

Premature Birth

In Nebraska, approximately 2,600 babies are born prematurely (earlier than 37 weeks gestation) every year, which in 2018 was 10% of all births. This was higher than the Healthy People 2020 objective of 9.4% and March of Dimes 2020 goal of 8.1%. These babies are at high risk for mortality and morbidity. Compared to full-term babies, they are at significant risk for cerebral palsy, chronic lung disease, hearing loss, and intellectual disabilities.¹ Unfortunately, prematurity in Nebraska has climbed from 8.7 percent of live births in 2013 to 10.4 percent in 2018.²

Criterion 1: Disparities Exist Related to Health Outcomes

Significant demographic disparities exist between racial/ethnic, income, and educational attainment groups in Nebraska, and have existed for a number of years. These disparities are primarily due to both social determinants of health as well as biologic influences. Efforts to reduce preterm birth need to address more than just medical care. Daily social, environmental and economic conditions, such as where we live, work and play, heavily influence the health of populations and thus are referred to as the social determinants of health (SDOH). SDOH are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between demographic groups.

Significant disparities in the preterm birth rate between demographic groups underscore the impact of SDOH. In 2018, American Indians had the highest rate at 15% - a full 1.5 times the rate of Whites (9.8%; Table 1).² African Americans had the next highest rate at 12.8% (1.4 times the rate of Whites); Asians follow at 9.9%.²

Income disparities exist as well, with low income women experiencing a preterm birth rate of 8.3% compared to 7.1% for women with household incomes over 194% of the Federal Poverty Level.³

Finally, there are disparities between levels of education achieved and age groups. Women with less than a high school education have a preterm birth rate of 11.8%, compared to the 9.0% rate of women with a college degree or more. In addition, women who are 35 years of age and older have a higher rate of preterm births than those who are younger.⁴

Table 1: Characteristics of Mothers with a Recent Live Birth

	% Preterm	% of Population
By Race/Ethnicity^A		
White	9.8%	69.6%
Black	12.8%	7.6%
Native American	15.0%	2.1%
Asian/Pacific Islander	9.9%	4.0%
Hispanic	9.8%	16.7%
By Income^B		
Income less than 194% Federal Poverty Level	8.3%	50.4%
Income more than 194% Federal Poverty Level	7.1%	49.6%
By Education^A		
Less than High School Education	11.8%	12.1%
High School Education	10.9%	19.1%
Some College Education	10.4%	31.8%
College Degree or More Education	9.0%	36.9%
By Age^A		
Under 20 Years	9.5%	4.4%
20-24 Years	8.4%	18.5%
25-29 Years	6.9%	32.6%
30-34 Years	7.9%	29.7%
35-39 Years	10.1%	12.6%
40 or More Years	11.3%	2.3%

Sources: A – Nebraska Vital Records — 2017 and 2018 Combined and B – Nebraska PRAMS — 2017 and 2018 Combined

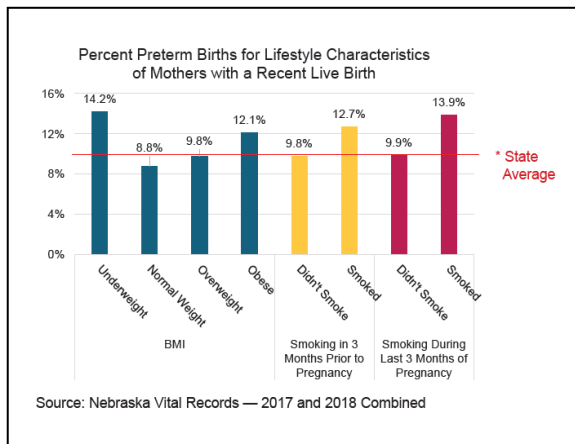
Criterion 2: Data Exists to Document the Problem

A significant amount of quantitative, high quality, and generalizable data exists to describe preterm birth in Nebraska, as well as qualitative, high quality data. Nebraska’s Vital

Records Office, the Nebraska Pregnancy Risk Assessment Monitoring System (PRAMS)⁵ and the March of Dimes have provided highly dependable, state-specific data on this topic for many years, and produce fact sheets, reports, and resource documents available to the public. In addition, a Healthy People 2020 goal exists for this issue, underscoring the national attention on and significance of Nebraska’s rate: at 10.4% Nebraska is higher than the Healthy People 2020 goal of 9.4%.

Another important point is that these data sets have existed for many years now, and show that the issue is not getting significantly better nationally, and is getting worse in Nebraska. Some of this is due to the many risk factors associated with preterm birth, including maternal demographics, an unhealthy lifestyle, and pregnancy history among others.

Figure 1



As an example in Nebraska, 28.9% of women of childbearing age were obese in 2016³; more recent data from Nebraska Vital Records (above) show how weight is associated with rates of preterm birth (Figure 1). Also, mothers who smoked prior to or during pregnancy had a significant higher rate of preterm birth.

In Nebraska, 62.6% of women with twins, triplets, or more have a preterm birth, compared to 8% of women with single births.⁴

Criterion 3: Alignment, use the priority to maximum advantage

Some local public health departments have identified low birth weight births as a priority for their communities, but none have focused on preterm birth at this time. State level partners have identified this issue as a documented priority, specifically the Nebraska Perinatal Quality Improvement Collaborative⁶ and the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program.⁷ At the national level, the March of Dimes, CDC, and the American College of Obstetricians (ACOG) are all trusted organizations who provide a variety of resources and data to help understand the issue of preterm birth as well as potential strategies to address it. Additionally, the National Conference of State Legislatures⁸ has added a policy focus to the available resources on this issue.

Criterion 4: Strategies Exist to Address the Problem/An Effective Intervention is Available

A variety of strategies exist to address this problem, many of which are evidence-based or informed. Well-known and trusted national partners such as March of Dimes and the Centers for Disease Control and Prevention have resources and toolkits to assist stakeholders in addressing the issue.⁹ Strategies include educating women about their risk of premature birth and symptoms so that they can seek medical care when appropriate; encouraging them to become healthy prior to becoming pregnant (i.e. controlling chronic disease, achieving a healthy weight, and

refraining from substance use); and spacing births appropriately. Other strategies targeting SDOH have been associated with improved preterm birth rates. In California, 14 local health jurisdictions addressed toxic stress of Black mothers through group based development of life skills with complementary case management, and saw a reduction in preterm birth rates from 2007 through 2017 (March of Dimes, California). Clinical decision support tools for clinicians exist as support for the criteria. UpToDate is a clinical decision support tool for clinicians. This resource offers a thorough description of preterm birth, risk factors, and interventions based on research, such as providing progesterone therapy for women who have a history of preterm birth or providing low-dose aspirin for women at risk of preeclampsia. Finally, system-level solutions such as increasing access to health care or screening all women of reproductive age for social determinants of health have also been proposed.

Criterion 5: Severity of Consequences

Preterm birth is an issue that can be life threatening, with premature babies dying at a higher rate than full term babies. In 2018, greater than 70% of infant deaths (106 of 150) had a direct or underlying cause of prematurity.² Preterm birth can also cause significant morbidities. Compared to full-term babies, they are at significant risk for cerebral palsy, chronic lung disease, hearing loss, vision

problems, developmental delays, and intellectual disabilities.¹ In addition to the health implications of pre-term birth, there are significant societal costs to consider. The medical, educational and productivity costs for one preterm baby are estimated at \$65,000.¹ Annually, with 2,600 premature babies born in Nebraska, the estimated costs for these babies is \$169 million. Improving the state prematurity rate to the March of Dimes goal of 8.1% could save \$32 million annually.

If this issue is selected as one of the Title V MCH priority needs in 2020, what do you expect this issue to look like five years from now? What kind of progress can you expect for the next five years?

Long-term goals or measures of success in this issue would be a decrease in the rate of pre-term birth (or at least the rate staying steady), and decreasing disparities between different demographic groups.

Short-term goals or process measures for this issue would include: the creation of a multi-disciplinary group to look into data more closely (specifically around SDOH and how they relate to pre-term birth), identify preconception/interconception strategies that exist, and make recommendations for implementation; and the creation of an educational program for providers on risks, symptoms of pre-term labor, providing resources related to SDOH, and communicating with mothers.

¹ March of Dimes (2019). *March of Dimes 2019 Report Card*. Retrieved from <https://www.marchofdimes.org/mission/reportcard.aspx>

² Nebraska Vital Records <http://dhhs.ne.gov/Pages/Reports-and-Statistics.aspx>

³ Nebraska PRAMS 2017 and 2018 data combined.
<http://dhhs.ne.gov/Pages/Pregnancy-Risk-Assessment-Monitoring-System.aspx>

⁴ Nebraska Vital Records — 2017 and 2018 Combined
<http://dhhs.ne.gov/Pages/Reports-and-Statistics.aspx>

⁵ Nebraska Pregnancy Risk Assessment Monitoring System (PRAMS).
<http://dhhs.ne.gov/Pages/Pregnancy-Risk-Assessment-Monitoring-System.aspx>

⁶Nebraska Perinatal Quality Improvement Collaborative <http://www.npqic.org/>

⁷Nebraska Department of Health and Human Services Maternal Infant Early Childhood Home Visiting Program <http://dhhs.ne.gov/Pages/MIECHV-Programs.aspx>

⁸National Conference of State Legislators
<https://www.ncsl.org/>

⁹Preterm birth toolkits:
<https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pretermbirth.htm>