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# ***HEALTH OF MOTHERS AND INFANTS BY RACE/ETHNICITY***

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**August, 2015**

Health Brief

**Public Health**  
Seattle & King County 

## Key Findings

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- In 2013, 24,910 infants were born to King County residents.
- Poor maternal and infant outcomes were common, including low birth weight, preterm birth, Cesarean delivery, lack of adequate prenatal care, maternal obesity, hypertension, or diabetes, maternal depressive symptoms, lack of social support, and sleep sharing.
- Racial inequities in birth outcomes are common and apparent in the health indicators described in this report.
- Data sources to better understand the health of King County children beyond early infancy are a key data need.

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# Overview

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- This brief report summarizes some key health conditions important for the health of mothers and infants in King County.
- The well-being of mothers and infants are important health outcomes and are also key markers of the overall health of the entire population.
- Some of the outcomes summarized in this brief, such as maternal depressive symptoms and low birth weight, can have impacts throughout the infant's life and the next generation.
- This report focuses on inequities by race/ethnicity, although inequities by place and other socioeconomic factors also exist.
- If you use information from this report, please cite this report as “Health of mothers and infants by race/ethnicity. August 2015. Public Health-Seattle & King County; Assessment, Policy Development & Evaluation Unit.”

# How to Read This Report

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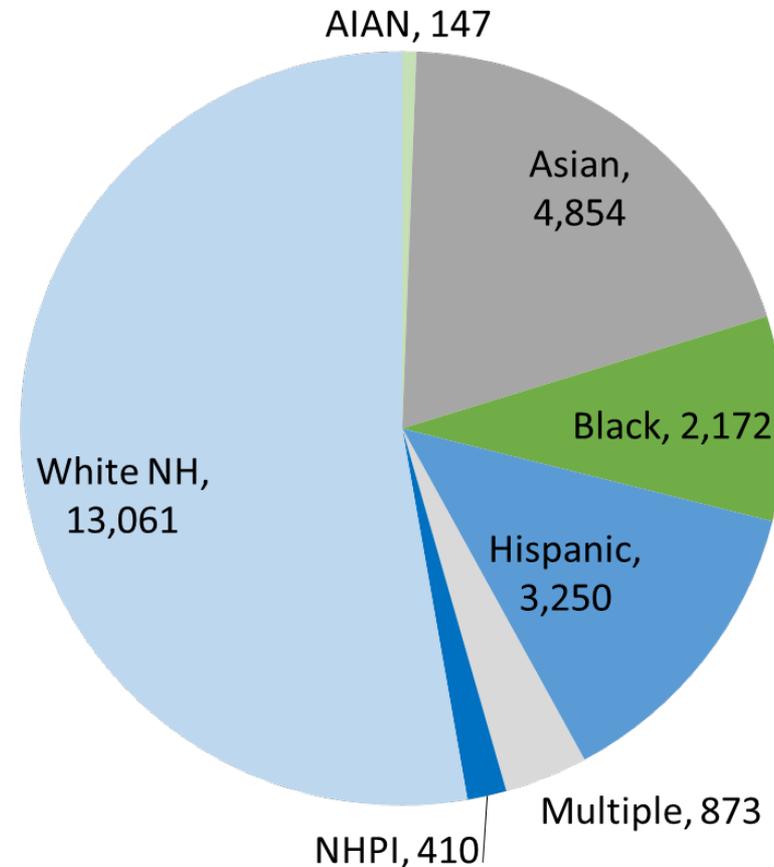
- This report has been developed to facilitate presentations of the information. Therefore, the data are shown with one graph per page and a limited number of narrative points for each graph.
- Charts are presented by **race/ethnicity**, along with the King County average. These race/ethnicity groups are based on mothers' responses, and include the larger categories of American Indian/Alaska Native non-Hispanic (AIAN), Asian non-Hispanic (Asian), Black/African American non-Hispanic (Black), Hispanic/Latina (Hispanic), Multiple race (Multiple), Native Hawaiian/Pacific Islander non-Hispanic (NHPI), and white non-Hispanic (white NH). Race/ethnicity, socioeconomic inequality, and health inequity are related but are not discussed in this report. For more information see *Build a Healthier America*, from the Robert Wood Johnson Foundation Commission.<sup>1</sup>
- Differences between race/ethnicity groups and the County average are noted. All differences mentioned in the text are **statistically significant** (unlikely to have occurred by chance).
- **Confidence Interval** (also known as error bar) is the set of lines on the end of each bar graph. It is the range of values that includes the true value 95% of the time. If the confidence intervals of two groups do not overlap, the difference between groups is considered *statistically significant* (meaning that chance or random variation is unlikely to explain the difference).
- **Rates** are the percent of births reporting the indicator of interest. Adolescent birth rate is the number of births to females ages 15-17 for every 1,000 females ages 15-17 in the population. Infant mortality is the number of deaths among infants under age 1 for every 1,000 live births.
- Multiple years of data are aggregated for each indicator in order to allow presentation of statistically stable estimates.
- For **additional data** by age of mother, geography, socioeconomic status, maps, and trends, see our Community Health Indicators website [www.kingcounty.gov/health/indicators](http://www.kingcounty.gov/health/indicators).

## NUMBER OF BIRTHS

## Number of Births in King County

- In 2013, there were 24,910 births to King County residents. This is close to the average for the 2009-2013 time period, which was 24,829 births yearly.
- 37% of King County births were Medicaid-funded.
- 47% of King County births were unintended, meaning that the pregnancy was not planned.
- Poverty and unintended pregnancy are risk factors for adverse birth outcomes.

**Figure 1. Number of births, King County, 2013**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificate. Prepared by Public Health-Seattle & King County, APDE.

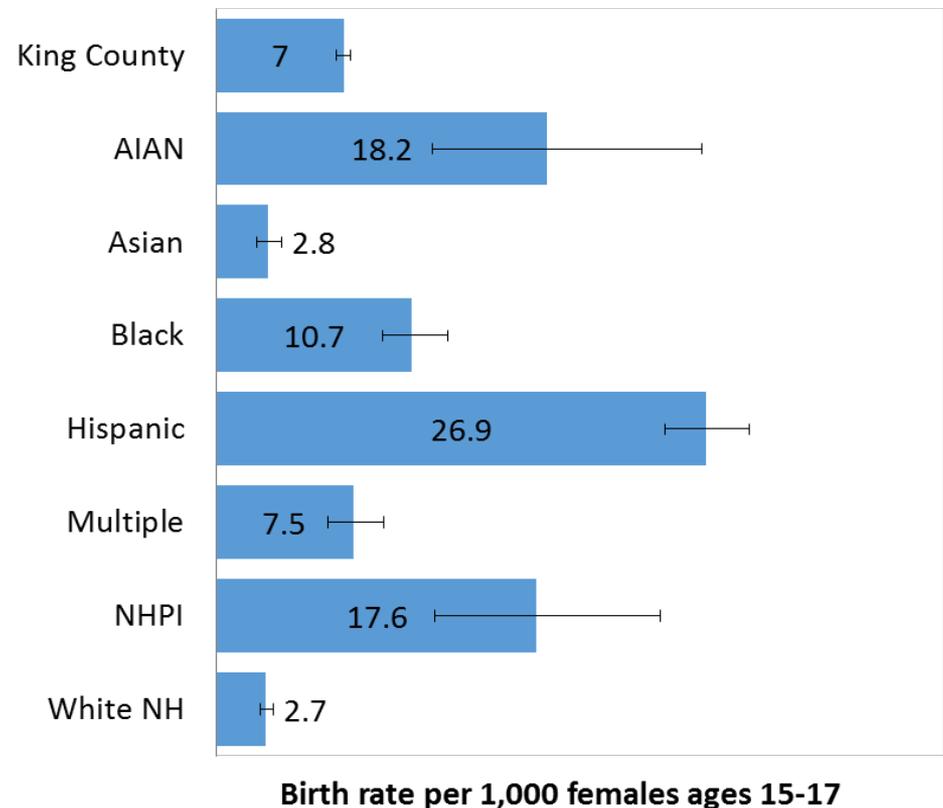


## Adolescent Births

*Adolescent births are a risk factor for prematurity, inadequate prenatal care, and infant mortality.*

- On average, 237 births occurred every year to mothers who were between the ages of 15 and 17 years.
- Latina adolescents had birth rates 10 times higher than white NH adolescents, the King County group with the lowest rates.
- American Indian/Alaska Native, Black, and Native Hawaiian/Pacific Islander adolescents had birth rates 4 to 6.7 times higher than white non-Hispanic adolescents.

**Figure 2. Adolescent birth rate, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.



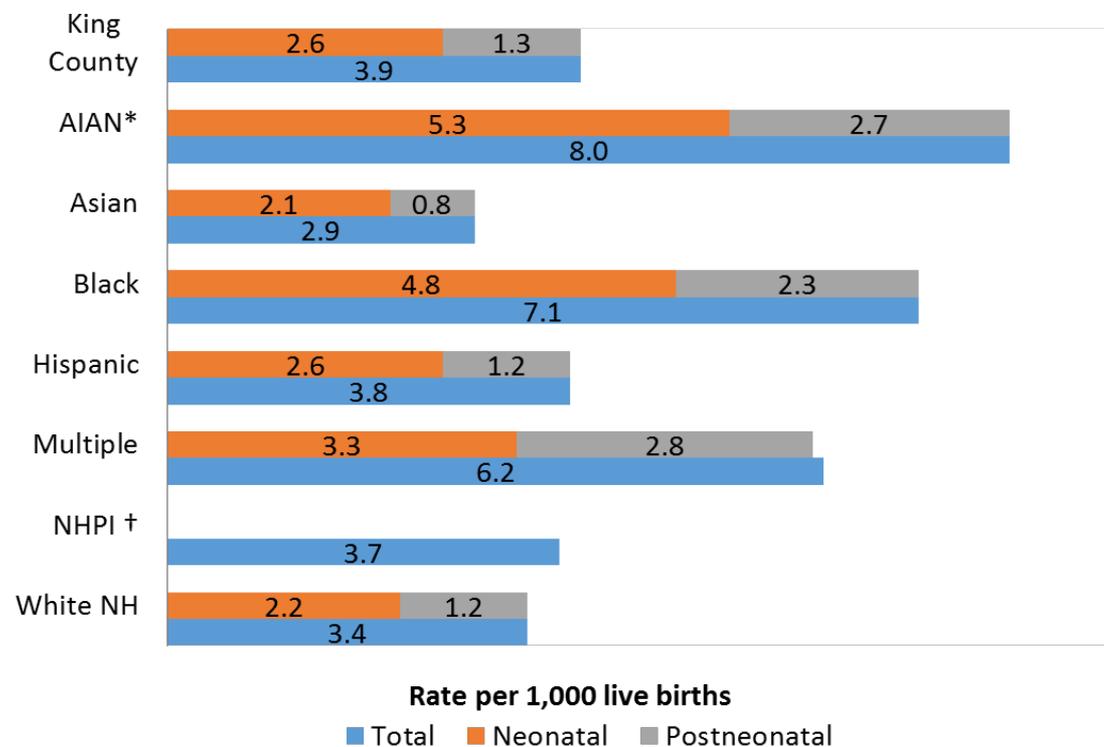
## INFANT MORTALITY & INFANT CHARACTERISTICS

# Infant Mortality

Infant mortality is the death of an infant before the first birthday. Neonatal mortality occurs within the first 27 days of life; postneonatal mortality occurs between the 28<sup>th</sup> day up to the first birthday. The timing of the death can offer clues to effective intervention strategies.

- Over the 2009-2013 time period, there were an average of 98 infant deaths per year.
- 70% of infant mortality deaths occurred in the neonatal period.
- American Indian/Alaska Native and Black infants had an infant mortality rate at least twice as high as the lowest rates seen in King County.

Figure 3. Infant mortality, King County, 2009-2013 average



Source: Washington State Department of Health, Center for Health Statistics, Linked Birth-Infant Death Certificates. Prepared by Public Health-Seattle & King County, APDE. \* AIAN rates are for those reporting only AIAN race or multiple race individuals reporting AIAN. NHPI neonatal/postneonatal not shown due to confidentiality. †For NHPI, 61% of deaths were in the postneonatal period, averaging over the 2004-2013 period.

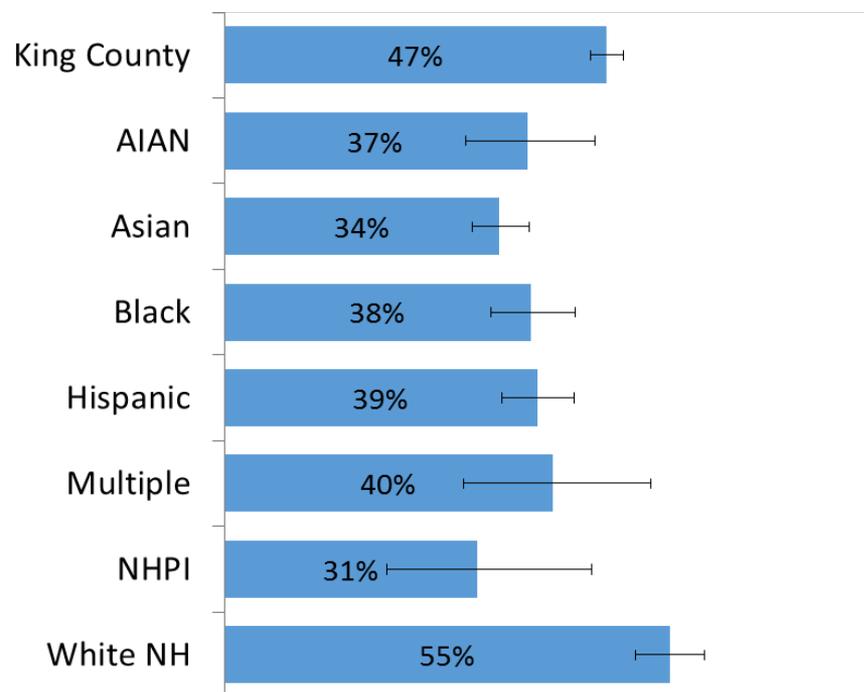


## Sleep Sharing

Mothers of infants 2-6 months of age were asked “How often does your new baby sleep in the same bed with you or anyone else?”

- The American Academy of Pediatrics recommends that infants sleep in the same room but not the same bed as anyone else<sup>1</sup>, to reduce one risk factor for infant mortality.
- Less than half of King County mothers (47%) reported their infant rarely or never slept in the same bed with someone else.
- Mothers of color were less likely to report that their infant slept alone.

**Figure 4. Infant rarely or never sleeps with someone else, King County, 2007-2011 average**



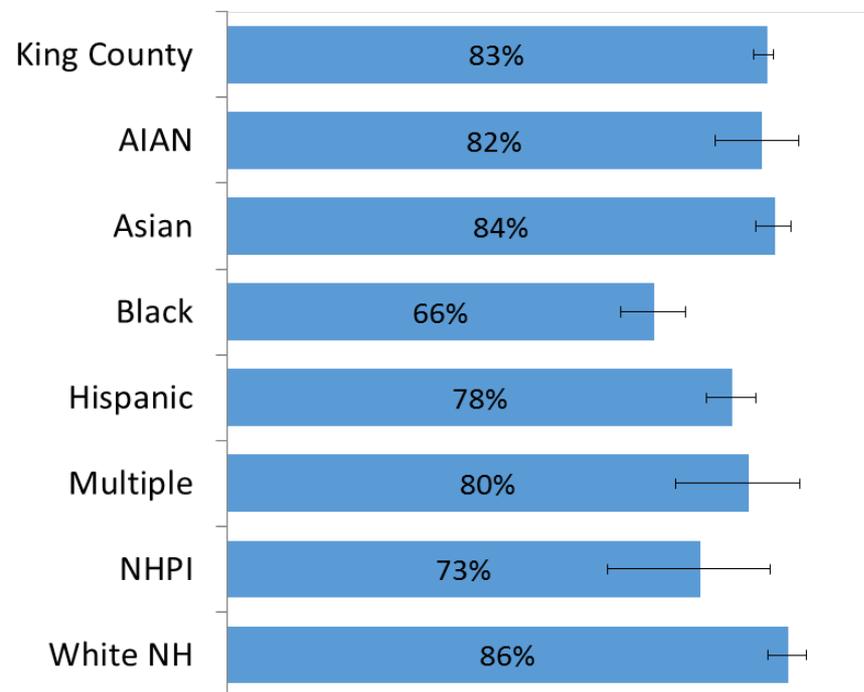
Source: Washington State Department of Health, Pregnancy Risk Assessment Monitoring System. Prepared by Public Health-Seattle & King County, APDE.



## Sleep Position

Mothers of infants 2-6 months of age were asked “In which one position do you most often lay your baby down to sleep now?” Responses were the side, back, or stomach, or a combination.

**Figure 5. Infant sleeps on back, King County, 2007-2011 average**



Source: Washington State Department of Health, Pregnancy Risk Assessment Monitoring System. Prepared by Public Health-Seattle & King County, APDE.

- The American Academy of Pediatrics recommends<sup>1</sup> that infants be placed to sleep on their back, to reduce one risk factor for infant mortality.
- Lower percentages of Black and Hispanic mothers reported putting the infant to sleep on the back.

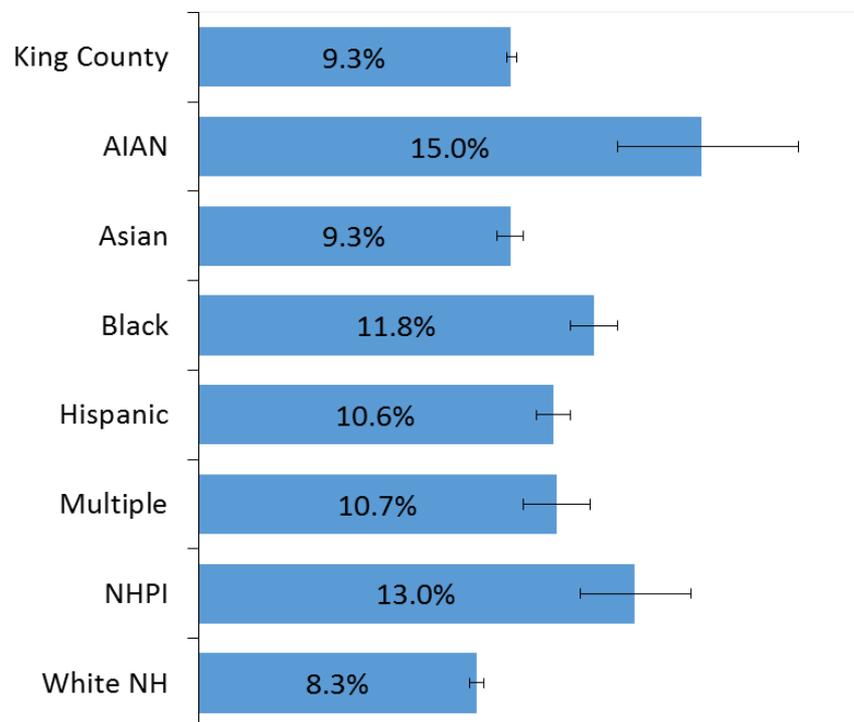


## Preterm Birth

*An infant born before 37 weeks of gestation is considered preterm. Preterm birth is a risk factor for infant mortality, for chronic health issues in infancy and childhood, and poor school readiness.*

- Yearly, an average of 2,290 infants were born preterm in King County, for a rate of 9.3%.
- American Indian/Alaska Native infants were 81% more likely to be preterm than white non-Hispanic infants, who had the lowest rates in King County.
- Black and Native Hawaiian/Pacific Islander infants had preterm birth rates about 50% higher than white non-Hispanic infants.
- Hispanic and Multiple race infants were 30% more likely to be preterm than white non-Hispanic infants.

**Figure 6. Preterm birth, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

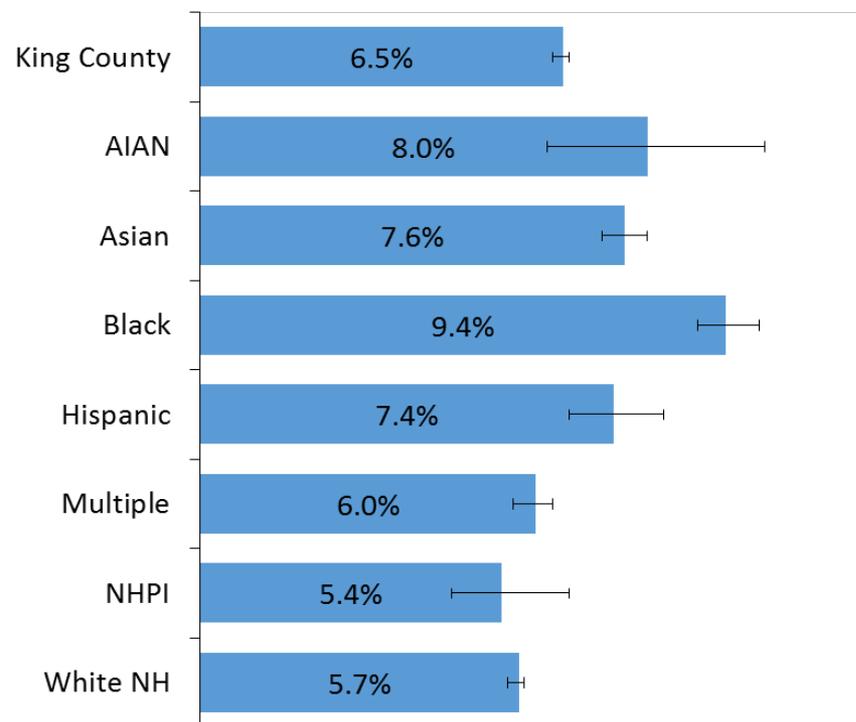


## Low Birth Weight

*Low birth weight is defined as an infant born weighing less than 2,500 grams (5.5 pounds).*

*Low birth weight is associated with infant mortality, chronic health issues in infancy and childhood, and lack of school readiness.*

**Figure 7. Low birth weight, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

- 6.5% of King County infants were born at low birth weight (average of 1,600 infants annually).
- Compared to the lowest rates seen in King County,
  - Infants born to Asian mothers were 1.4 times more likely to be low birth weight,
  - Infants born to Black mothers were 1.7 times more likely to be low birth weight.

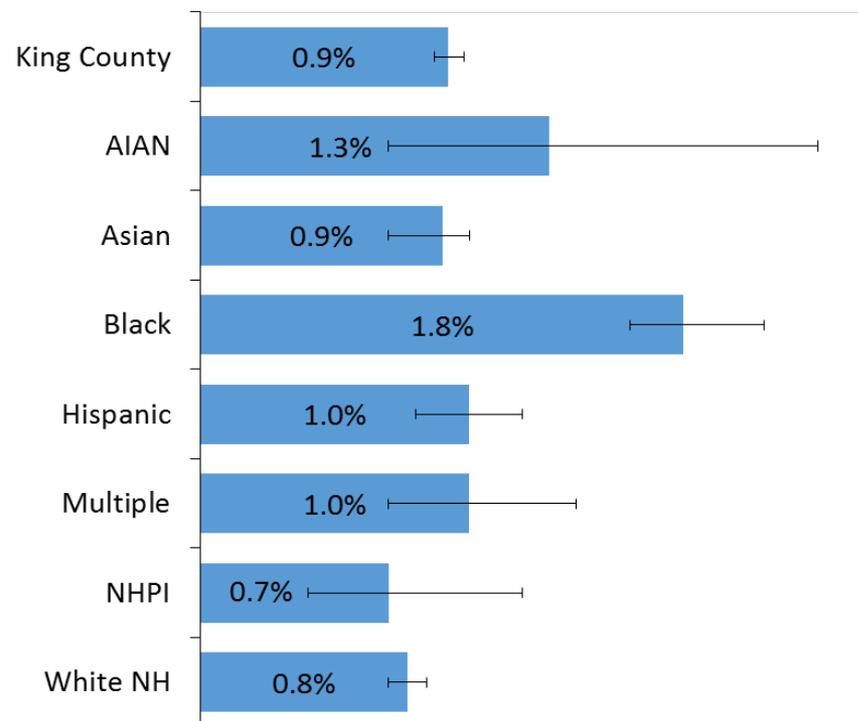


## Very Low Birth Weight

*Very low birth weight is defined as an infant born weighing less than 1,500 grams (3.3 pounds). This birth weight places an infant at higher risk of infant mortality.*

- 0.9% of King County infants (average of 229 each year) were born at very low birth weight.
- Infants born to Black mothers were 2.6 times more likely to be very low birth weight, compared to the group with the lowest rates in King County.

**Figure 8. Very low birth weight, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

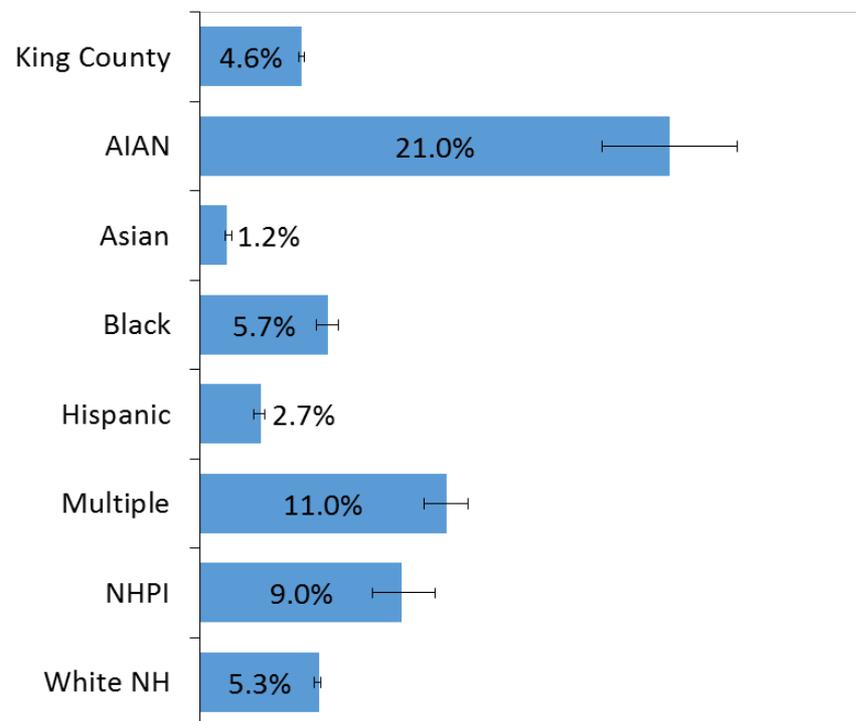


## MATERNAL CHARACTERISTICS

## Smoking During Pregnancy

*Smoking during pregnancy is defined as reporting smoking in the three months prior to pregnancy, or smoking in either the first, second, or last trimesters of pregnancy. Smoking during pregnancy can lead to low birth weight, preterm birth, infant mortality, and birth defects.*

**Figure 9. Smoking during pregnancy, King County, 2009-2013 average**



- Smoking during pregnancy in King County and for most race/ethnicity groups is higher than the national Healthy People 2020 objective of 1.4%.
- American Indian/Alaska Native mothers were 17.5 times more likely to smoke than Asian mothers, who were the least likely to smoke during pregnancy.
- Multiple race, Native Hawaiian/Pacific Islander, and Black mothers also had high smoking rates.

Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

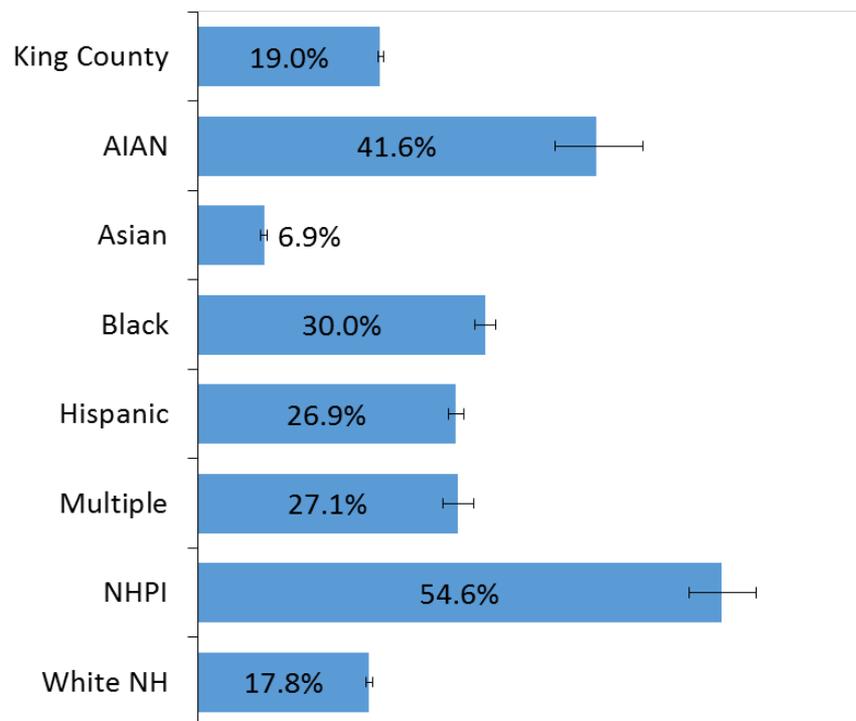


## Maternal Obesity

Using the mother's height and weight prior to pregnancy, a body mass index (BMI) is calculated. A BMI of 30.0 or more is considered obese. Maternal obesity is associated with pregnancy complications such as maternal diabetes and stillbirth as well as a child developing obesity later in life.

- Almost 1 out of 5 King County mothers were obese.
- Maternal obesity varied widely, with American Indian/Alaska Native, Black, Hispanic, Multiple race, and Native Hawaiian/Pacific Islander mothers between 4 and 8 times more likely to be obese than Asians, who were least likely to be obese.

**Figure 10. Maternal obesity, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.  
Body Mass Index (BMI) is weight in kilograms divided by height in centimeters squared

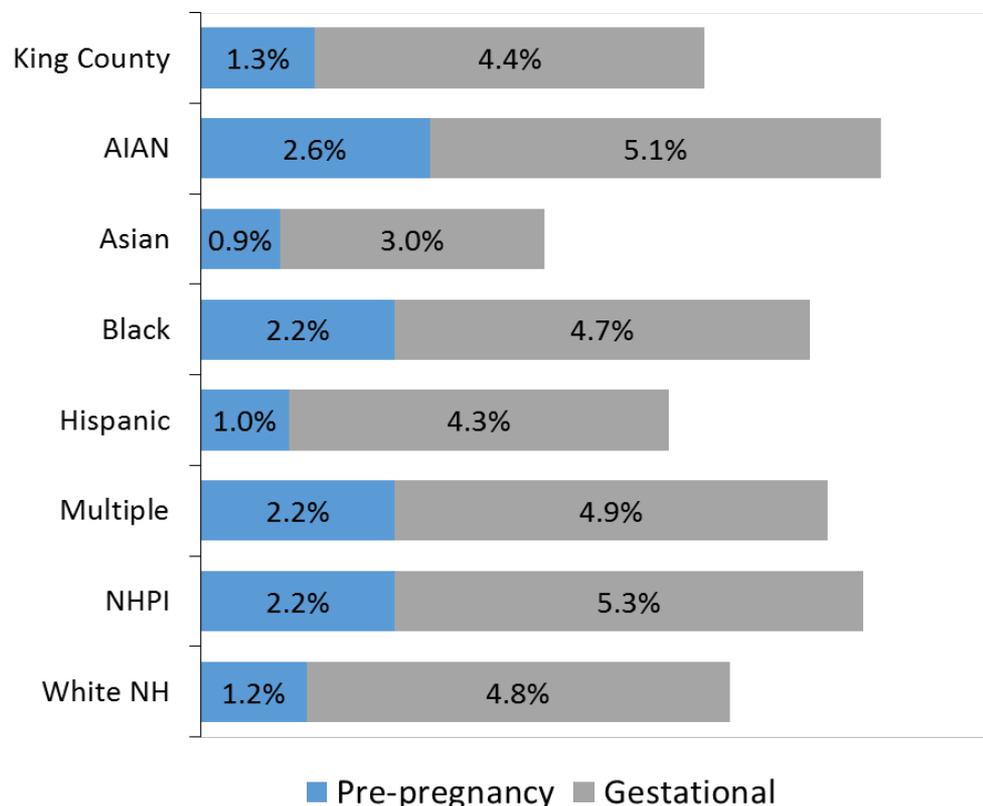


## Hypertension

Mothers could have had hypertension before pregnancy, or have developed gestational hypertension during the pregnancy (pregnancy-induced hypertension, preeclampsia or eclampsia).

- Hypertension during pregnancy is associated with an increased risk of maternal complications like diabetes and poor birth outcomes like preterm delivery.
- American Indian/Alaska Native, Black, Multiple race, and Native Hawaiian/Pacific Islander mothers were 2.3 to 3.3 times more likely to have any hypertension during pregnancy than Asian mothers, who were least likely to have diagnosed hypertension.

**Figure 11. Maternal hypertension, King County, 2009-2013 average**



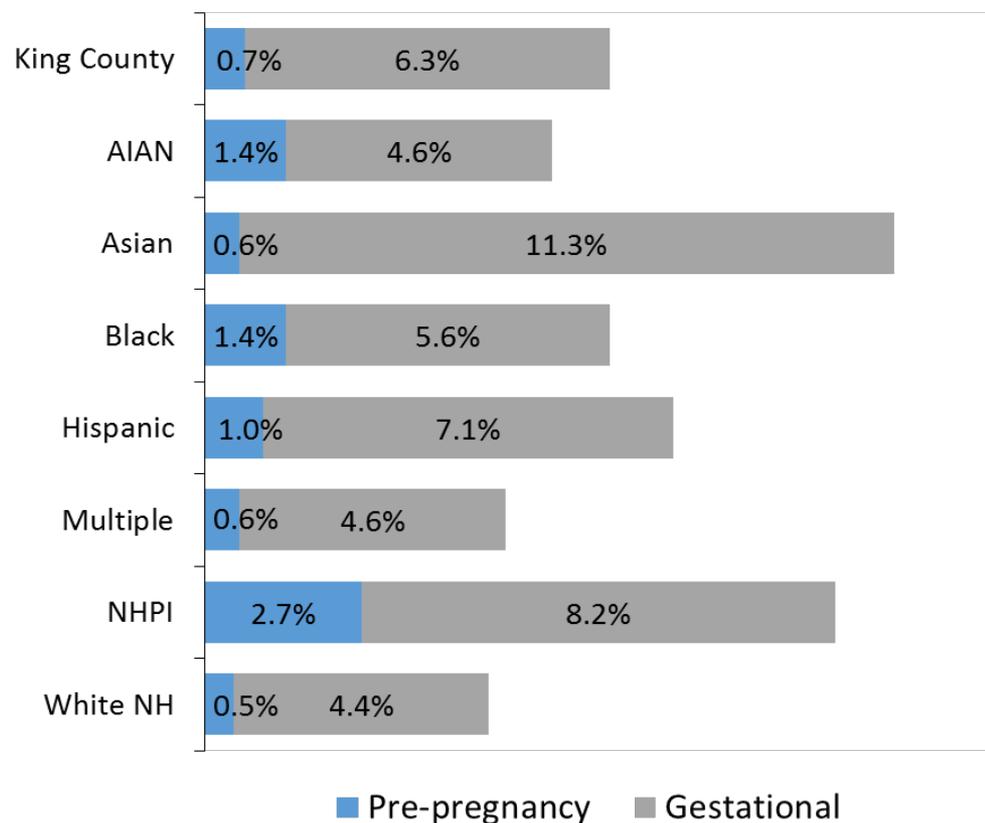
Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates.  
Prepared by Public Health-Seattle & King County, APDE.

# Diabetes

*This indicator combines pre-pregnancy and gestational diabetes (diabetes that develops during pregnancy). Pre-pregnancy diabetes includes both Type I and Type II diabetes.*

- Gestational diabetes can lead to pregnancy complications like preeclampsia, preterm birth, and Cesarean births.
- Asian, Hispanic, and Native Hawaiian/Pacific Islander mothers were 1.6 to 2.6 times more likely to have gestational diabetes than white NH mothers. Multiple race and white NH mothers were least frequently diagnosed.

**Figure 12. Maternal diabetes, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates.  
Prepared by Public Health-Seattle & King County, APDE.

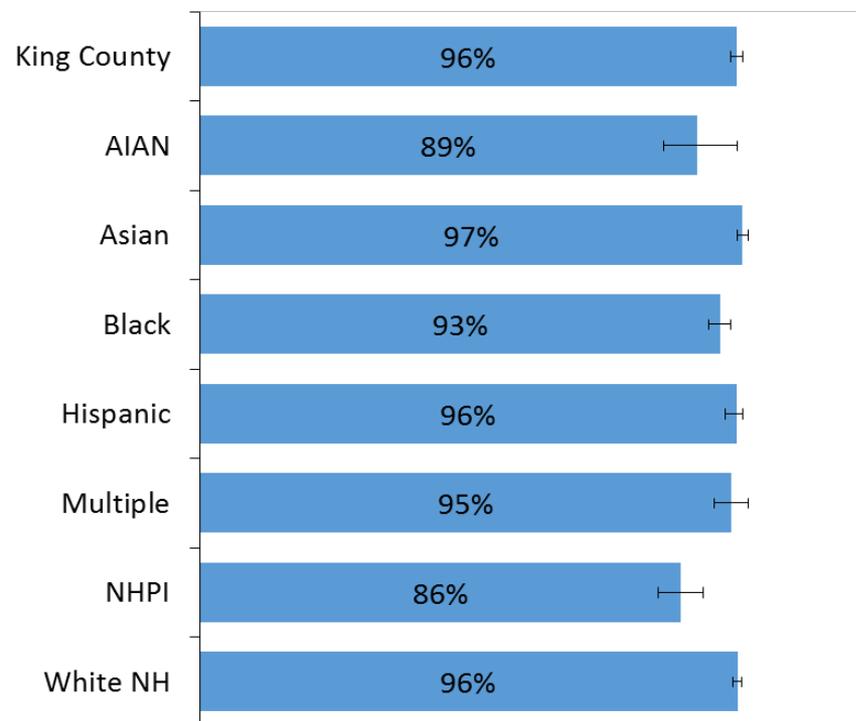


## Breastfeeding

*Initiation is recorded on the birth certificate. Breastfeeding helps protect the infant from infectious diseases while providing the best nutrition for the infant's growing body.*

- American Indian/Alaska Native, Black and Native Hawaiian/Pacific Islander mothers were least likely to initiate breastfeeding.
- The American Academy of Pediatrics recommends<sup>1</sup> exclusive breastfeeding until an infant is about 6 months old.
- Among King County infants born to low-income women, 78% were breastfed at 4 weeks and 57% were breastfed at least 6 months.
- 82% of King County mothers reported still breastfeeding when the infant was 8 weeks old. For the general King County population, no further information on breastfeeding duration is available. This is a key data need.

**Figure 13. Breastfeeding initiation, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

<sup>1</sup>Pediatrics 129(3) March 1, 2012; pp. e827-e841

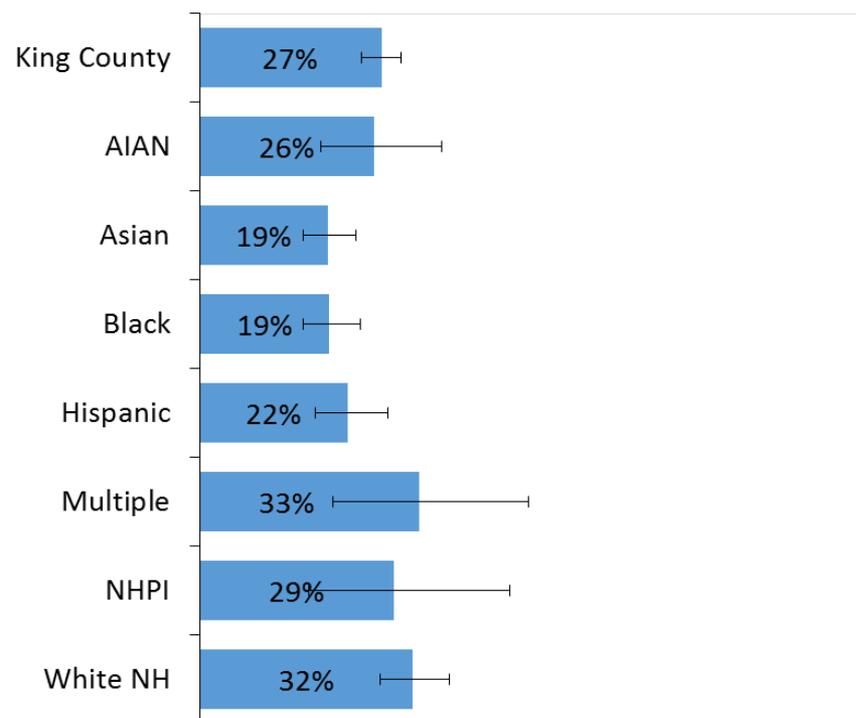


## Frequent Postpartum Depressive Symptoms

Mothers of infants 2-6 months of age were asked “Since your new baby was born, how often have you felt down, depressed, or hopeless?” Frequent postpartum depressive symptoms was defined as a response of “always” or “often”.

- Mothers who experience depression are less able to bond with their babies, affecting infant brain development.
- More than 1 in 4 King County mothers experienced postpartum depressive symptoms. Asian and Black mothers were less likely to report experiencing symptoms than the County average.

**Figure 14. Experienced frequent postpartum depressive symptoms, King County, 2009-2011 average**



Source: Washington State Department of Health, Pregnancy Risk Assessment Monitoring System. Prepared by Public Health-Seattle & King County, APDE.

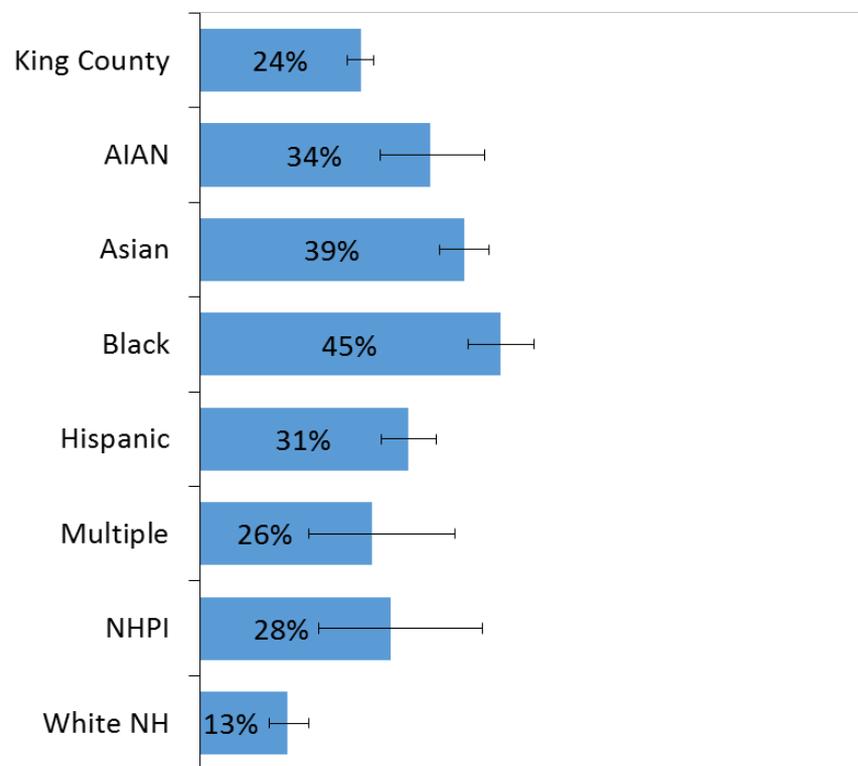


## Adequate Social Support

*Mothers were asked about financial, physical, and emotional support during pregnancy. Social support mitigates the harmful effects of stressors that contribute to poor birth outcomes.*

- American Indian/Alaska Native, Asian, Black, and Latina mothers were between 2.4 to 3.5 times more likely to report lacking these social supports than white NH mothers, who were least likely to report lacking these social supports.

**Figure 15. Lack social support, King County, 2007-2011 average**



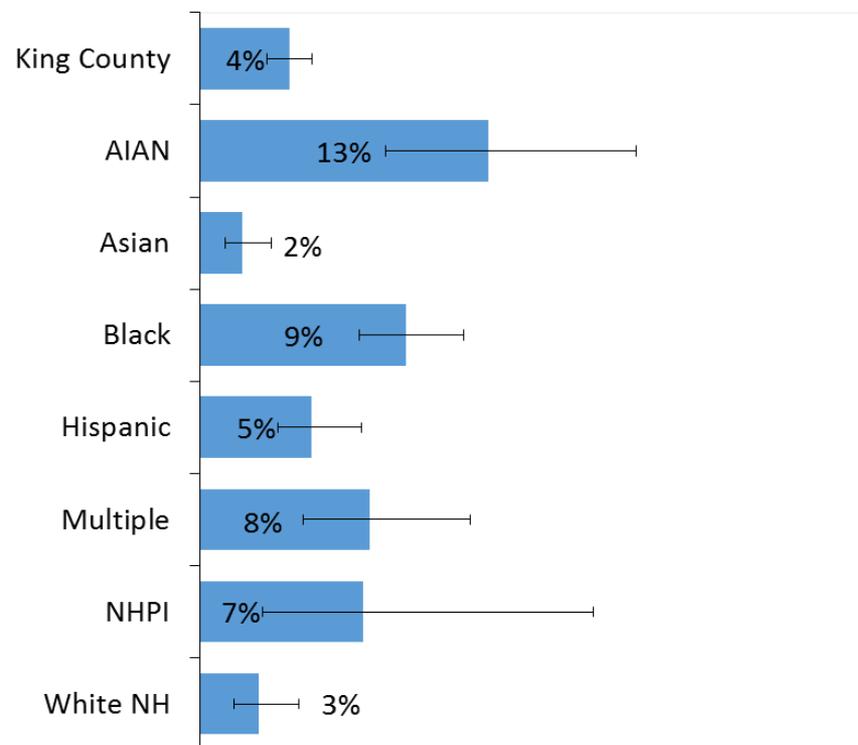
Source: Washington State Department of Health, Pregnancy Risk Assessment Monitoring System. Prepared by Public Health-Seattle & King County, APDE.

See notes section for social support questions.

## Stressful Life Events

Mothers were asked about 14 emotional, partner, financial, or trauma-related stressors in the 12 months before the baby was born. The graph shows the percent of mothers reporting 6 or more of these events.

**Figure 16. Multiple stressful life events, King County, 2007-2011 average**



Source: Washington State Department of Health, Pregnancy Risk Assessment Monitoring System. Prepared by Public Health-Seattle & King County, APDE.

- Chronic stressors can lead to preterm birth and poor birth outcomes.
- American Indian/Alaska Native mothers were almost 7 times more likely, and Black mothers were 5 times more likely, to report 6 or more stressful life events than Asian mothers, who were least likely to report a high number of stressful life events.



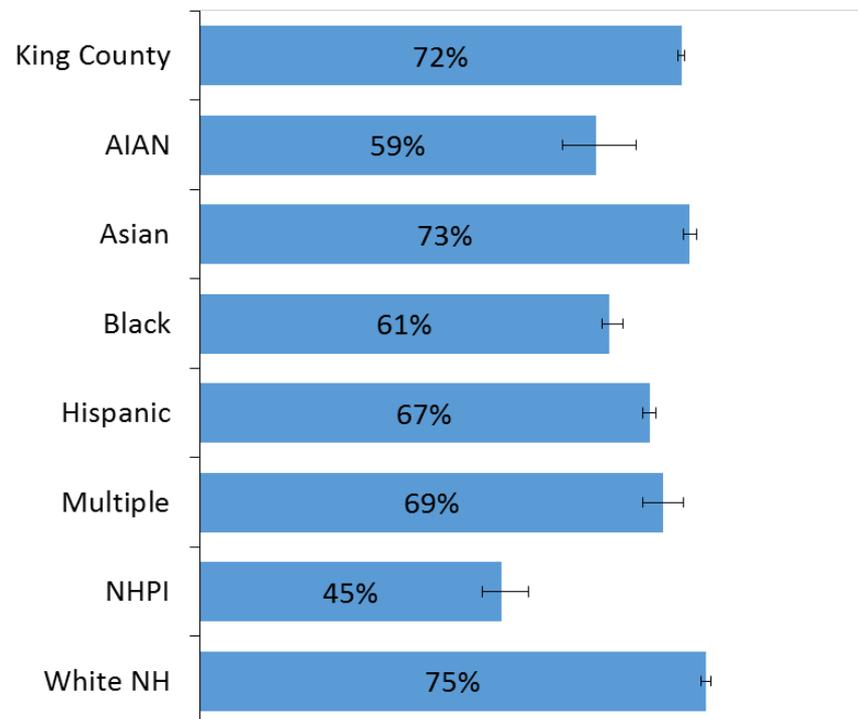
## ACCESS TO CARE

## Early and Adequate Prenatal Care

*Adequate prenatal care is defined as starting prenatal care prior to the end of the 4<sup>th</sup> month and having 80% or more of the expected number of prenatal care visits. This ensures that the mother's health is monitored regularly and any complications are caught early.*

- American Indian/Alaska Native, Asian, Black, Hispanic, Multiple Race, and Native Hawaiian/Pacific Islander mothers were less likely than white non-Hispanic mothers to receive early and adequate prenatal care.
- Native Hawaiian/Pacific Islander mothers were almost 40% less likely than white non-Hispanic mothers to receive early and adequate prenatal care.

**Figure 17. Early and adequate prenatal care, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

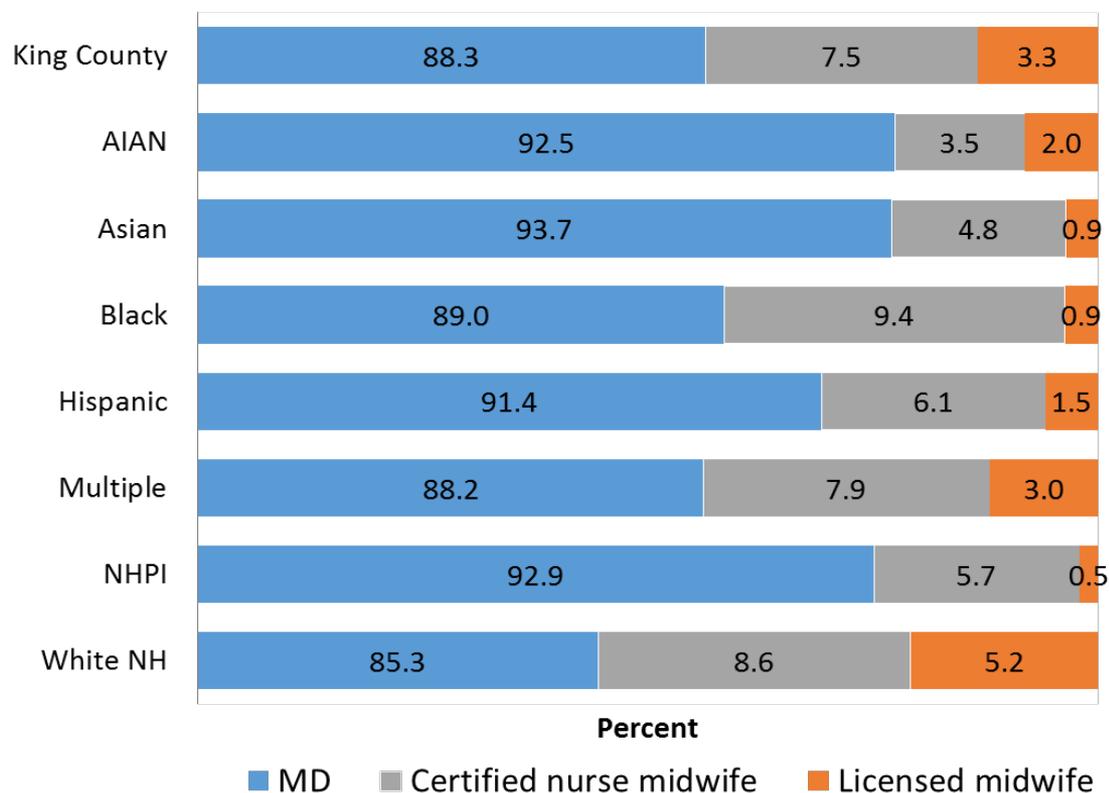


## Birth Attendant

*Birth attendant is the type of provider that delivers the infant. It could be a physician (MD), certified nurse midwife, licensed midwife, osteopath (OD), father/mother, nurse, or other.*

- The three categories shown here account for 99% of King County births.
- The type of birth attendant used varies widely by race/ethnicity. Mothers of color were most likely to be attended by a physician. A certified nurse midwife was most common among Black mothers and licensed midwives were most frequent among white non-Hispanic mothers.

**Figure 18. Birth attendant, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

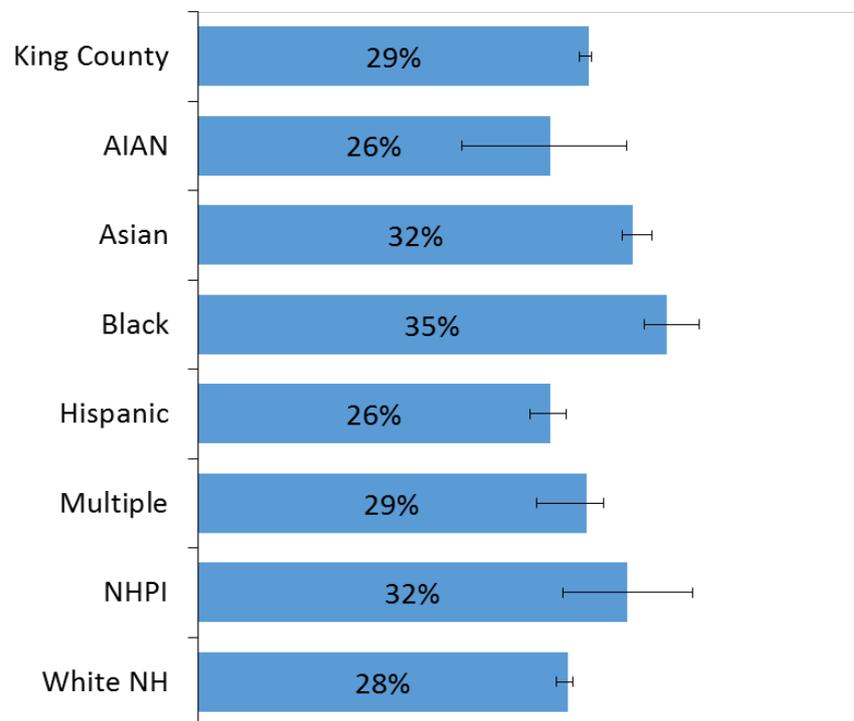


## Cesarean Delivery

*Low-risk women are those who are giving birth for the first time, to a single full-term infant in a head-down position.*

- Averaging over 2009-2013, 32% of *all* King County infants were delivered by Cesarean surgery.
- Among *low-risk* mothers, 29% were delivered by Cesarean.
- Even among low-risk women, Cesarean delivery rates were 24-33% higher among Asian and Black mothers than for Latina mothers, who had the lowest rates.
- King County rates do not meet national Healthy People 2020 objectives (24%) or state goals.

**Figure 19. Cesarean delivery to low-risk women, King County, 2009-2013 average**



Source: Washington State Department of Health, Center for Health Statistics, Birth Certificates. Prepared by Public Health-Seattle & King County, APDE.

Measure does not consider potential medical risk factors that may warrant a Cesarean delivery. State goal is for primary term singleton vertex c-section (14.76% by 2016).



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## NOTES & DATA SOURCES

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# Notes

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- Numbers may not add to King County total due to missing race or outcome information. By convention, birth data are reported by the mother's self-reported race/ethnicity. Not all data sources are able to provide data for all race categories. This report uses the federal race category groups and labels, with persons of Hispanic origin considered as a race and not included in the other categories.
- NA = not available. Some data may be suppressed to protect confidentiality and/or report reliable rates.
- Social support questions: "During your most recent pregnancy, would you have had the kinds of help listed below if you needed them?"
  - Someone to loan me \$50,
  - Someone to help me if I were sick and needed to be in bed,
  - Someone to take me to the clinic or doctor's office if I needed a ride,
  - Someone to talk with about my problems.
- Stressful life events questions: "This question is about things that may have happened during the 12 months before your new baby was born:"
  - Emotional: a close family member was very sick and had to go into the hospital; someone very close to me died.
  - Financial: I moved to a new address; My husband or partner lost his job; I lost my job even though I wanted to go on working; I had a lot of bills I couldn't pay;
  - Partner: I got separated or divorced from my husband or partner; I argued with my husband or partner more than usual; my husband or partner said he didn't want me to be pregnant
  - Trauma: I was homeless; I was in a physical fight; my husband or partner or I went to jail; someone very close to me had a problem with drinking or drugs;

# Data Sources & Acknowledgements

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- Sleep risk factors, postpartum mood, breastfeeding duration, social support, stressors, unintended pregnancy: 2007-2011 Pregnancy Risk Assessment Monitoring System.
- Birth rates, birth outcomes, attendants, prenatal care: 2009-2013 Birth Certificate Data.
- Infant mortality: 2009-2013 Linked Infant Death-Birth Certificate data.
- Medicaid data: First Steps Database, DSHS Research and Data Analysis, Characteristics of Women.
- Breastfeeding among women enrolled in the Federal Special Supplemental Nutrition Program for Women, Infants, and Children (WIC): Public Health-Seattle & King County WIC Program and Washington State WIC Nutrition Program.
- This report is designed to be shared. If you use information from this report, please cite this report as “Health of mothers and infants by race/ethnicity. August 2015. Public Health-Seattle & King County; Assessment, Policy Development & Evaluation Unit.”
- This data brief was prepared by Eva Wong, Assessment, Policy Development & Evaluation Unit in Public Health—Seattle & King County. We wish to thank the following individuals for providing assistance and review: G. Maria Carlos, Amy Laurent, Lynn Kidder, Keith Seinfeld, Crystal Tetrick.

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