2. Maternal & Child Health

Maternal and child health indicators describe the health and well-being of mothers, infants, children, and families. We focus attention on this specific group because their health and well-being affects not only the present generation, but also the health and well-being of future generations. A mother's health and well-being before, during, and after pregnancy has direct and sometimes lifelong effects on the health of her child. Promoting healthy practices before, during, and after pregnancy is critical to ensuring that children will have the chance to begin life with good health.

The U.S. has shown improvement on several maternal and child health indicators over the last 20 years. However, we continue to see disparities by race and ethnicity, with some of the greatest burden in American Indian and Alaska Native populations. It is a nation-wide priority to eradicate these disparities and improve the health and well-being of AI/AN women, children, and communities.

In Oregon from 2008-2012, AI/AN teen birth rates were significantly higher compared to NHW. The infant mortality rate for AI/AN was 1.8 times higher compared to NHW, with over half of infant deaths occuring, during the first 27 days of life (during the neonatal period). Approximately 22% of AI/AN mothers in Oregon reported smoking during pregnancy, and only 66% received adequate prenatal care. Compared to NHW infants, a larger percentage of AI/AN infants had low weight at birth and/or were born premature, although these percentages were small.

Birth Rates

The general fertility rate (GFR) is the birth rate among women of reproductive age (15-44 years). From 2008-2012, the GFR for AI/AN in Oregon was higher compared to NHW (56.7 vs. 55.7 live births/1,000 women) (Figure 2.1). During the same time period, AI/AN had higher teenage birth rates compared to NHW in the state. The birth rate for AI/AN ages 10-14 was 0.5 births/1,000 women, compared to 0.01 births/1,000 women for NHW. The AI/AN birth rate among 15-19 year olds was 2.6 times higher than the NHW rate.

Data Source: Oregon Health Authority, Center for Health Statistics birth certificate file. Data accessed using the Oregon Public Health Assessment Tool (OPHAT).

Data Notes: AI/AN data are not corrected for misclassified race.

Maternal & Child Health

Figure 2.1: Birth rates by age group and race, Oregon, 2008-2012.
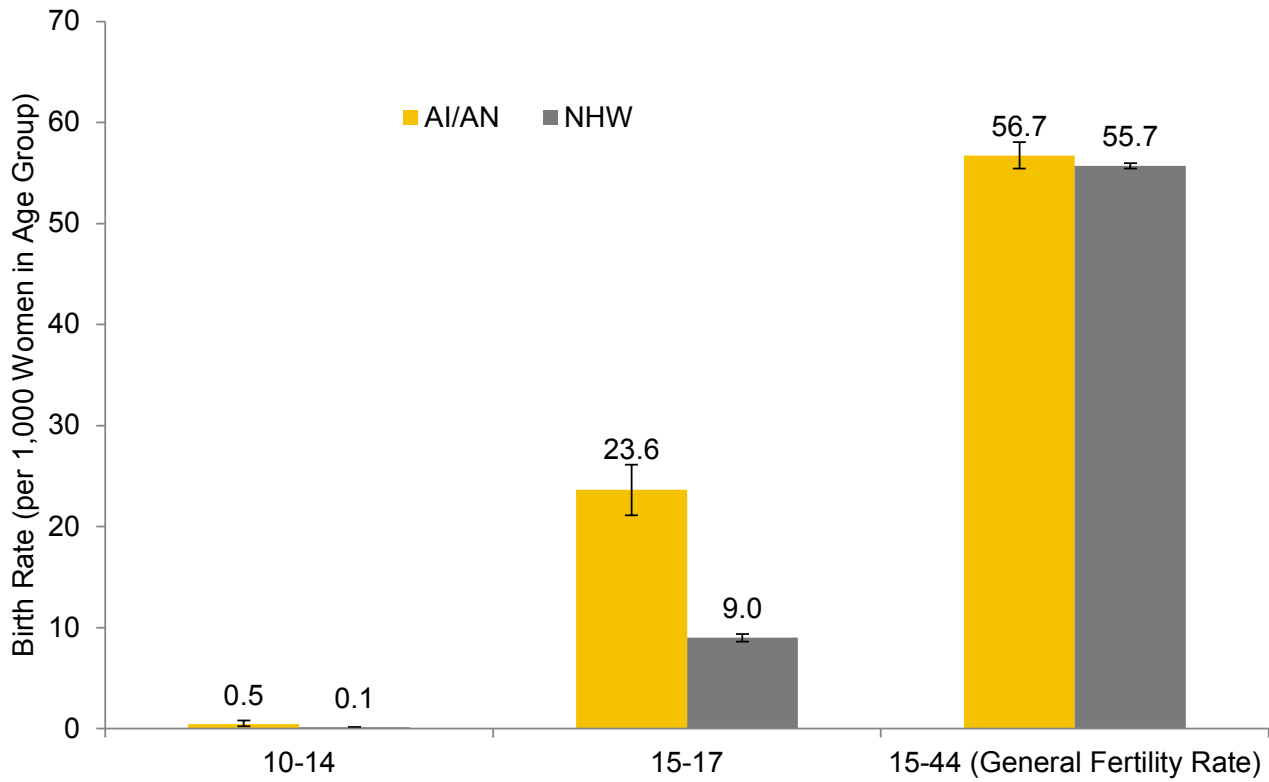
Infant Mortality

From 2008-2012, the infant mortality rate for AI/AN in Oregon was 8.4 deaths per 1,000 live births (Figure 2.2). This was 1.8 times higher than the rate for NHW in the state (4.6 deaths per 1,000 live births). Over half of infant deaths for AI/AN and NHW occurred during the first 27 days of life (neonatal period). Deaths during the neonatal period accounted for 41% of infant deaths for AI/AN and 67% for NHW. AI/AN had a higher proportion of deaths during the post neonatal period compared to NHW (58% vs. 33% for NHW).

Deaths during the neonatal period are often related to prematurity (i.e., short gestation and/or low birthweight), complications during pregnancy, and birth defects. Post neonatal deaths are often from accidents, infections, and sudden infant death syndrome (SIDS).[1]

[1]Centers for Disease Control and Prevention. QuickStats: Leading Causes of Neonatal and Postneonatal Deaths, United States, 2002. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a8.htm.

Data Source: Oregon Health Authority, Center for Health Statistics birth certificate file. Data accessed using the Oregon Public Health Assessment Tool (OPHAT).

Data Notes: AI/AN data are not corrected for misclassified race.

Figure 2.2: Infant mortality rates by race and infant's age at death, Oregon, 2008-2012.
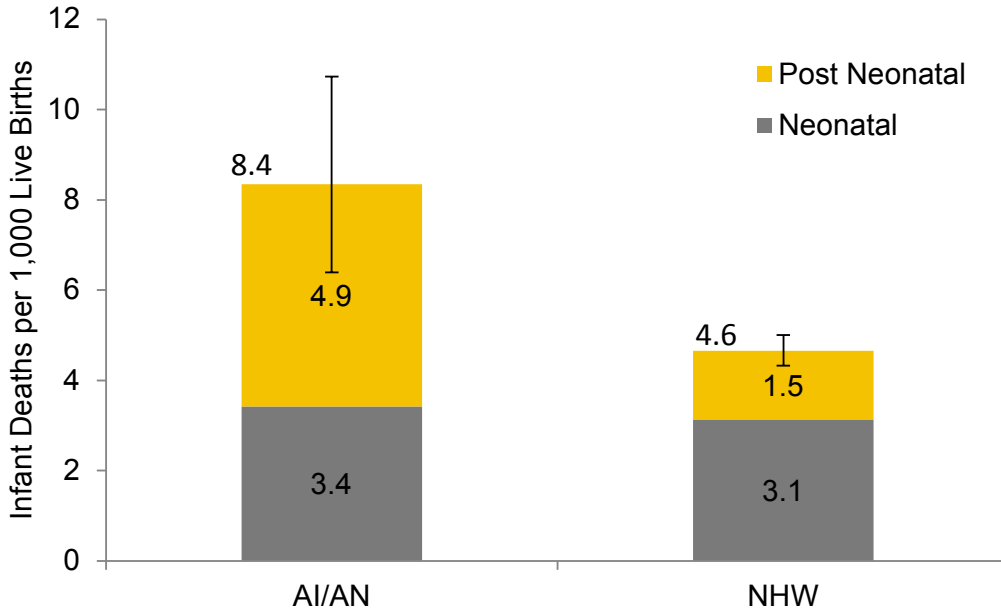
Maternal Risk Factors

Table 2.1 shows selected maternal risk factors during pregnancy for AI/AN and NHW mothers in Oregon. AI/AN women have higher risks for some factors, which could affect their babies' health and the outcomes of their pregnancies. These factors include the following:

- Over 20% of AI/AN women reported smoking during their pregnancy. This was 1.6 times higher than the smoking rate among NHW pregnant women.

- About 40% of AI/AN mothers had a pre-pregnancy body mass index (BMI) in the obese category, compared to 27% of NHW women.

- Only 26.2% of AI/AN mothers gained the recommended amount of weight during pregnancy. About 18% of women gained less than the recommended amount, and 56% gained more than the recommended amount.

- Compared to NHW, a lower percentage of AI/AN women began prenatal care during the early stages of their pregnancy (65.3% vs. 76.1%). Over 1% of AI/AN mothers received no prenatal care. Around 66% of AI/AN women received adequate prenatal care (i.e., had at least 80% of the prenatal care visits expected, based on when they started prenatal care).

Data Source: Oregon Health Authority, Center for Health Statistics birth certificate file. Data accessed using the Oregon Public Health Assessment Tool (OPHAT).

Data Notes: AI/AN data are not corrected for misclassified race.

Table 2.1: Maternal risk factors by race, Oregon, 2008-2012.

	AI/AN N† (%)	NHW N† (%)
Smoked during pregnancy	1,595 (22.1%)	21,984 (13.8%)
Pre-pregnancy BMI		
Underweight (<18.5)	220 (3.1%)	5,183 (3.3%)
Normal (18.5-24.9)	2,808 (39.2%)	79,921 (50.4%)
Overweight (25.0-29.9)	1,811 (25.3%)	37,560 (23.7%)
Obese (30.0-39.9)	2,328 (32.5%)	35,791 (22.6%)
Morbidly Obese (40.0-99.8)	528 (7.4%)	7,152 (4.5%)
Weight Gain during Pregnancy		
Below Recommended Amount	1,251 (17.7%)	26,884 (17.2%)
Recommended Amount	1,853 (26.2%)	48,948 (31.3%)
Above Recommended Amount	3,977 (56.2%)	80,461 (51.5%)
Diabetes		
Pre-pregnancy	83 (1.1%)	1,164 (0.7%)
Gestational	460 (6.3%)	7,973 (5.0%)
Hypertension		
Pre-pregnancy	120 (1.6%)	2,373 (1.5%)
Gestational	471 (6.5%)	9,132 (5.7%)
Prenatal Care Initiation		
First Trimester	4,721 (65.3%)	121,285 (76.1%)
Second Trimester	1,971 (27.3%)	31,473 (19.8%)
Third Trimester	459 (6.4%)	5,436 (3.4%)
No Care	83 (1.2%)	1,093 (0.7%)
Received Adequate Prenatal Care (>=80% of expected visits)	4,801 (65.8%)	120,047 (74.6%)

† N (total number of birth certificates): AI/AN = 7,305; NHW = 160,857
Percentage of records missing data for indicator (AI/AN, NHW):
Smoking (1.2%, 0.8%); BMI (1.9%, 1.5%); Weight gain (3.1%, 2.8%); Diabetes/Hypertension (0%, 0%);
Prenatal care initiation (1.0%, 1.0%); Adequacy of prenatal care (0.1%, 0.0%)

Birth Outcomes: Birth Weight & Prematurity

Babies who have very low or very high weight at birth can be at higher risk of death and other complications as they grow up[1]. Low birth weight is also often indicative of broader public health concerns among the mothers, including poor nutrition, substance abuse, and inadequate access to health care.

From 2008-2012, the majority of AI/AN and NHW babies in Oregon were born with normal weight at birth. About 12% of AI/AN and NHW infants were born with high birth weight (Figure 2.3). Compared to NHW, a larger percentage of AI/AN babies had low weight at birth (7.3% vs 6.0% for NHW).

From 2008-2012, 9.4% of AI/AN babies were born premature (before 36 weeks gestation) (Figure 2.4). Most of these premature births were moderately premature (from 32 to less than 36 weeks), and 1.3% were very premature (less than 32 weeks). For NHW, 6.6% of babies were moderately premature and 1.1% were very premature.

1. Maureen Hack, Nancy K. Klein, and H. Gerry Taylor, "Long-Term Developmental Outcomes of Low Birth Weight Infants," The Future of Children 5, no. 1 (1995), 176–96.

Data Source: Oregon Health Authority, Center for Health Statistics birth certificate file. Data accessed using the Oregon Public Health Assessment Tool (OPHAT).

Data Notes: AI/AN data are not corrected for misclassified race.
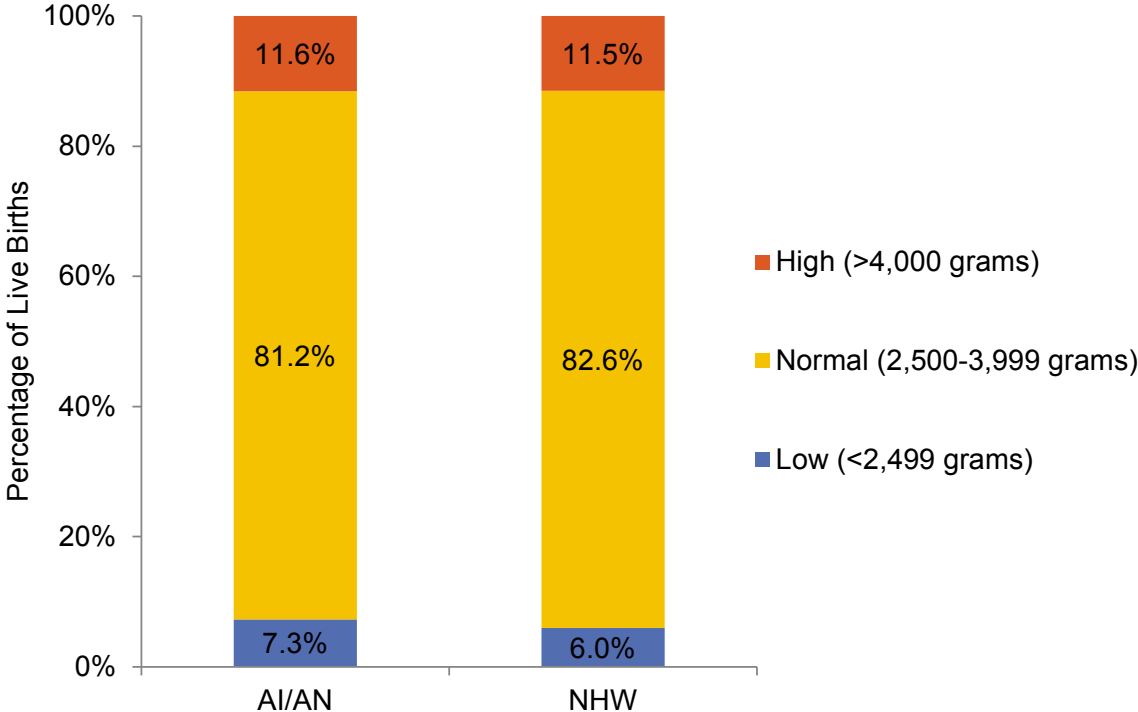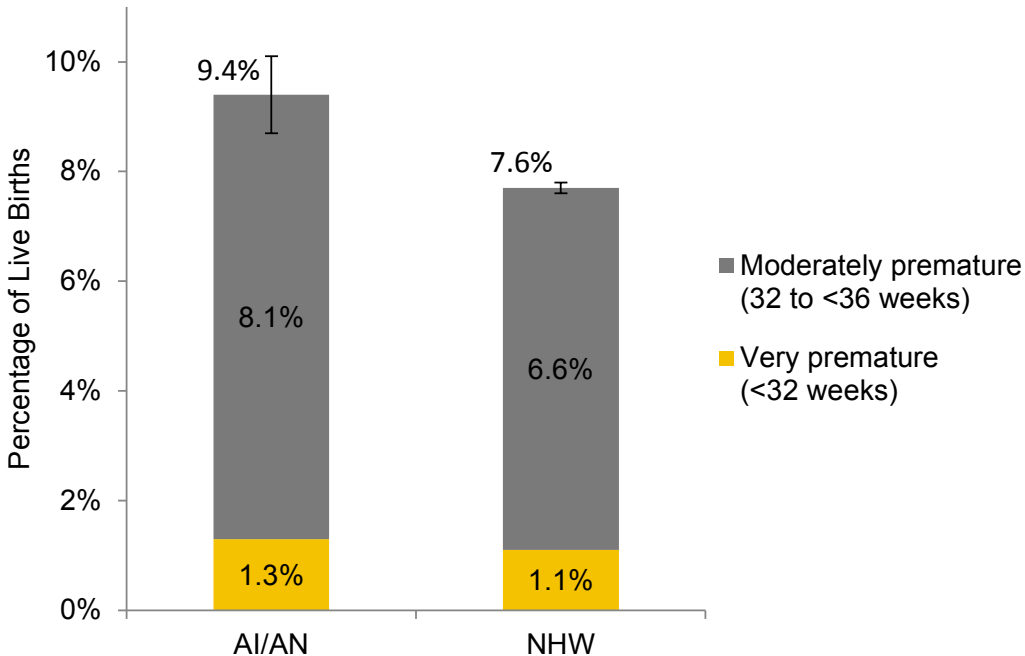
Figure 2.3: Birth weight by race, Oregon, 2008-2012.

Legend:
- High (>4,000 grams)
- Normal (2,500-3,999 grams)
- Low (<2,499 grams)

Figure 2.4: Premature births by race, Oregon, 2008-2012.

Legend:
- Moderately premature (32 to <36 weeks)
- Very premature (<32 weeks)

Program Spotlight: Native CARS

NPAIHB's Native CARS (Native Children Always Ride Safe) is working with tribal communities to design, implement and test the effectiveness of tribal interventions to improve the use of child safety seats among AI/AN children.

Working in partnership with the six Northwest tribes, Native CARS sought to identify the barriers to and facilitators of proper and consistent use of child restraints. The study partnership used this information to design and implement community-level interventions. The interventions resulted in significant reductions in the percentage of children riding completely unrestrained in motor vehicles from 29% in 2009 to 14% in 2013 and increased proper restraint from 49% in 2009 to 60% in 2013. NATIVE CARS is currently working to disseminate its evidence-based protocols and intervention materials through the **Native CARS Atlas**, which can be used by other tribes in the Northwest and nationwide.

For more information, please contact:

Tam Lutz (Lummi Tribe), Project Director/Junior Investigator

tlutz@npaihb.org 503-416-3271

nativecars@npaihb.org   http://www.npaihb.org/epicenter/project/native_cars_study

Program Spotlight: Northwest Tribal Fetal Alcohol Spectrum Disorder (FASD) Project

The consumption of alcohol during pregnancy is one of the leading preventable causes of birth defects and childhood disabilities in the United States. The Northwest Tribal FASD Project seeks to reduce the incidence of FASD and to assist tribal communities to improve the quality of life of those living with FASD. by providing prevention education about the effects of fetal exposure to alcohol. The project also provides training for community members in diagnosing FASD, and works with communities to develop services that support and protect community members already affected by FASD. The Northwest FASD Project has worked with Northwest Tribes to develop tribal coalitions to address FASD within their communities. These coalitions have identified long-term goals and strategies, and receive trainings on counseling for expecting mothers, educational strategies for children, and chemical dependency for adolescents and adults who may have had fetal alcohol exposure. For more information, please contact:

Jacqueline Left Hand Bull (Sicangu Lakota) jlefthandbull@npaihb.org

http://www.npaihb.org/programs/the_northwest_tribal_fetal_alcohol_spectrum_disorders_project