

# **Maternity Care in New Jersey**

## Maternal Characteristics, Birth Outcomes & Maternal Morbidity, 2018

**New Jersey Department of Health**  
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# Executive Summary

- **Overall maternal health and racial/ethnic disparities:**
  - Overall health of mothers is worsening while outcomes for infants are improving
    - Average age of mothers is increasing, which confers increased rates of comorbidities and risk of complication
    - Increasing rates of diabetes (DM), hypertension (HTN), obese/overweight mothers
    - Decreasing rates of premature and underweight infants
  - Racial and ethnic disparities are evident across many factors that can effect maternal health and outcomes
    - Non-Hispanic (NH) Black mothers have higher rates of DM, HTN, preterm and low birthweight infants, and higher rates of Severe Maternal Morbidity
    - NH Black mothers are more likely to have Medicaid coverage and have lower rates of prenatal care initiation in first trimester

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\***NTSV** means **N**ulliparous (first time mother), **T**erm (37 or more completed weeks of gestation), **S**ingleton (one fetus), and **V**ertex (head-first presentation of the fetus)

# Executive Summary

## Method of delivery/ outcomes

- Cesarean delivery rates continue to be high in 2018; 25% of ALL births are cesareans for which there was no trial of labor
- For mothers that had a previous cesarean delivery, Vaginal Birth After Cesarean (VBAC) rates were 11% while 85% had a repeat cesarean delivery with no trial of labor
- Nulliparous mothers account for 39% of all delivery hospitalizations and 37% of all cesarean deliveries. Of nulliparous mothers that experienced cesarean birth, 50% had no trial of labor
- **Variation across birthing hospitals**
  - Wide variation in rates of NTSV\* cesarean births, episiotomy and VBAC births are seen across New Jersey birthing hospitals
  - It is important to acknowledge that management of obstetric care may vary across birthing hospitals, therefore, further investigation of maternal care provided at the facility level is paramount.

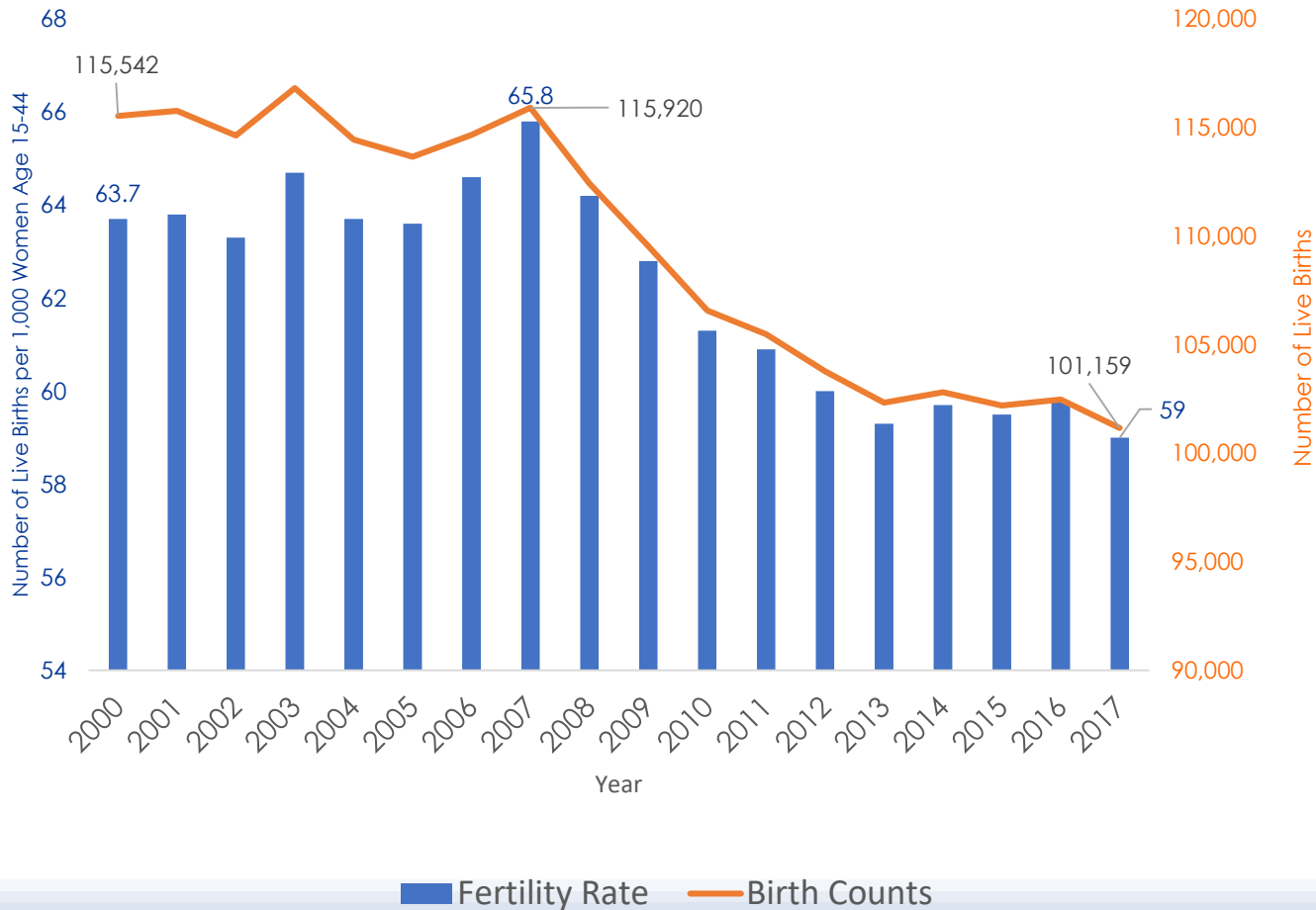
\***NTSV** means **N**ulliparous (first time mother), **T**erm (37 or more completed weeks of gestation), **S**ingleton (one fetus), and **V**ertex (head-first presentation of the fetus)

# Birth Counts and Fertility Rate

## New Jersey, 2000 to 2017

### Maternity Care in New Jersey

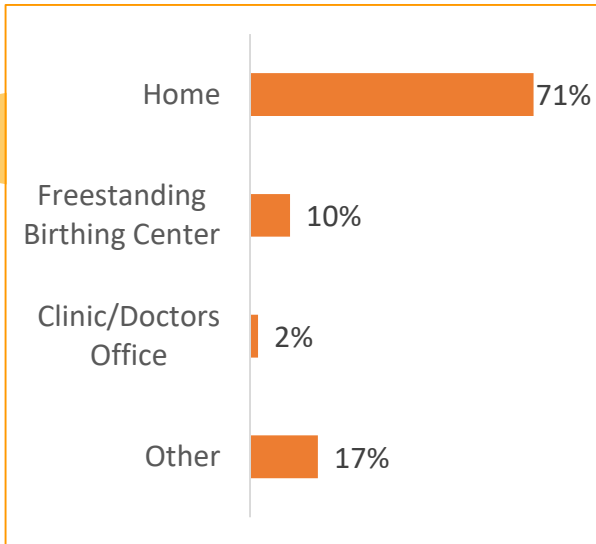
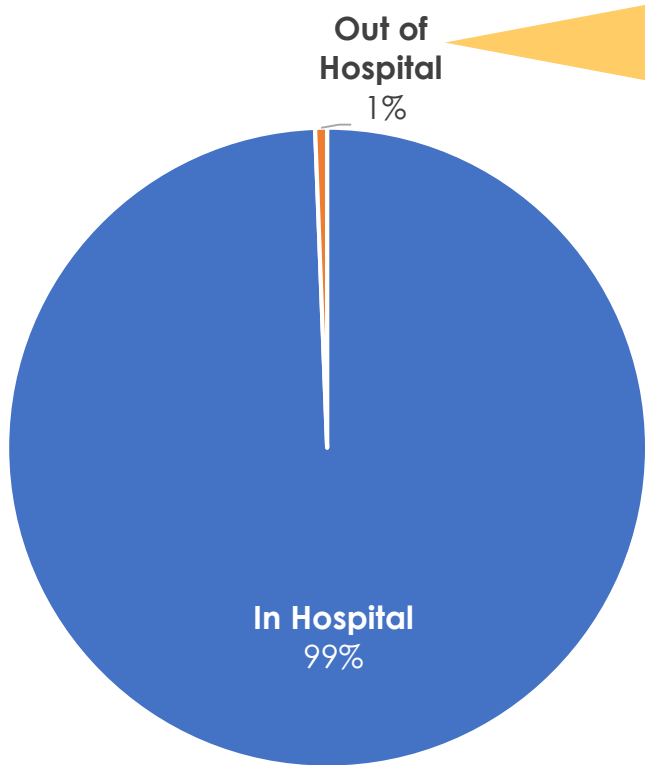
#### Births and Demographics



The number of births and fertility rate in New Jersey have been on a downward trend since 2007. Overall, the birth rate dropped 13% from 2000 through 2017. Similarly, the fertility rate has dropped from 63.7 per 1,000 women age 15-44 in 2000 to 59 in 2017, representing a 7% drop in fertility rate.

# Births by Location

## New Jersey, 2018



■ Hospital ■ Out of Hospital

### Maternity Care in New Jersey

#### Births and Demographics

Nearly all births in 2018 occurred in a birthing hospital. Of those that did not occur at a birthing hospital, 71% (almost 3 out of 4 out-of-hospital births) occurred at home.

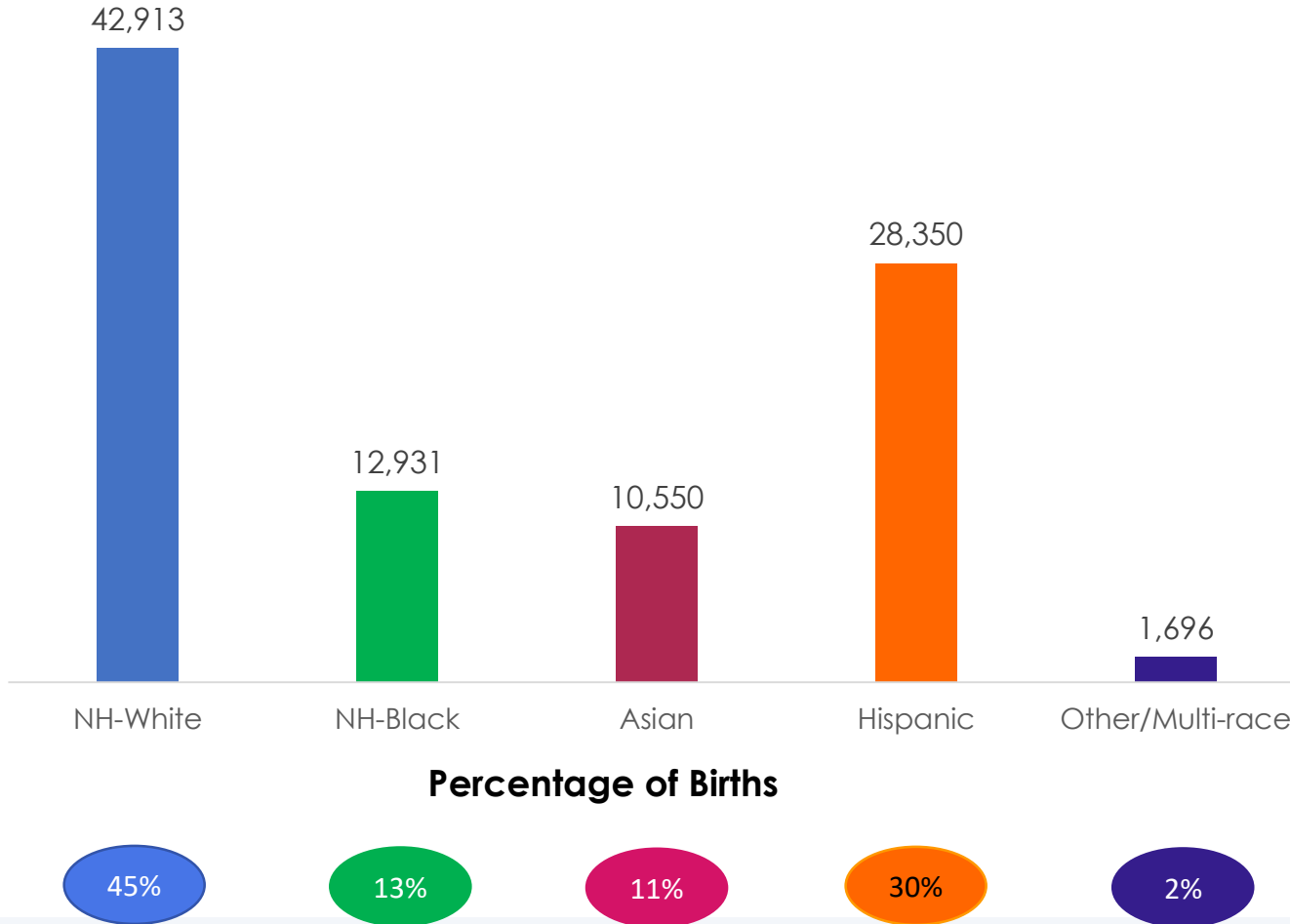
# Delivery Hospitalizations by Mother's Race/Ethnicity

## New Jersey, 2018

### Maternity Care in New Jersey

#### Births and Demographics

In 2018, Non-Hispanic White mothers made up nearly half (45%) of all delivery hospitalizations in New Jersey, followed by Hispanic mothers who made up 30%.



Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

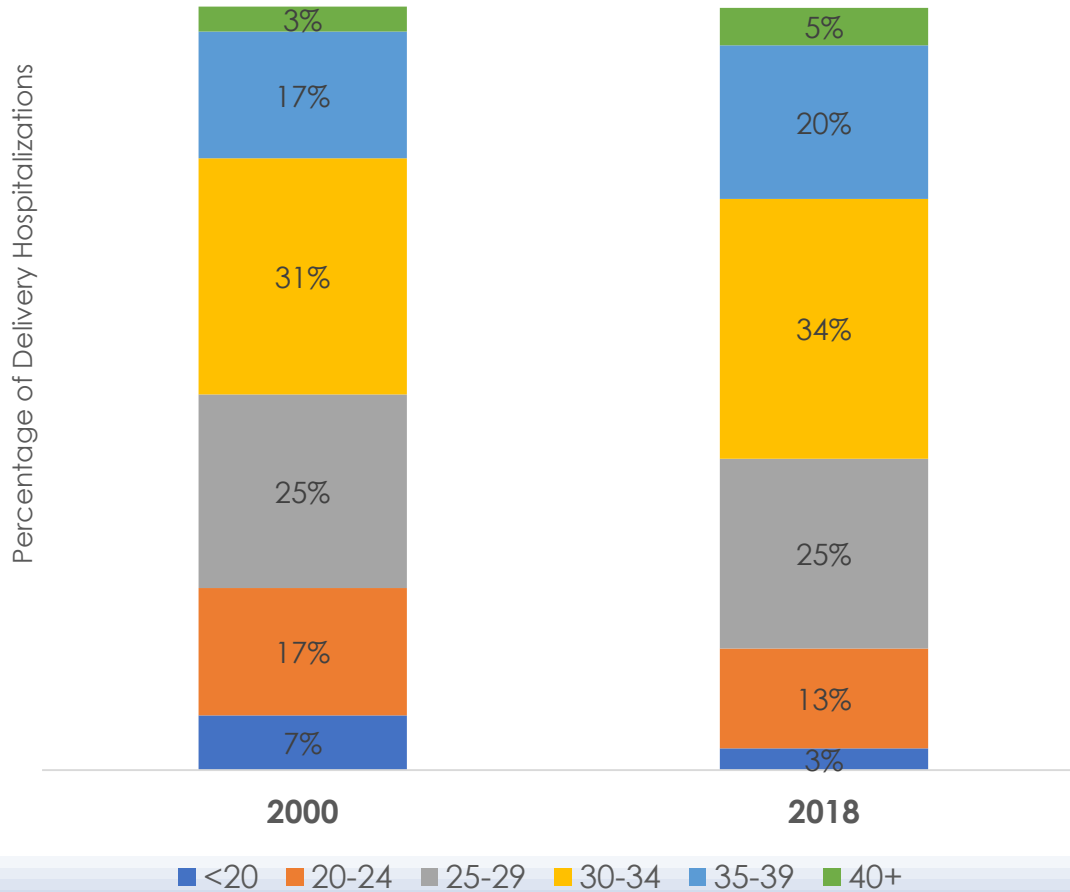
# Delivery Hospitalizations by Mother's Age

## New Jersey, 2000 and 2018

### Maternity Care in New Jersey

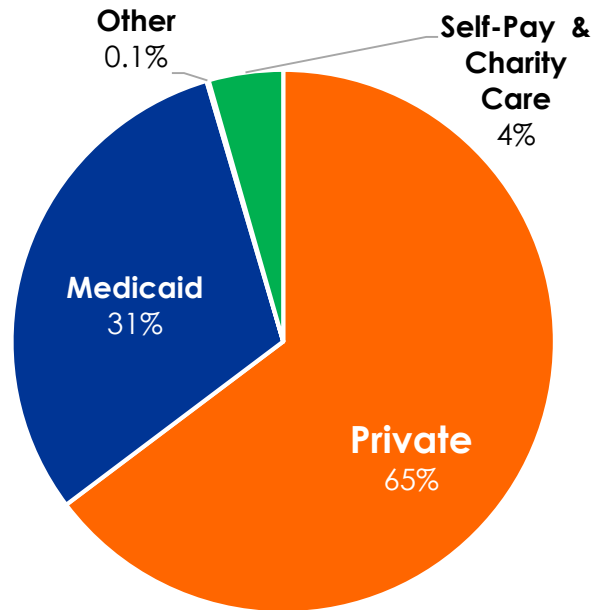
#### Births and Demographics

The average age of mothers who gave birth in New Jersey hospitals has increased in recent years, from 29 in 2000 (not shown) to 31 in 2018. The percentage of mothers under the age of 25 has decreased, while the percentage of those over the age of 30 increased, reflecting the fact that mothers in NJ are waiting until later in life to have babies.



# Delivery Hospitalizations by Mother's Insurance

## New Jersey, 2018



## Maternity Care in New Jersey

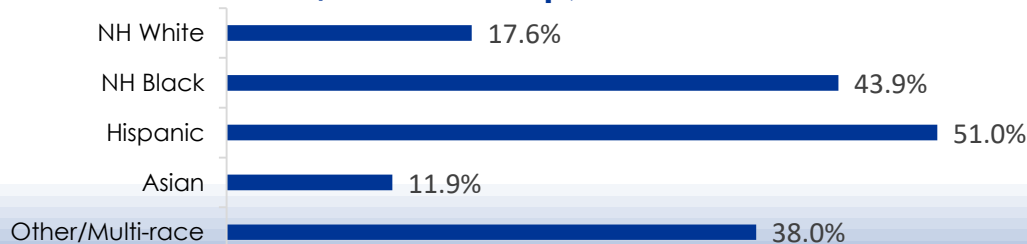
### Births and Demographics

In 2018, 31% of delivery hospitalizations were to mothers on Medicaid, compared to 32% in 2016 (not shown) representing a 3% decrease.

In 2018, 65% of delivery hospitalizations were to mothers with private insurance compared to 60% in 2016 (not shown) representing an 8% increase.

When looking at distribution of insurance coverage in each racial/ethnic group, in 2018, 51% of Hispanic women were covered by Medicaid compared to 11.9% of Asian mothers.

### Medicaid Coverage Percentage in each Racial/Ethnic Group, 2018



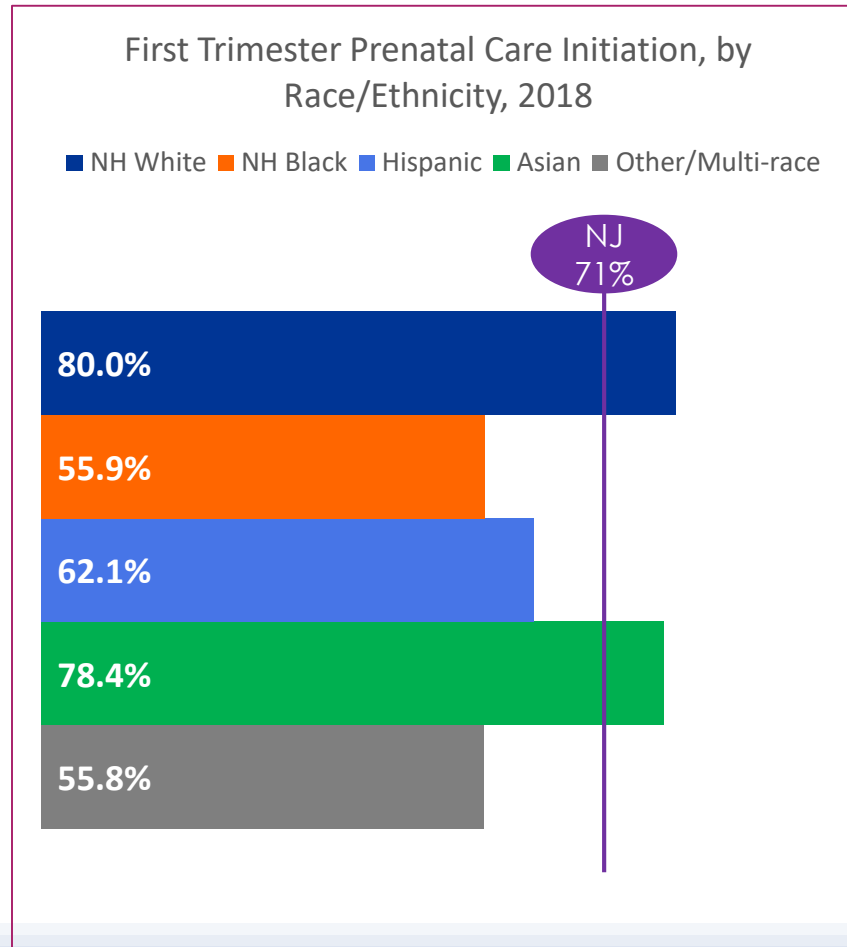
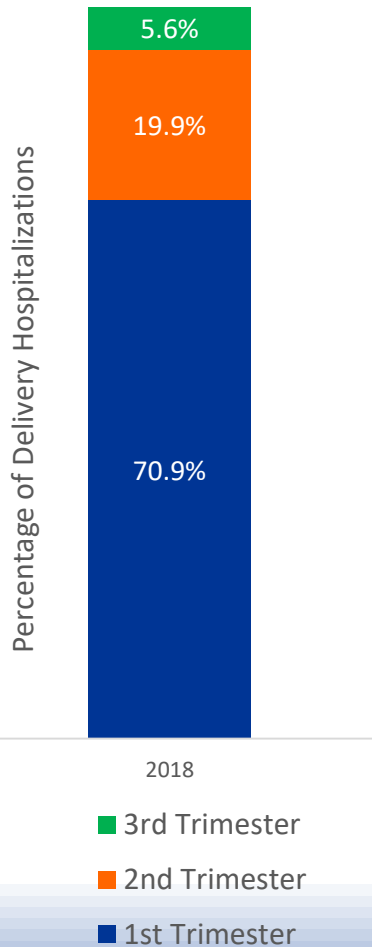


# Delivery Hospitalizations by Prenatal Care Initiation

## New Jersey, 2018

### Maternity Care in New Jersey

#### Births and Demographics



In 2018, 71% of all mothers initiated prenatal care in the first trimester of their pregnancy, which was a minimal improvement over 2016, during which 70% of mothers initiated prenatal care in their first trimester (not shown).

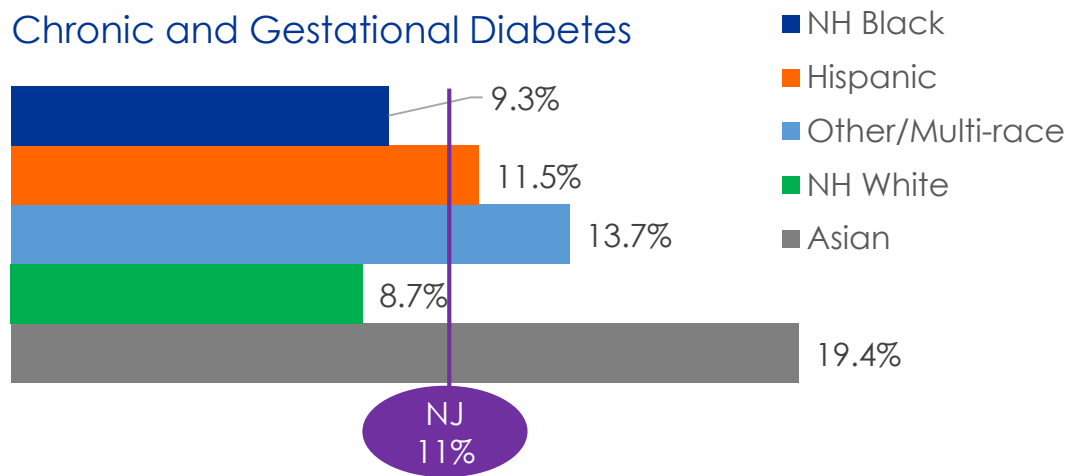
However, racial disparities in the timing of initiation of care were evident, with 80% of Non-Hispanic White mothers starting care in their first trimester, but only 56% of Non-Hispanic Black mothers doing so.

# Maternal Medical Conditions, by Race/Ethnicity

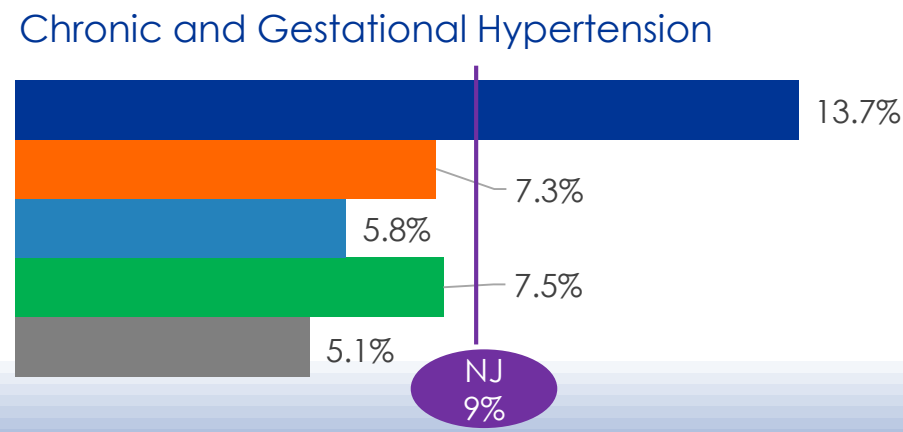
## New Jersey, 2018

### Maternity Care in New Jersey

#### Risk Factors



In 2018, 11% of mothers who gave birth at a hospital were diabetic, compared with 10% of mothers in 2016 (not shown), representing a 10% increase. Racial and ethnic disparities were observed with the highest rate of diabetes amongst Asian mothers at 19.4% compared to Non-Hispanic White mothers at 8.7%.



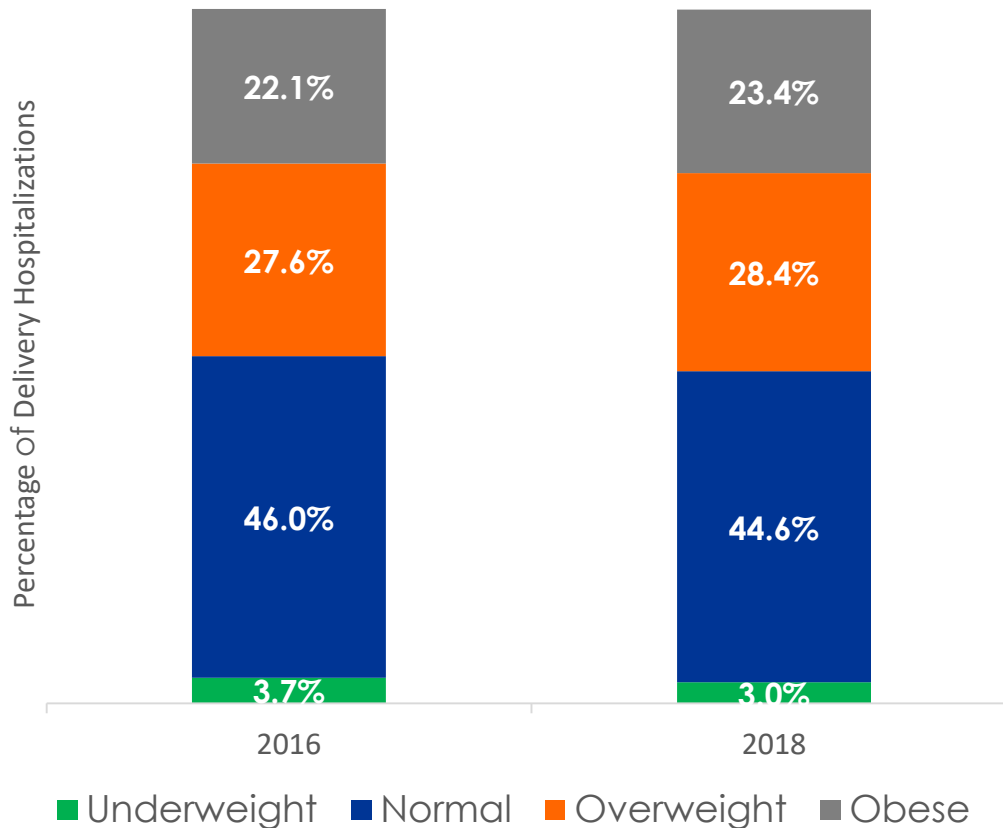
In 2018, 9% of mothers who gave birth at hospital were hypertensive, compared with 8% of mothers in 2016 (not shown), representing a 11% increase. Similarly, racial and ethnic disparities were observed with the highest rate being amongst Non-Hispanic Black mothers (13.7%) and the lowest amongst Asian mothers (5.1%).

Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).



# Pre-pregnancy Body Mass Index (BMI)

## New Jersey, 2016 and 2018



## Maternity Care in New Jersey

### Risk Factors

There was a small shift in pre-pregnancy Body Mass Index (BMI) towards the obese and overweight categories among NJ mothers from 2016 to 2018.

In 2016, 49.7% of mothers were categorized as overweight or obese before pregnancy, while in 2018 51.8% were overweight or obese.

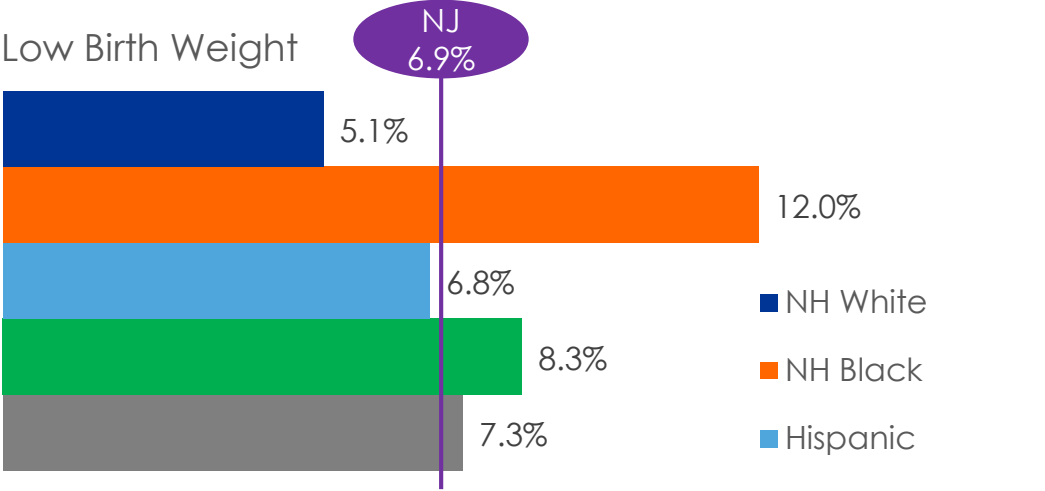
# Childbirth-Related Quality Measures, by Race/Ethnicity

## New Jersey, 2018

### Maternity Care in New Jersey

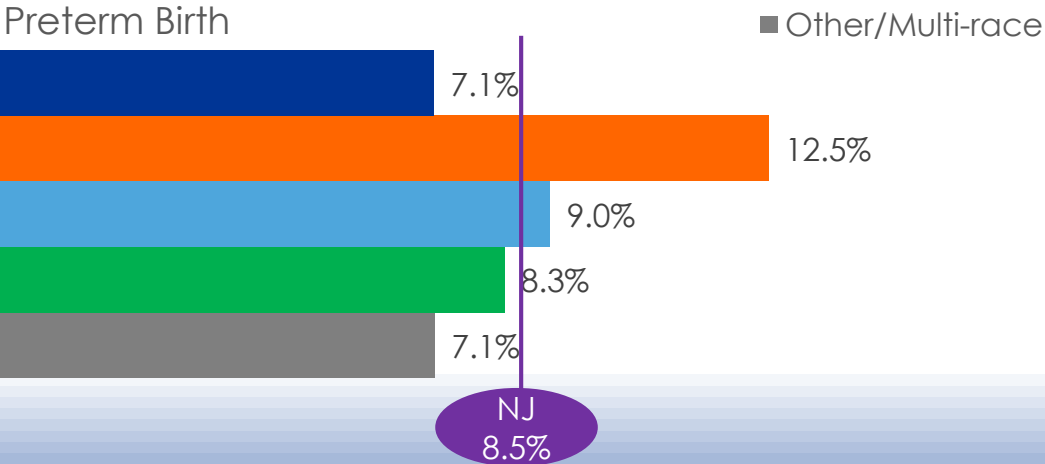
#### Risk Factors

Low Birth Weight



In 2018, low birth weight babies were born during 6.9% of delivery hospitalizations, which was a 9% drop from 2016 rate of 7.6% (not shown). However, there were large disparities of rates of low birth weight by race/ethnicity, with the greatest rate of low birth weight babies for Non-Hispanic Black mothers.

Preterm Birth



Similarly, preterm births occurred in 8.5% of delivery hospitalizations, which was a minor drop of 3% from the 2016 rate of 8.8% (not shown). Disparities in rates of preterm births were also seen, with the greatest rates of preterm babies born to Non-Hispanic Black mothers.

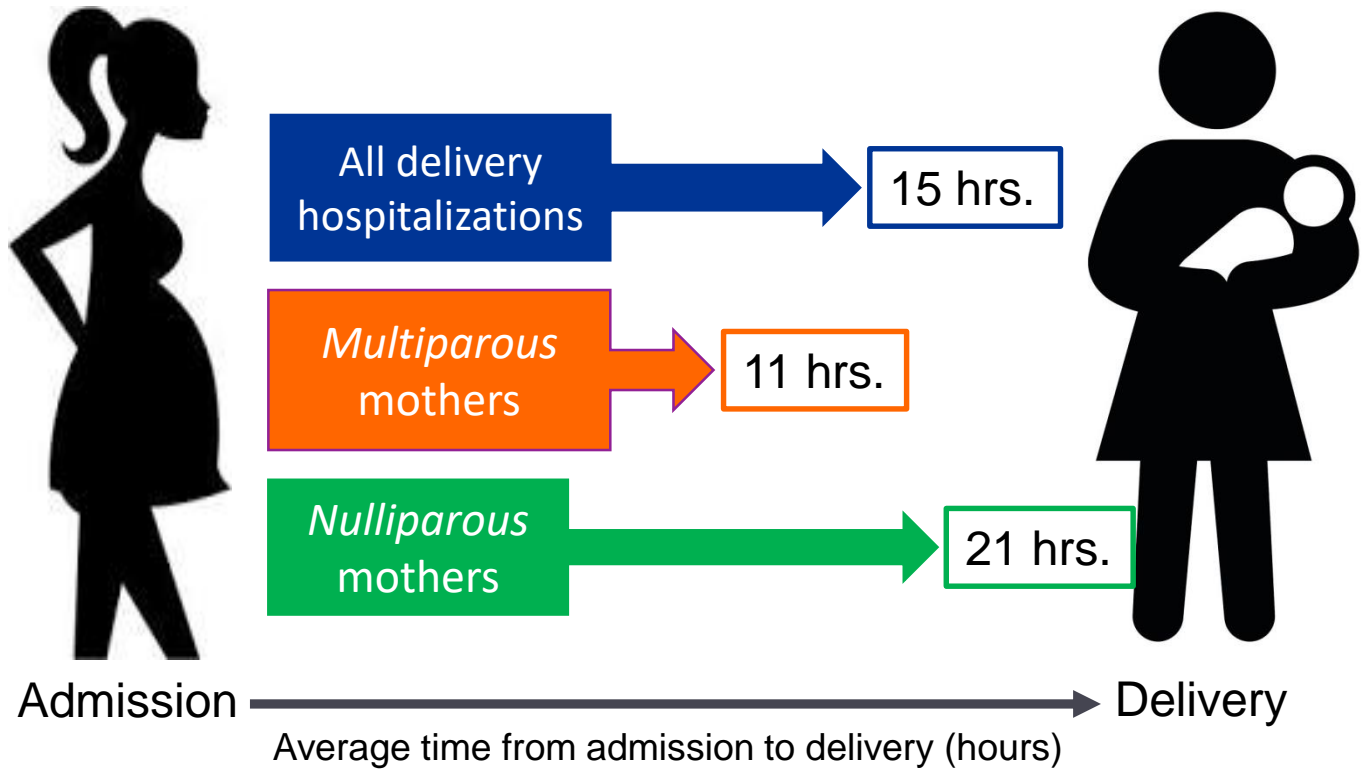
Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

# Average Time from Admission to Birth, Overall and by Parity

## New Jersey, 2018

### Maternity Care in New Jersey

#### Outcomes



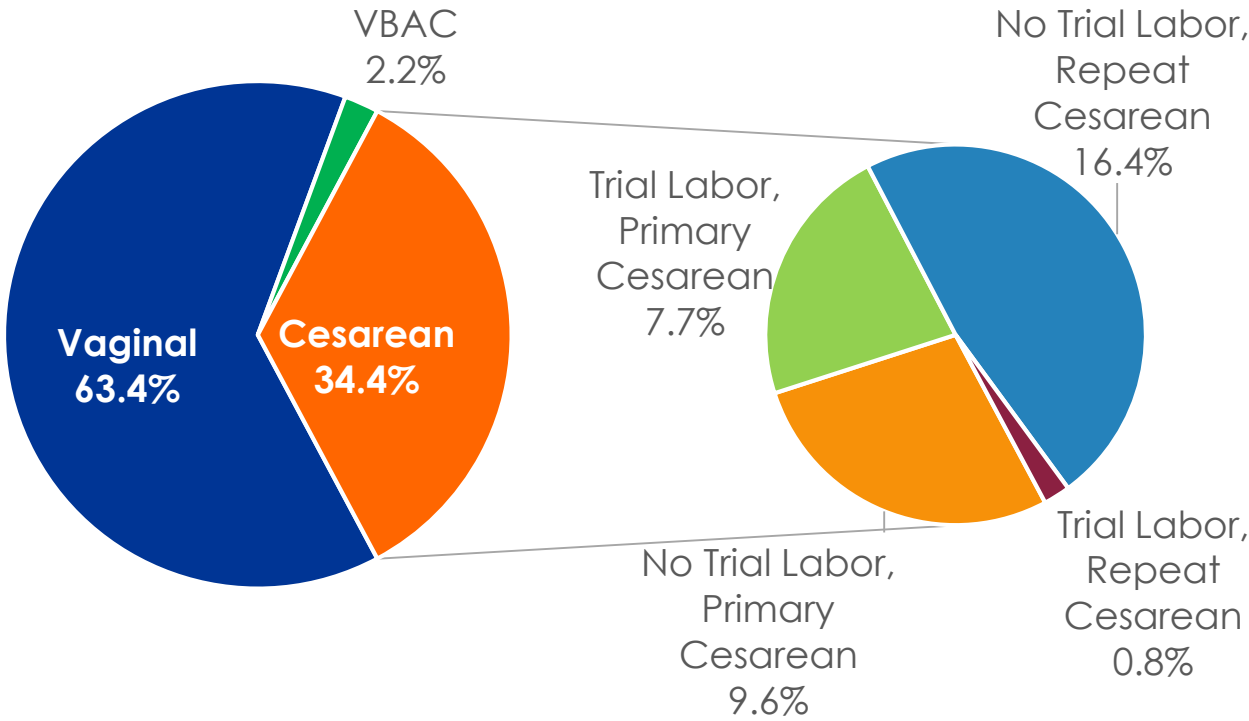
In 2018, the average time between admission to the hospital and delivery for all delivery hospitalizations was 15 hours. However, nulliparous\* mothers experienced a much longer average interval between admission and delivery, at 21 hours, compared with multiparous\* mothers, whose average time was 11 hours.

\*Nulliparous mothers are those that are having their first baby, while multiparous mothers have previously had a baby

Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

# Method of Delivery, All Delivery Hospitalizations

## New Jersey, 2018



### Maternity Care in New Jersey Outcomes

In 2018, 34.4% of deliveries were cesarean births, a decline from 35.7% in 2016 (not shown).

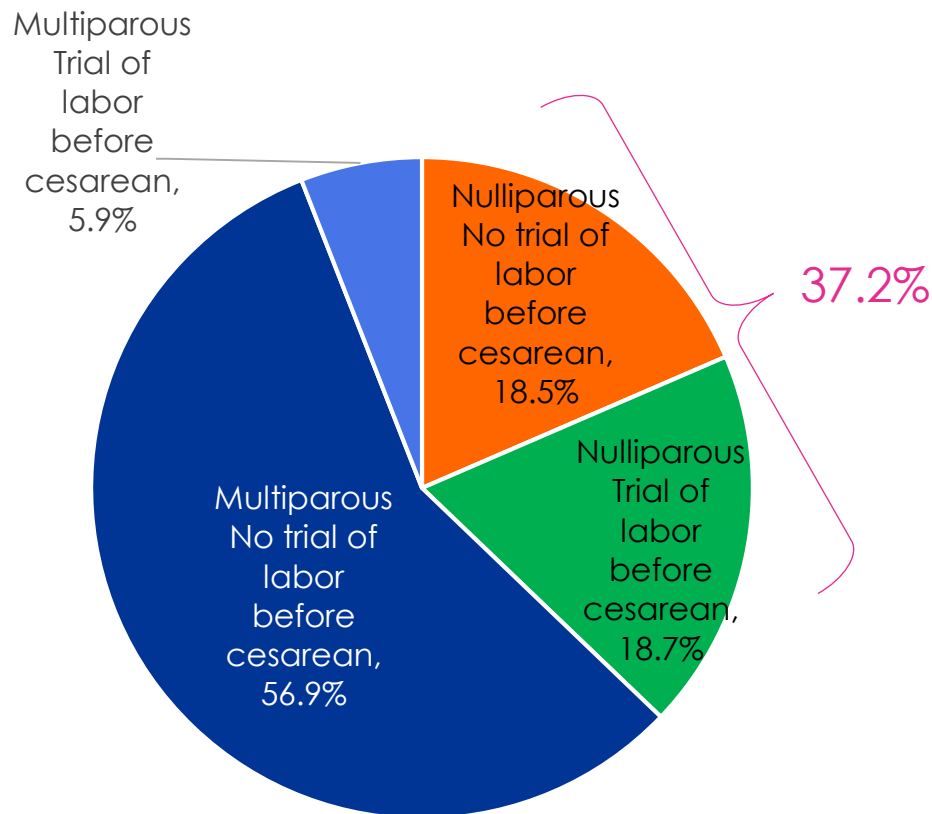
Of all delivery hospitalizations, 25.9% were cesarean deliveries with no preceding trial of labor. Primary cesareans, most commonly performed in nulliparous (first-time) mothers, accounted for 50% of all cesarean births. Among primary cesarean births, 55% were performed with no trial of labor.

Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).



# Cesarean Delivery Hospitalizations by Trial of Labor and Parity New Jersey, 2018

## Maternity Care in New Jersey Outcomes

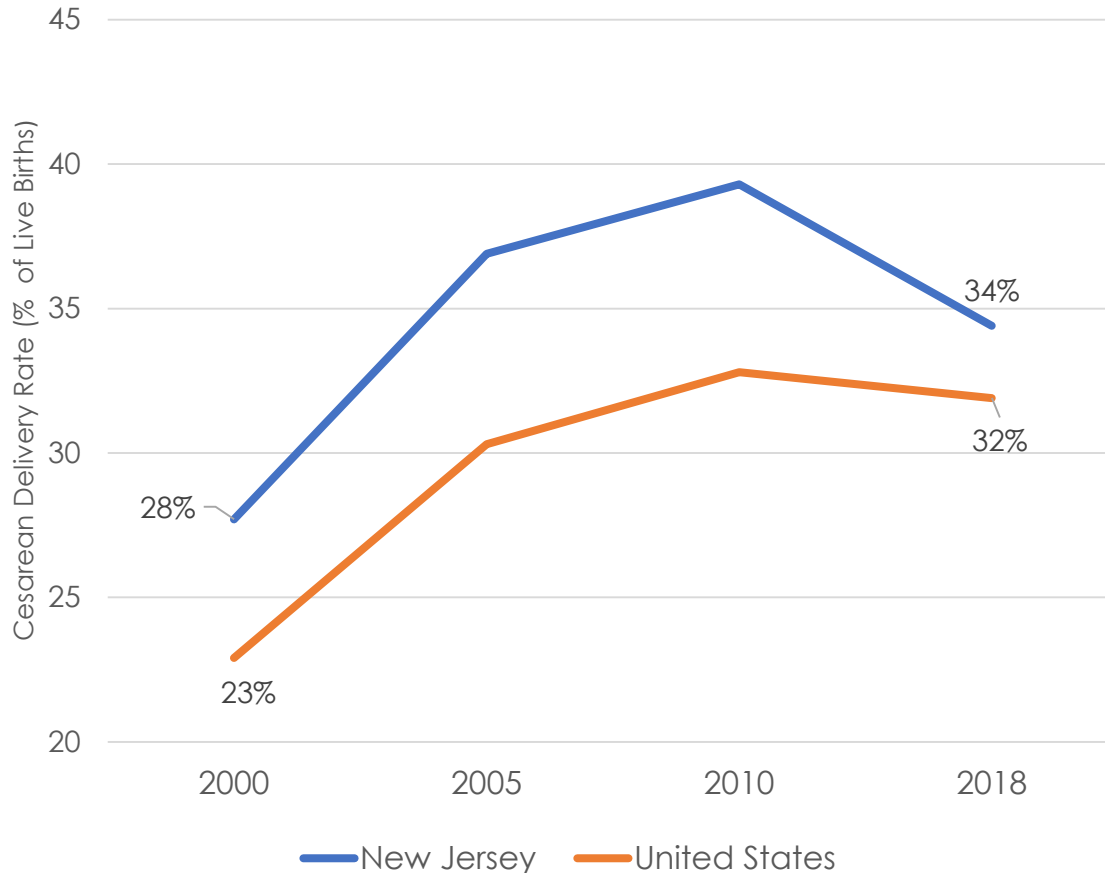


In 2018, nulliparous\* mothers accounted for **39%** of all delivery hospitalizations (not shown), and 37.2% of all cesarean births. However, 50% of all nulliparous\* cesarean births occurred with no trial of labor.

\*Nulliparous mothers are those that are having their first baby, while multiparous mothers have previously had a baby

# Total Cesarean Deliveries

## New Jersey, 2000 to 2018



## Maternity Care in New Jersey

### Outcomes

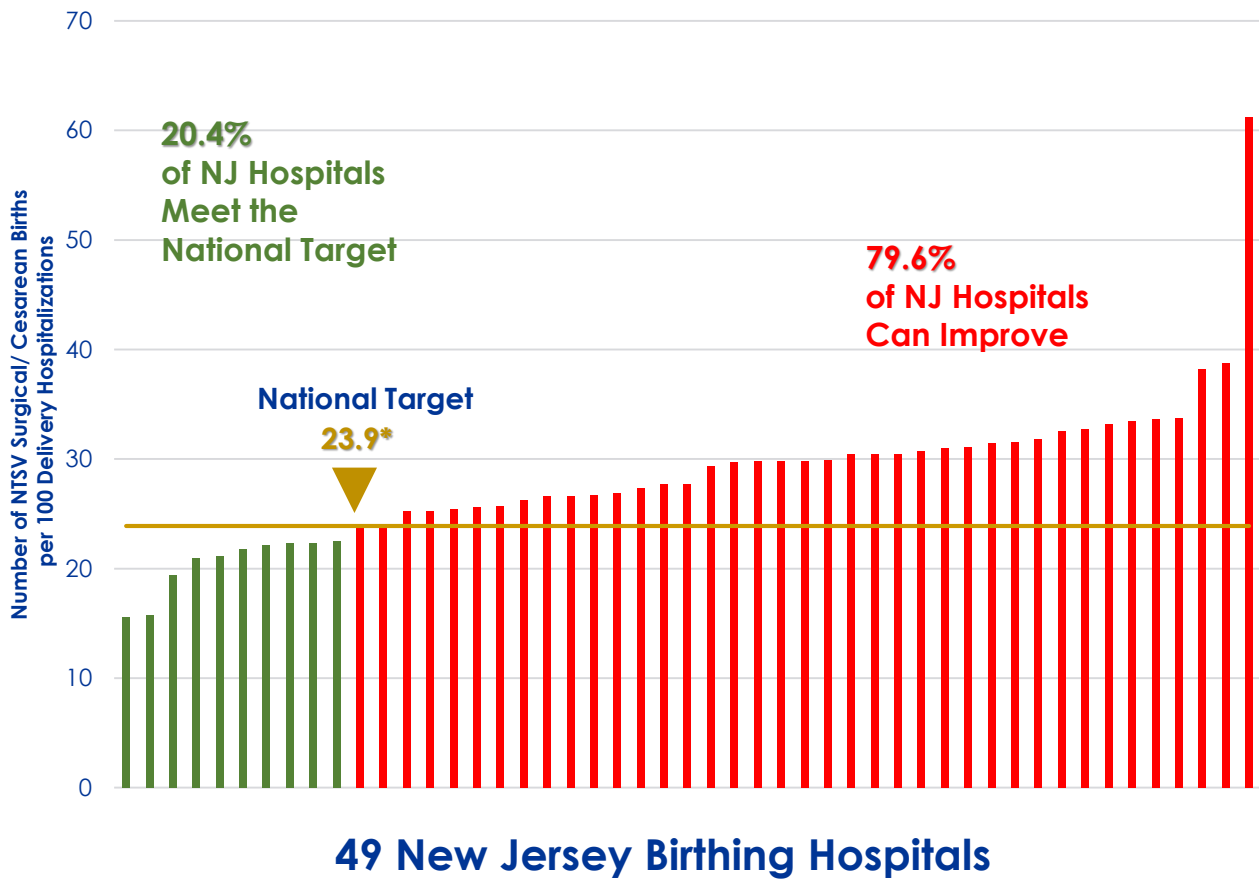
In 2000, about one in five births was delivered by cesarean (surgical birth) in New Jersey (NJ) and the United States (US). An upward trend in the rate of cesarean deliveries was observed in both NJ and US from 2000 to 2010. Since then, it has been on a downward trend.

In 2018, cesarean delivery rates in NJ were similar across all racial and ethnic groups. The lowest rate was amongst Non-Hispanic White mothers at 31.6% and the greatest rate being amongst Other/Multi-race mothers at 38.4% (not shown).



# NTSV Low-Risk Cesarean Rate, by Hospital

## New Jersey, 2018



### Maternity Care in New Jersey

#### Outcomes

**NTSV** means **N**ulliparous (first time mother), **T**erm (37 or more completed weeks of gestation), **S**ingleton (one fetus), and **V**ertex (head-first presentation of the fetus).

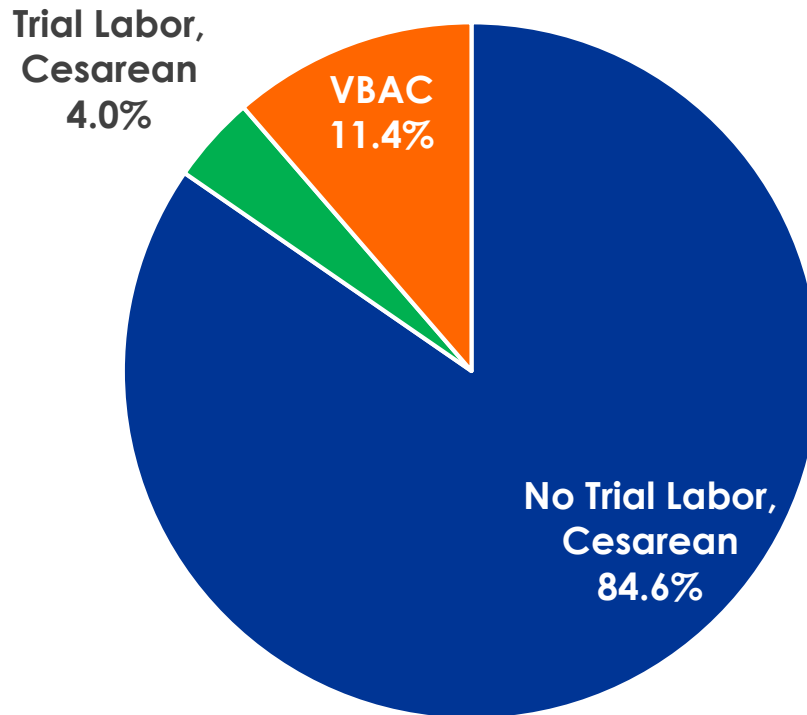
In 2018, 20.4% of NJ birthing hospitals met the Healthy People 2020 national target NTSV cesarean rate of 23.9% or less, while 79.6% of birthing hospitals can improve. Rates of cesarean birth among NTSV status mothers varied hospital to hospital from as low as 16% up to 61%.

\*National target of 23.9% NTSV rate established in Healthy People 2020

# Method of Delivery for Mothers with Previous Cesarean Birth New Jersey, 2018

## Maternity Care in New Jersey

### Outcomes

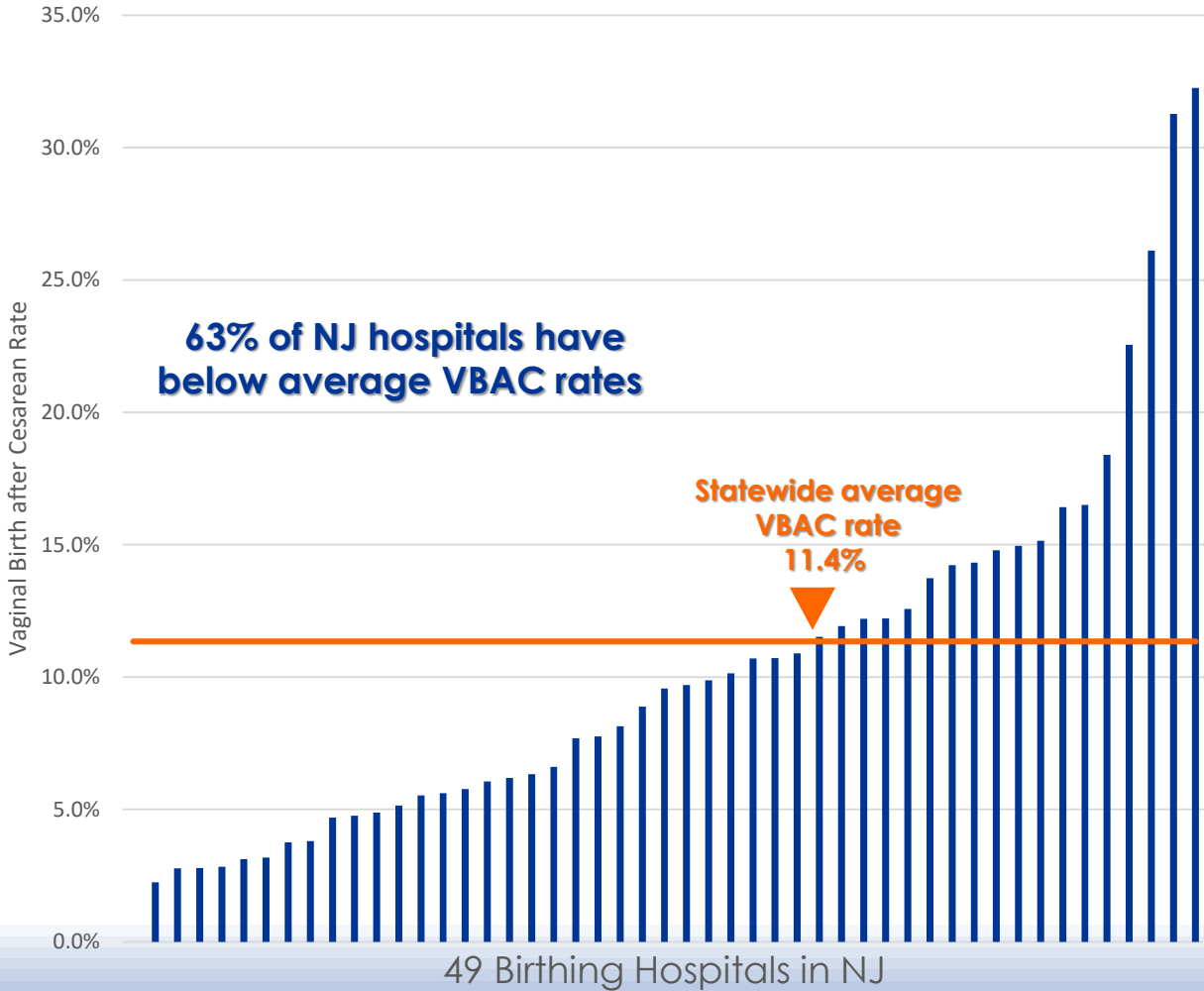


In 2018, of mothers that previously experienced a cesarean delivery, 84.6% of them had a repeat cesarean delivery with no trial of labor. Only 11.4% experienced a VBAC and another 4% had a trial of labor before ultimately delivering via cesarean. Allowing more women a trial labor may increase the VBAC rate and lower the risk of complications associated with surgery.

# Vaginal Birth After Cesarean (VBAC) Delivery Rate, by Hospital

## New Jersey, 2018

### Maternity Care in New Jersey Outcomes



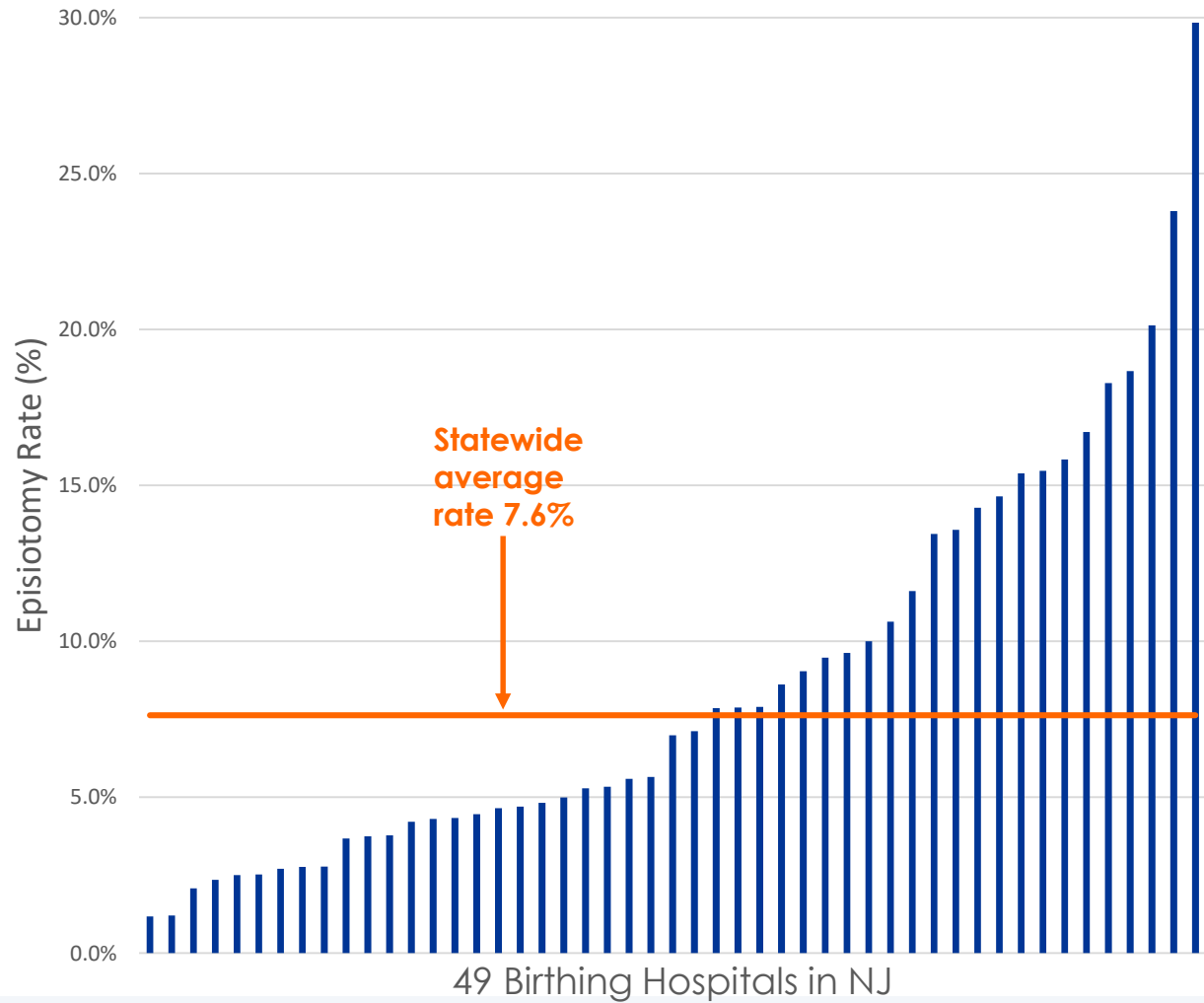
Among mothers that previously experienced a cesarean delivery, the average vaginal birth after cesarean (VBAC) rate for all 49 birthing hospitals in NJ was 11.4% in 2018, but wide variation in rates across hospitals is evident. Of the 49 birthing hospitals in NJ, 18 hospitals had a VBAC rate greater than the average, and one hospital had a VBAC rate of 0%.

Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).



# Episiotomy Rate, by Hospital

## New Jersey, 2018



### Maternity Care in New Jersey

#### Complications

In 2018, the statewide average episiotomy\* rate at NJ birthing hospitals was 7.6%. Across all hospitals, wide variation of rates was present, with a range of 1% up to 29%. Of the 49 birthing hospitals, 23 had episiotomy rates above the statewide average.

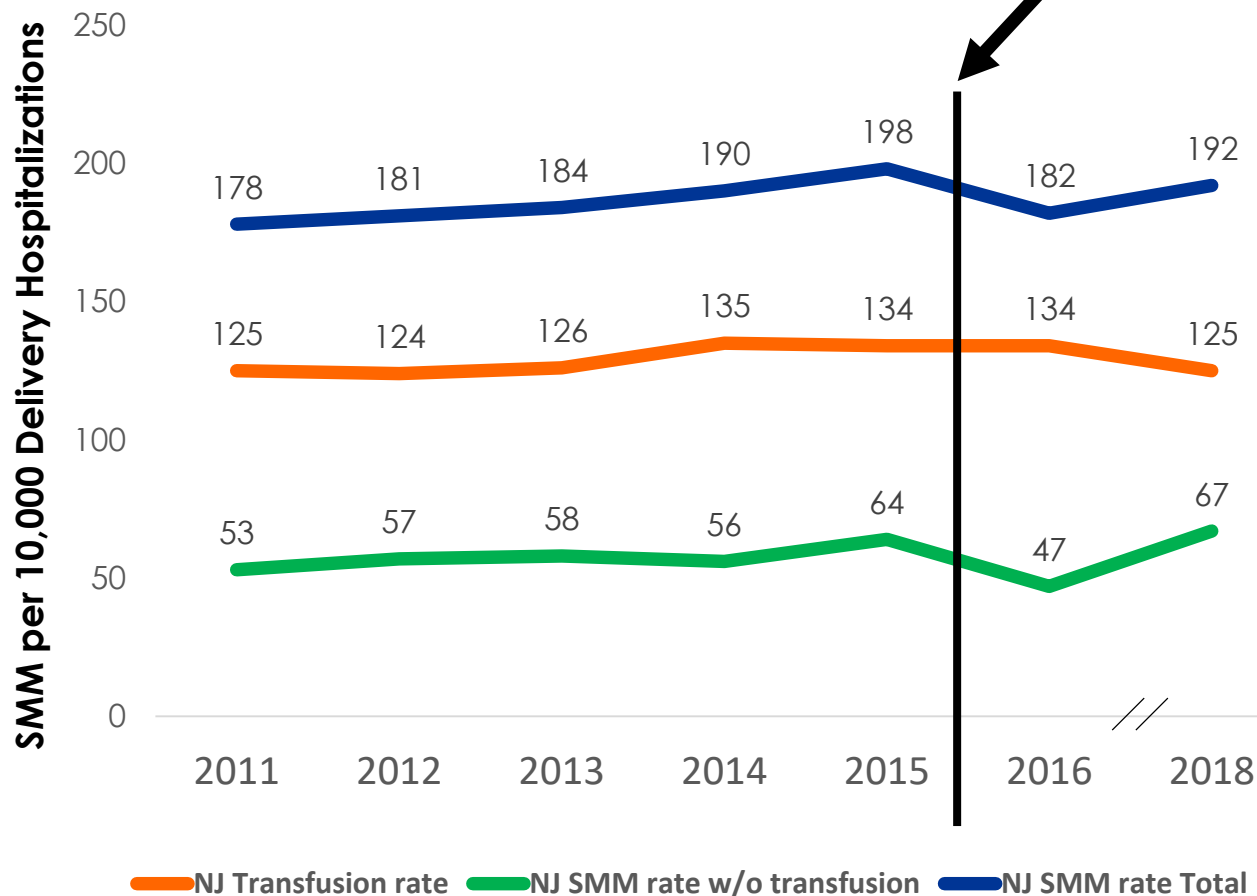
\*An episiotomy is a surgical incision that is made in the vaginal opening to widen the space for birth, but the American Congress of Obstetricians and Gynecologists recommends limited use of this procedure.

Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).



# Severe Maternal Morbidity with and without Blood Transfusions

## New Jersey, 2011 to 2018



## Maternity Care in New Jersey

### Complications

In 2018, New Jersey's total Severe maternal morbidities\* (SMM) rate was 192 per 10,000 delivery hospitalizations (including those with blood transfusions), a 7% increase from 2011.

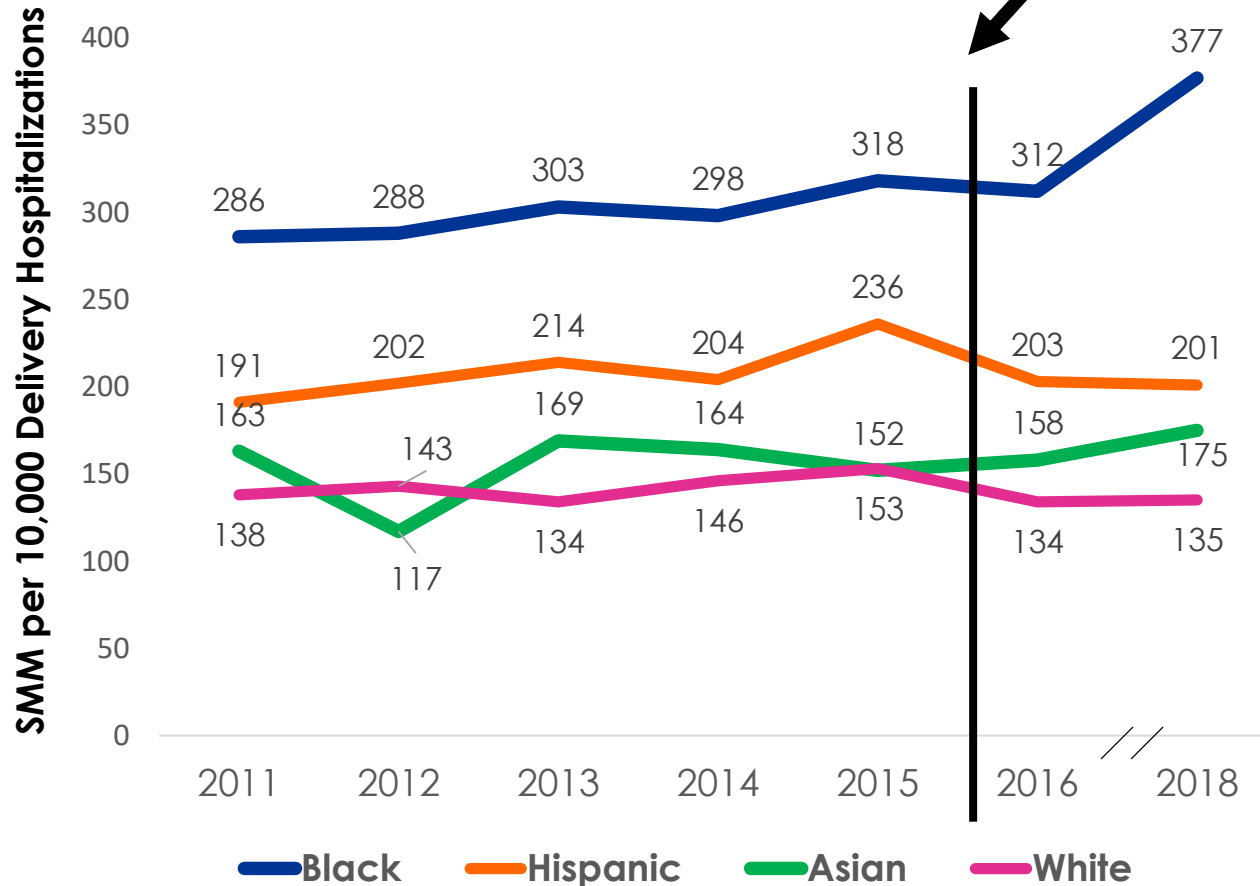
Excluding blood transfusions, the 2018 NJ SMM rate was 67 per 10,000 delivery hospitalizations, a 26% increase from 2011.

\*Severe maternal morbidities (SMM) are defined as unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to a woman's health (CDC).

Data Sources: 1. Healthcare Cost and Utilization Project (HCUP), AHRQ and NJ Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ DOH  
 2. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
 3. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

# Severe Maternal Morbidity, by Race/Ethnicity

## New Jersey, 2011 to 2018



## Maternity Care in New Jersey Complications

Racial/ethnic disparities in the rates of Severe maternal morbidities (SMM)\* are severe and persistent in NJ. The rate of SMM was more than double for Non-Hispanic Blacks than for Non-Hispanic Whites in 2018 (377 vs 135 per 10,000 Delivery Hospitalizations).

\*Severe maternal morbidities (SMM) are defined as unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to a woman's health (CDC).

Data Sources: 1. Healthcare Cost and Utilization Project (HCUP), AHRQ and NJ Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ DOH  
2. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health  
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