the highest infant death rate (per 10,000 live births) from SIDS in Nebraska (Vital Records 2008-2013) at the rate of 23.2 closely followed by African Americans at 20.0. This compared to Hispanics at the rate of 2.7 shows the dramatic racial/ethnic disparities. From the data provided from NE Vital Records, African Americans had the highest death rate from SUID at 21.1. Although these rates represent a fairly small number of actual deaths, SIDS/SUID account for a sizeable proportion of all deaths of American Indian and African American babies.



Criterion 3: Strategies Exist to Address the Problem

March of Dimes reports, "70% of causes of birth defects are unknown but that studies show that if all women in the United States took the recommended amount of folic acid before and

during early pregnancy, up to 70% of neural tube defects (NTDs) could be prevented. Research proves that folic acid may help prevent other birth defects, including cleft lip/palate and some heart defects". Increasing Vitamin D intake is also a promising practice to fight against birth defects. The University of Iowa is conducting genetic studies and research on a possible link to prematurity.

Early and consistent education to families in their native language is a key factor in promoting healthy behaviors before, during, and after pregnancy. March of Dimes is a champion in perinatal education, research and community involvement in both prematurity and infant birth defects. Through advances in medicine and cutting edge research, premature birth rates have declined more education is needed to promote healthy birth weights in all populations.

The evidence-based Back to Sleep campaign was launched in 1994. Since that time, the number of individuals putting their babies back to sleep has steadily increased in all ethnicities with each group showing a reduction in numbers at least once in the last seven years. As of 2011, African Americans and Hispanics were not meeting the HP 2020 objective of 75.9% of infants sleeping on their backs (NE Prams 2013). Putting infants on their back to sleep is just one of the many ways to reduce the risk of infant mortality. Safe sleep environments are also being taught to families including: safe and appropriate use of “pack n’ play”-style playpens as an alternative to a crib and in Native American communities, the use of “cradle boards”. There is strong evidence between breastfeeding and the decreased risk of SIDS. However, caution is needed when mothers breastfeed infants in bed. While there are strategies to promote safe nighttime breastfeeding techniques, families must be aware of the risk of SIDS and/or SUID with co-sleeping.

Evidence based Public Health Home Visiting Programs that support pregnant women and families and helps at-risk parents of children from birth to kindergarten entry gain access to resources and refine the skills needed to raise children who are physically, socially and emotionally healthy and ready to learn.

Criterion 4: Societal Capacity to Address the Problem

There are many local, state, and national organizations working to study and combat the issues of birth defects, prematurity, and SIDS/SUIDS and their impact on infant mortality. Some of these organizations include, local health departments, evidence based home visiting programs (such as Healthy Families America and Nurse Family Partnership), Nebraska PRAMS, Nebraska SIDS Foundation, The Collaborative Improvement & Innovation Network (CoIIN), a public/private partnership to reduce infant mortality and improve birth outcomes, Center for Disease Control, March of Dimes, and the US Department of Health and Human Services. Unfortunately the need outweighs the resources of time and money available and dedicated to infant mortality and the top causes impacting Nebraska's families.

Many health providers attempt to address birth defects prior to birth as well as afterwards including local OB offices, hospitals, and nationally with the American Congress of Obstetricians and Gynecology (ACOG), American Academy of Pediatrics (AAP), and Centers for Disease Control (CDC).

Evidenced based home visitation programs work with families on a weekly basis to provide education on the risks of premature births and the importance of having a healthy pregnancy.

WIC is a strong promoter of breast feeding which research shows is a protective factor against SIDS.

Data used to identify the problem of infant mortality and the three biggest contributing factors were collected by Nebraska Vital Statistics, US Vital Statistics, HP 2020 Objective, Nebraska Health and Human Services, March of Dimes and Nebraska PRAMS. Nebraska PRAMS Safe Sleep study in the fall of 2013 in collaboration with Baby Blossoms, CDC, NE Dept of Ed, Nebraska Children and Families Foundation as well as several health departments and federally based health centers.

Criterion 5: Severity of Consequences

Infant mortality is a wide spread issue. Prevention of infants dying is a priority for all communities in Nebraska. There are many programs working diligently to educate families on healthy pregnancy, the importance of folic acid and prenatal vitamins during inter-conceptual and early pregnancy to prevent neural tube defects at birth, prevention and identification of preterm labor, and best practices for safe sleep.

Disparities play a major role for Nebraska's Infant Mortality rate. Despite significant advancements in maternal and infant health outcomes, certain populations continue to experience wide inequities, resulting in increased risk of death. Reducing infant health disparities is a critical step towards reducing infant mortality and improving the health and wellbeing of all infants in Nebraska.

139 infants died in 2013 - let's work together to decrease the number of infant deaths in Nebraska.