Maternity Care in New Jersey
## *Maternal Characteristics, Birth Outcomes & Maternal Morbidity, 2019*

New Jersey Department of Health
Healthcare Quality & Informatics
Health Services Research

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Delivery Hospitalizations by Mother's Race/Ethnicity
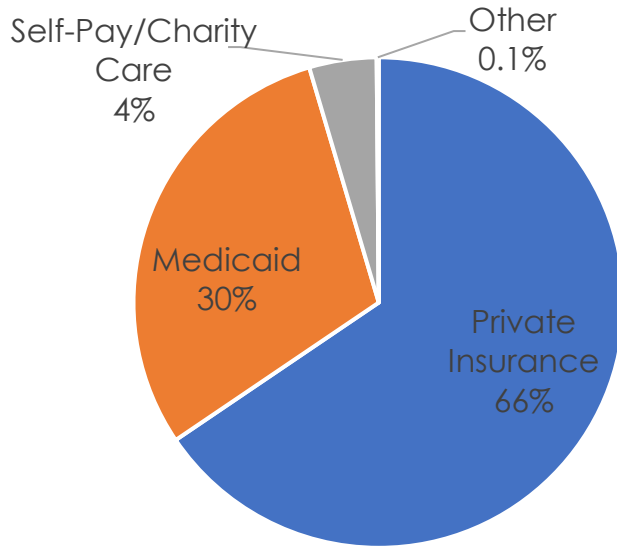New Jersey, 2019
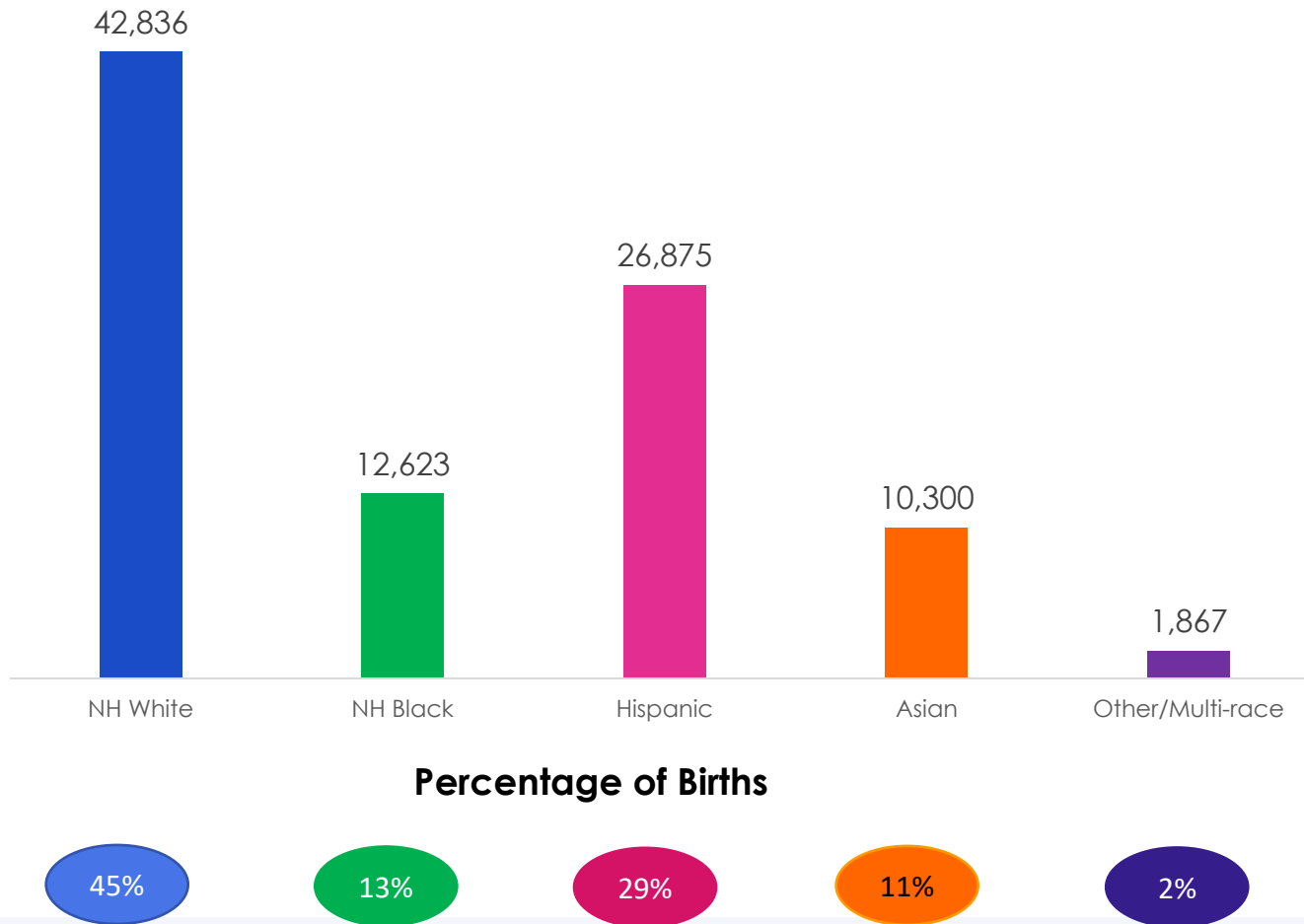
Maternity Care in New Jersey

Births and Demographics

In 2019, Non-Hispanic White mothers made up nearly half (45%) of all delivery hospitalizations in New Jersey, followed by Hispanic mothers who made up 29%, representing no significant change in maternal demographics from 2018.
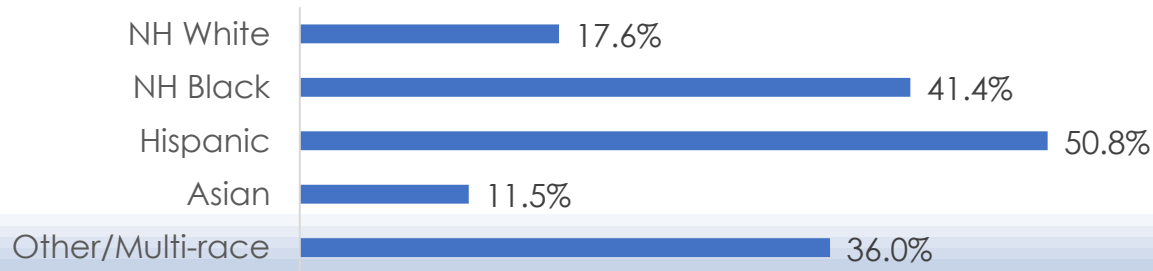
However, in 2000, 54% of delivery hospitalizations were for Non-Hispanic White mothers (not shown), representing a significant shift in maternal demographics over the last two decades.

Race/Ethnicity	Count	Percentage
NH White	42,836	45%
NH Black	12,623	13%
Hispanic	26,875	29%
Asian	10,300	11%
Other/Multi-race	1,867	2%

Percentage of Births

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Delivery Hospitalizations by Mother's Insurance Coverage
New Jersey, 2019

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Births and Demographics

In 2019, 30% of delivery hospitalizations were to mothers on Medicaid, compared to 31% in 2018 (not shown) representing a 3% decrease.

In 2019, 66% of delivery hospitalizations were to mothers with private insurance compared to 65% in 2018 (not shown) representing a 2% increase.

When looking at distribution of insurance coverage for delivery hospitalizations in each racial/ethnic group, in 2019, 50.8% of Hispanic women and 41.4% of Non-Hispanic Black women were covered by Medicaid compared to 11.5 % of Asian mothers and 17.6% of Non-Hispanic White mothers.

Self-Pay/Charity Care 4%
Other 0.1%
Medicaid 30%
Private Insurance 66%

Medicaid Coverage Percentage in each Racial/Ethnic Group, 2019

- NH White — 17.6%
- NH Black — 41.4%
- Hispanic — 50.8%
- Asian — 11.5%
- Other/Multi-race — 36.0%

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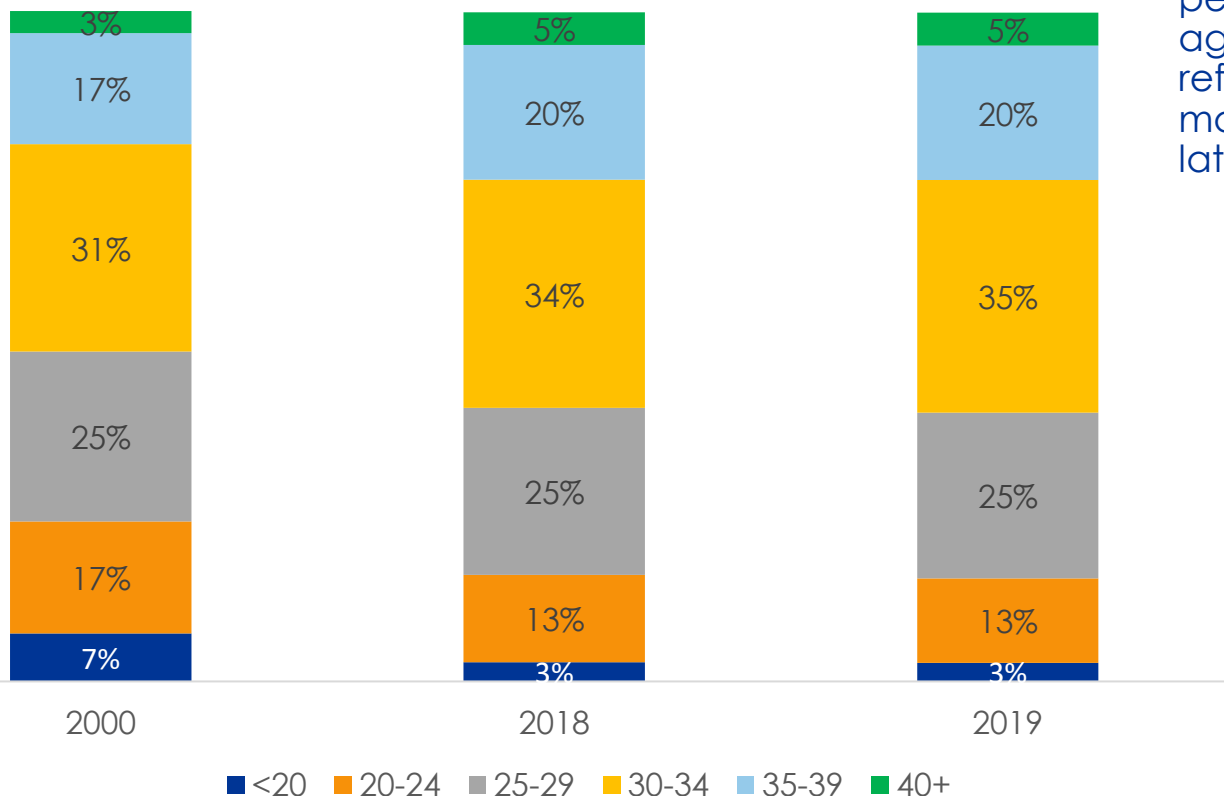# Delivery Hospitalizations by Mother's Age
New Jersey, 2000, 2018 and 2019

Births and Demographics

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.
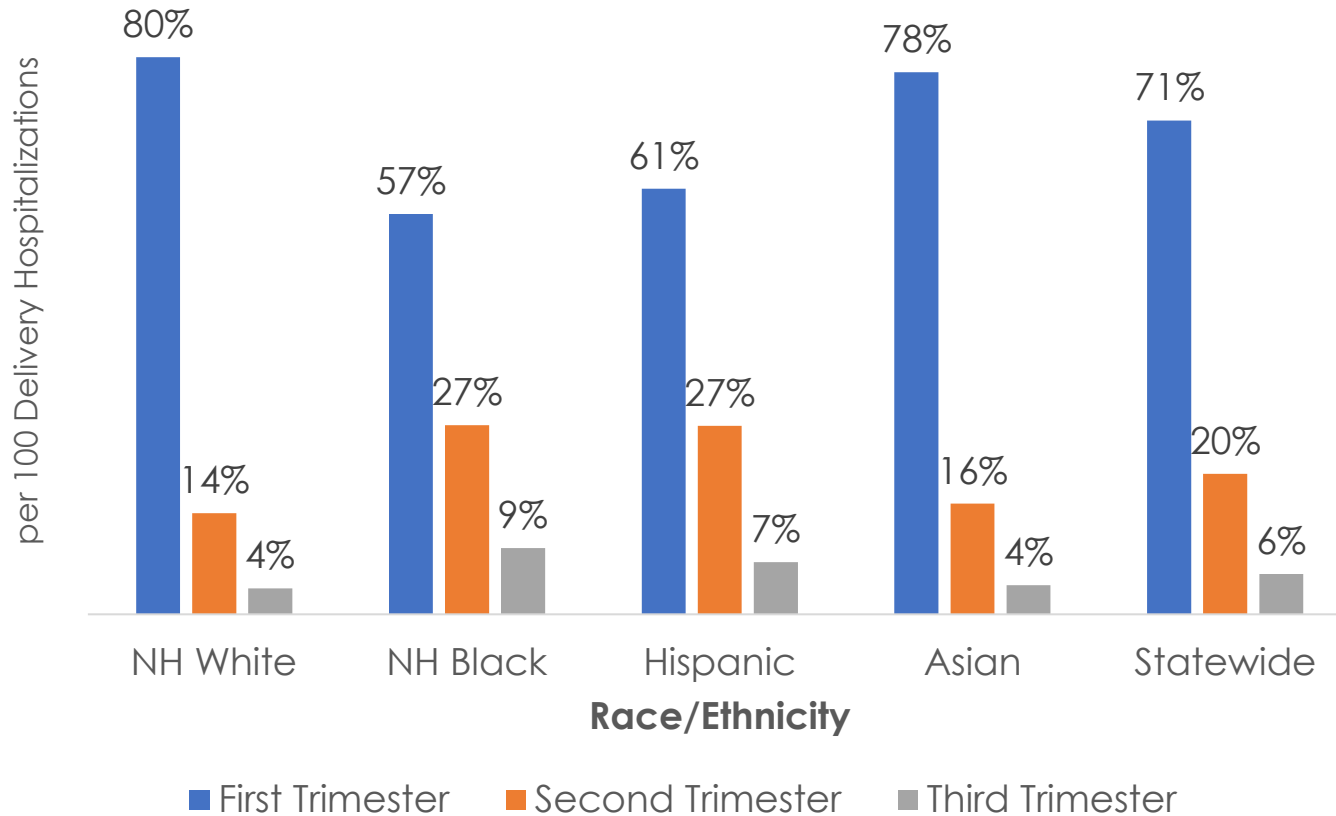

2000
- 3%
- 17%
- 31%
- 25%
- 17%
- 7%

2018
- 5%
- 20%
- 34%
- 25%
- 13%
- 3%

2019
- 5%
- 20%
- 35%
- 25%
- 13%
- 3%

Legend: ■ <20 ■ 20-24 ■ 25-29 ■ 30-34 ■ 35-39 ■ 40+

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Delivery Hospitalizations by Prenatal Care Initiation
New Jersey, 2019

per 100 Delivery Hospitalizations

	First Trimester	Second Trimester	Third Trimester
NH White	80%	14%	4%
NH Black	57%	27%	9%
Hispanic	61%	27%	7%
Asian	78%	16%	4%
Statewide	71%	20%	6%

Race/Ethnicity

■ First Trimester ■ Second Trimester ■ Third Trimester

In 2019, 71% of all mothers initiated prenatal care in the first trimester of their pregnancy. This was a minimal improvement over 2016, during which time 70% of mothers initiated prenatal care in their first trimester and no improvement at all over 2018 (not shown).
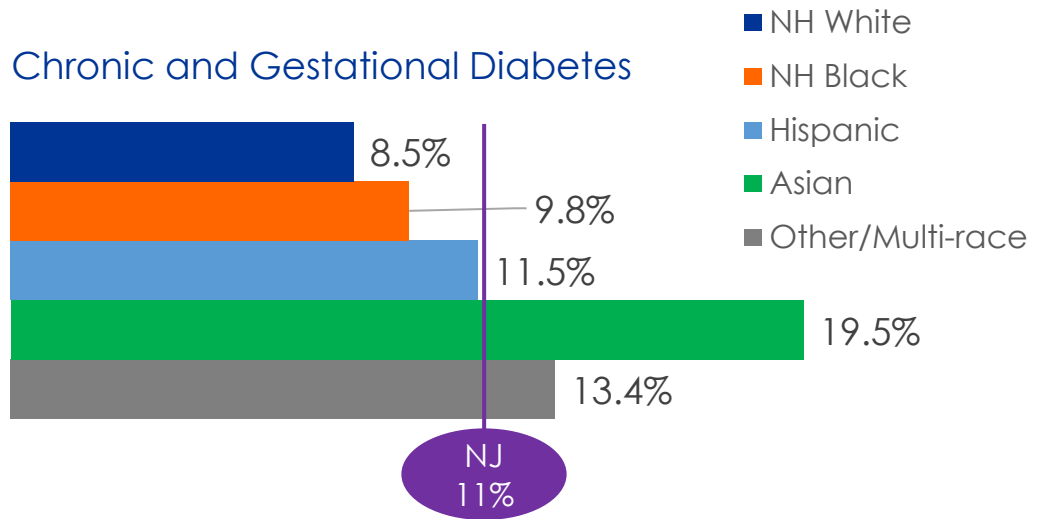
However, racial disparities in the timing of initiation of care were evident, with 80% of Non-Hispanic White mothers starting care in their first trimester, but only 57% of Non-Hispanic Black mothers doing so.

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Maternal Medical Conditions, by Race/Ethnicity
New Jersey, 2019

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Risk Factors

Chronic and Gestational Diabetes

Legend:
- NH White
- NH Black
- Hispanic
- Asian
- Other/Multi-race

- NH White: 8.5%
- NH Black: 9.8%
- Hispanic: 11.5%
- Asian: 19.5%
- Other/Multi-race: 13.4%

NJ 11%

Chronic and Gestational Hypertension

- NH Black: 14.8%
- Hispanic: 7.9%
- Other/Multi-race: 6.4%
- NH White: 8.5%
- Asian: 5.5%

NJ 9%

In 2019, 11% of mothers who gave birth at a hospital were diabetic. Racial and ethnic disparities were observed, with the highest rate of diabetes amongst Asian mothers at 19.5% compared to Non-Hispanic White mothers at 8.5%.
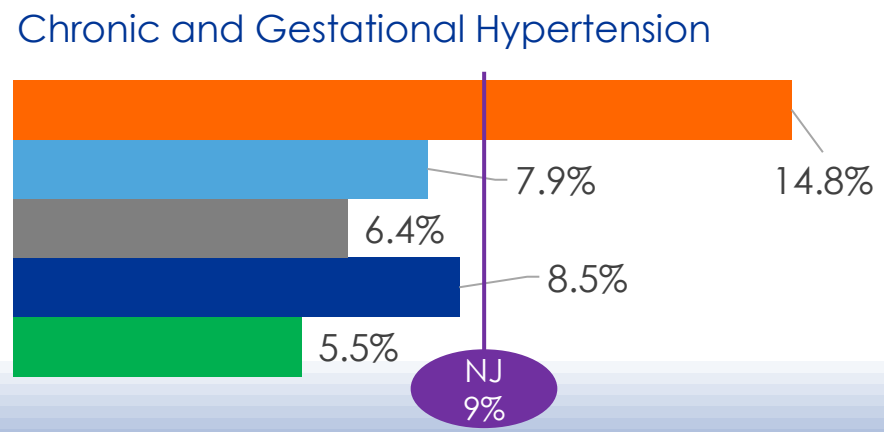
In 2019, 9% of mothers who gave birth at hospital were hypertensive. Similarly, racial and ethnic disparities were observed with the highest rate being amongst Non-Hispanic Black mothers (14.8%) and the lowest amongst Asian mothers (5.5%).

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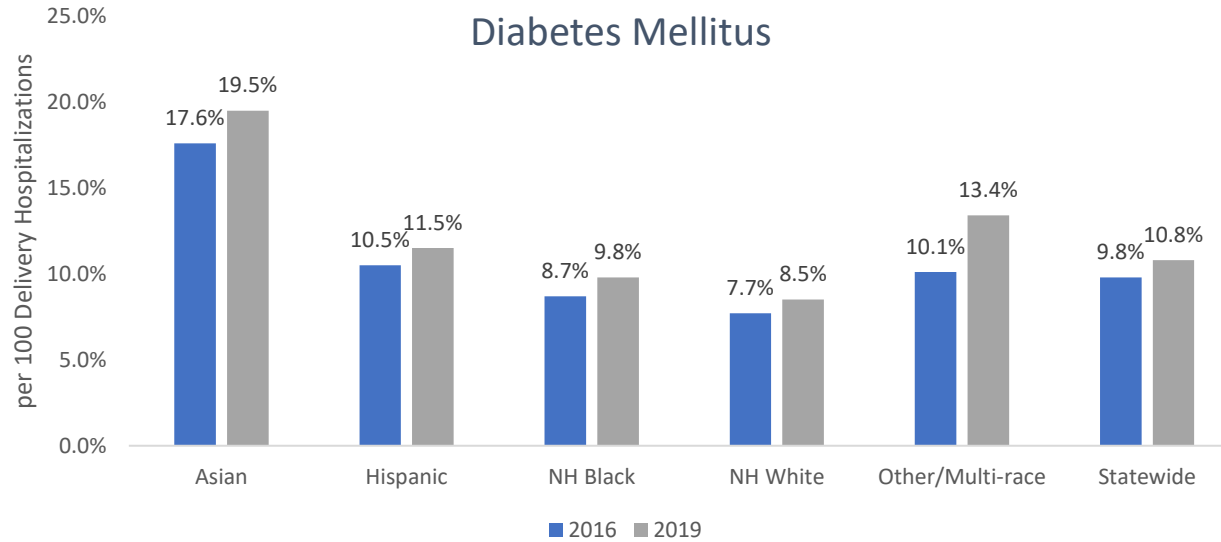2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

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Maternal Medical Conditions, Trends by Race/Ethnicity
New Jersey, 2016-2019

Diabetes Mellitus

per 100 Delivery Hospitalizations

Group	2016	2019
Asian	17.6%	19.5%
Hispanic	10.5%	11.5%
NH Black	8.7%	9.8%
NH White	7.7%	8.5%
Other/Multi-race	10.1%	13.4%
Statewide	9.8%	10.8%

■ 2016   ■ 2019

Hypertension

Per 100 Delivery Hospitalizations

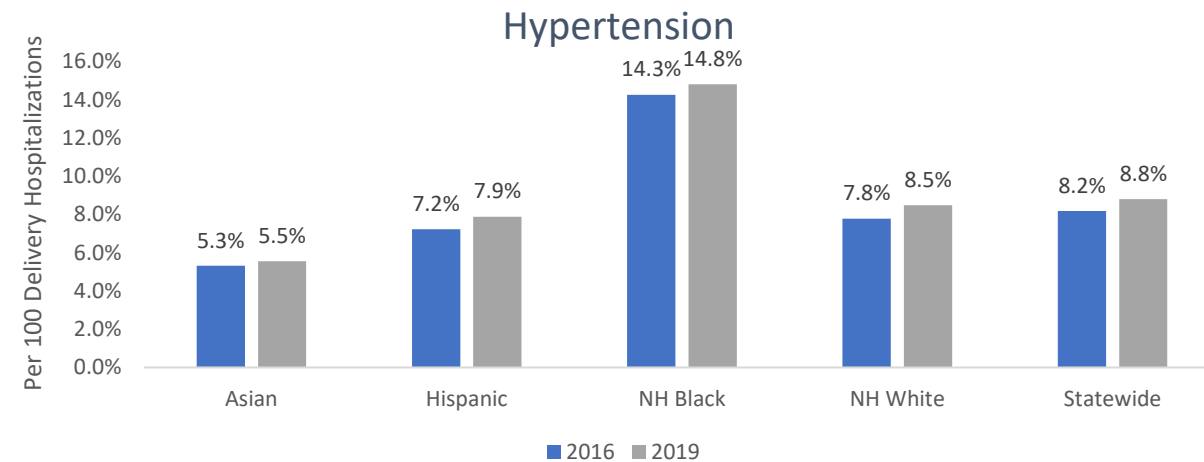| Group	2016	2019
Asian	5.3%	5.5%
Hispanic	7.2%	7.9%
NH Black	14.3%	14.8%
NH White	7.8%	8.5%
Statewide	8.2%	8.8%

■ 2016   ■ 2019

Maternity Care in New Jersey

Risk Factors

In 2019, 10.8% of mothers who gave birth at a hospital were diabetic, compared with 9.8% of mothers in 2016, representing a 9% increase. Rates of diabetes rose in all racial/ethnic groups.

In 2019, 8.8% of mothers who gave birth at hospital were hypertensive, compared with 8.2% of mothers in 2016, representing a 7% increase. The overall trend is rates of hypertension rose among all mothers in NJ.

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).

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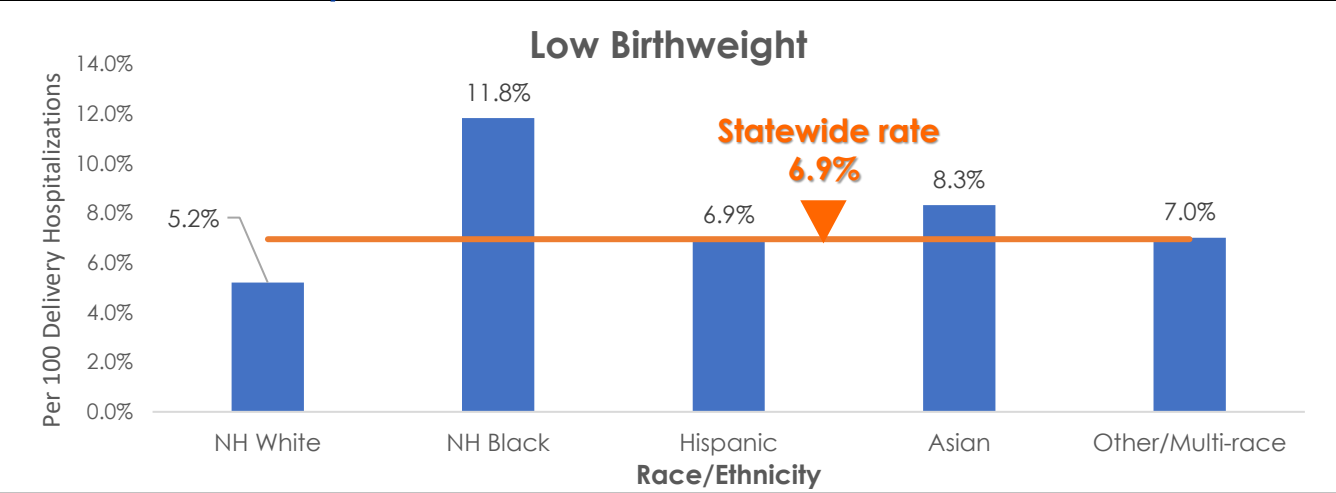New Jersey Maternal Data Center

Pre-pregnancy Body Mass Index (BMI)
New Jersey, 2016, 2018 and 2019

There was a shift in pre-pregnancy Body Mass Index (BMI) towards the obese and overweight categories among NJ mothers from 2016 to 2019.

In 2018, 51.8% of mothers were categorized as overweight or obese before pregnancy, while in 2019 52.3% were overweight or obese.

Percentage of Delivery Hospitalizations

	2016	2018	2019
Obese	22.1%	23.4%	24.1%
Overweight	27.6%	28.4%	28.2%
Normal	46.0%	44.6%	43.8%
Underweight	3.7%	3.0%	2.9%

Year of Birth
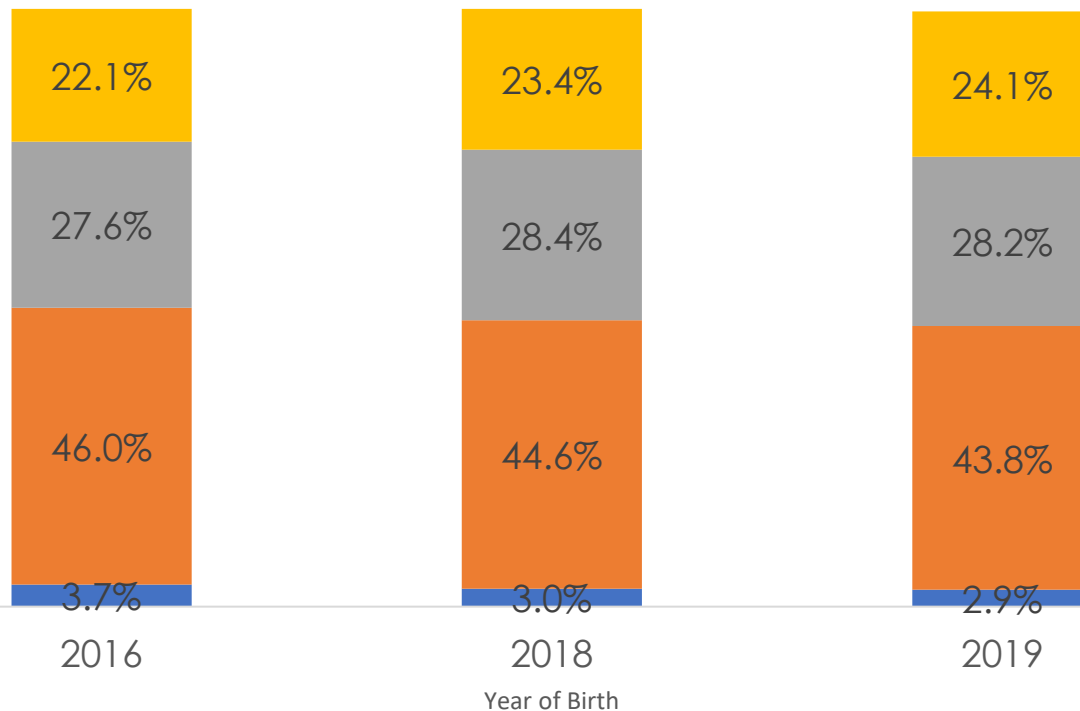
■ Underweight ■ Normal ■ Overweight ■ Obese

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Childbirth-Related Quality Measures, by Race/Ethnicity
New Jersey, 2019

Low Birthweight

Per 100 Delivery Hospitalizations

- NH White: 5.2%
- NH Black: 11.8%
- Hispanic: 6.9%
- Asian: 8.3%
- Other/Multi-race: 7.0%

Statewide rate 6.9%

Race/Ethnicity

In 2019, 6.9% of mothers delivered low birthweight babies (birth weight less than 2,500 grams), which does not differ from 2018 (not shown). However, there were large disparities by race/ethnicity, with the greatest rate of low-birth-weight babies for Non-Hispanic Black mothers.

Prematurity

Per 100 Delivery Hospitalizations

- NH White: 7.4%
- NH Black: 12.7%
- Hispanic: 9.1%
- Asian: 8.0%
- Other/Multi-race: 8.0%

Statewide rate 8.7%

Race/Ethnicity
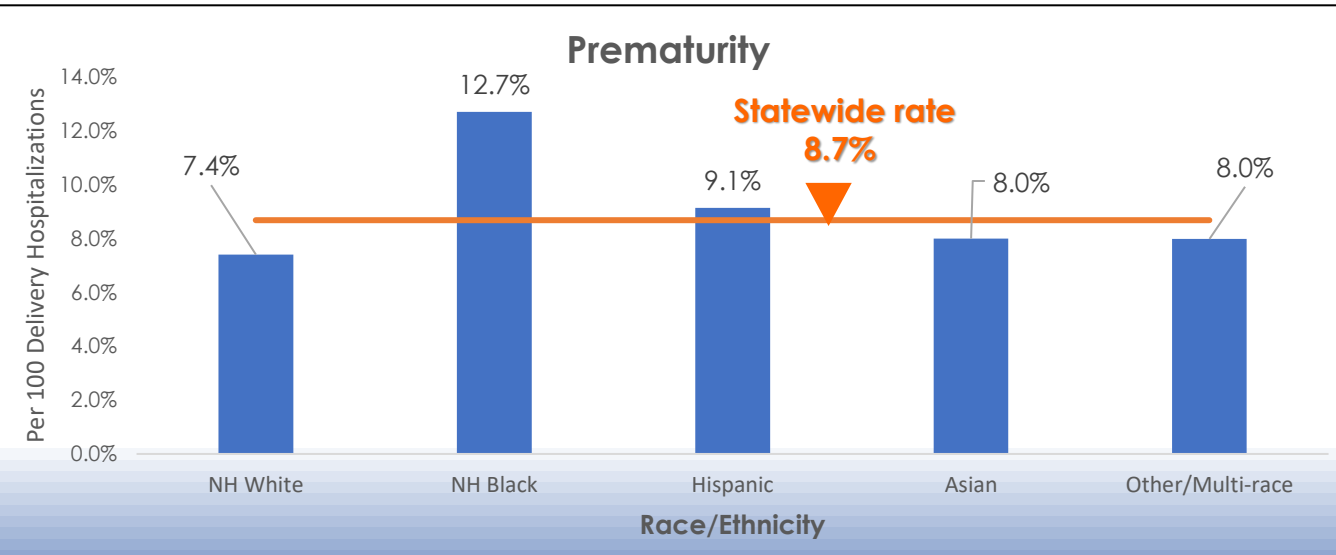
In 2019, 8.7% of mothers delivered their babies prematurely (infants less than 37 weeks of gestation), which was a 2% increase from the 2018 rate of 8.5 % (not shown). Disparities in rates of preterm births were also seen, with the greatest rates of preterm babies born to Non-Hispanic Black mothers.
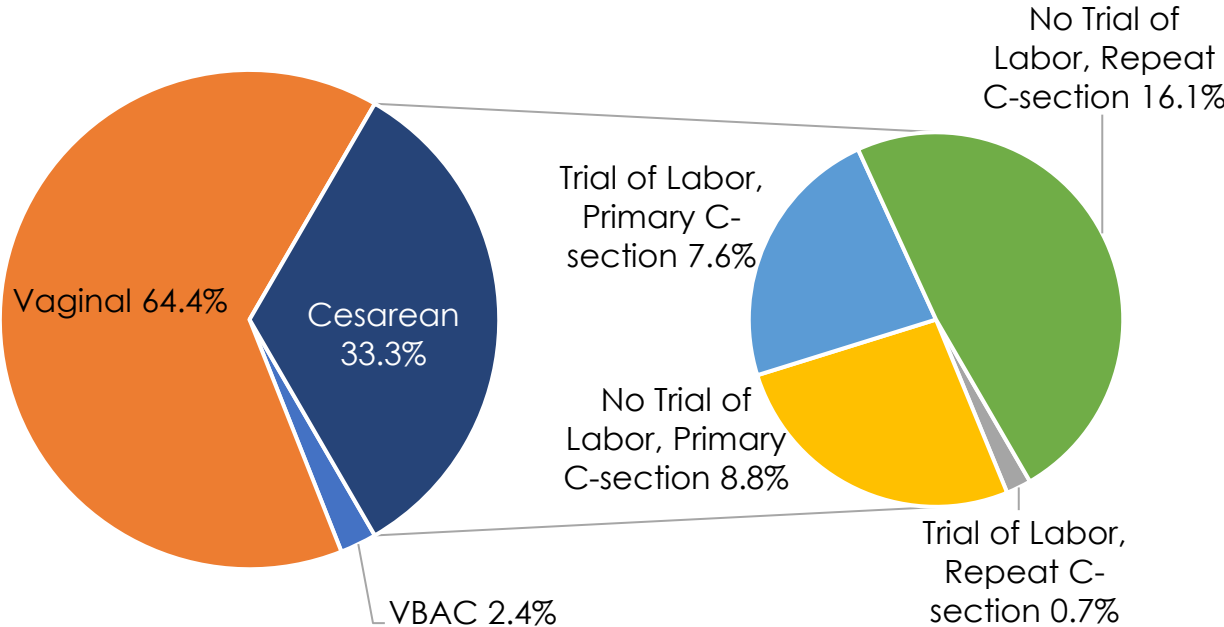
Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health
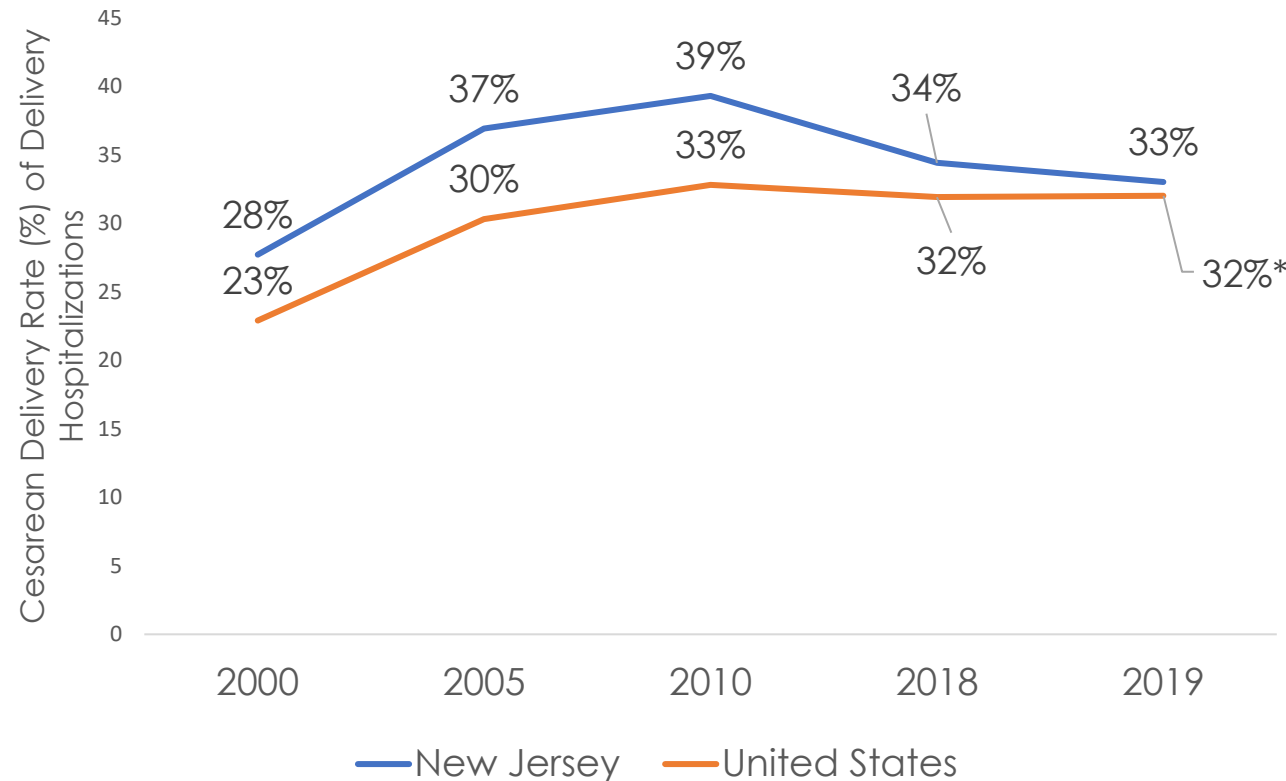2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

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Method of Delivery, All Delivery Hospitalizations
New Jersey, 2019

In 2019, 33.3% of deliveries were cesarean births, a decline from 34.4 % in 2018 (not shown).

Of all delivery hospitalizations, 24.9% were cesarean deliveries with no preceding trial of labor.

Vaginal 64.4%

Cesarean 33.3%

VBAC 2.4%

Trial of Labor, Primary C-section 7.6%

No Trial of Labor, Primary C-section 8.8%

No Trial of Labor, Repeat C-section 16.1%

Trial of Labor, Repeat C-section 0.7%

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Total Cesarean Deliveries
New Jersey, 2000 to 2019

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 2019, cesarean delivery rates in NJ were similar across all racial and ethnic groups. The lowest rate was amongst Non-Hispanic White mothers at 30.2% and the greatest rate being amongst Other/Multi-race mothers at 41.2% (not shown).
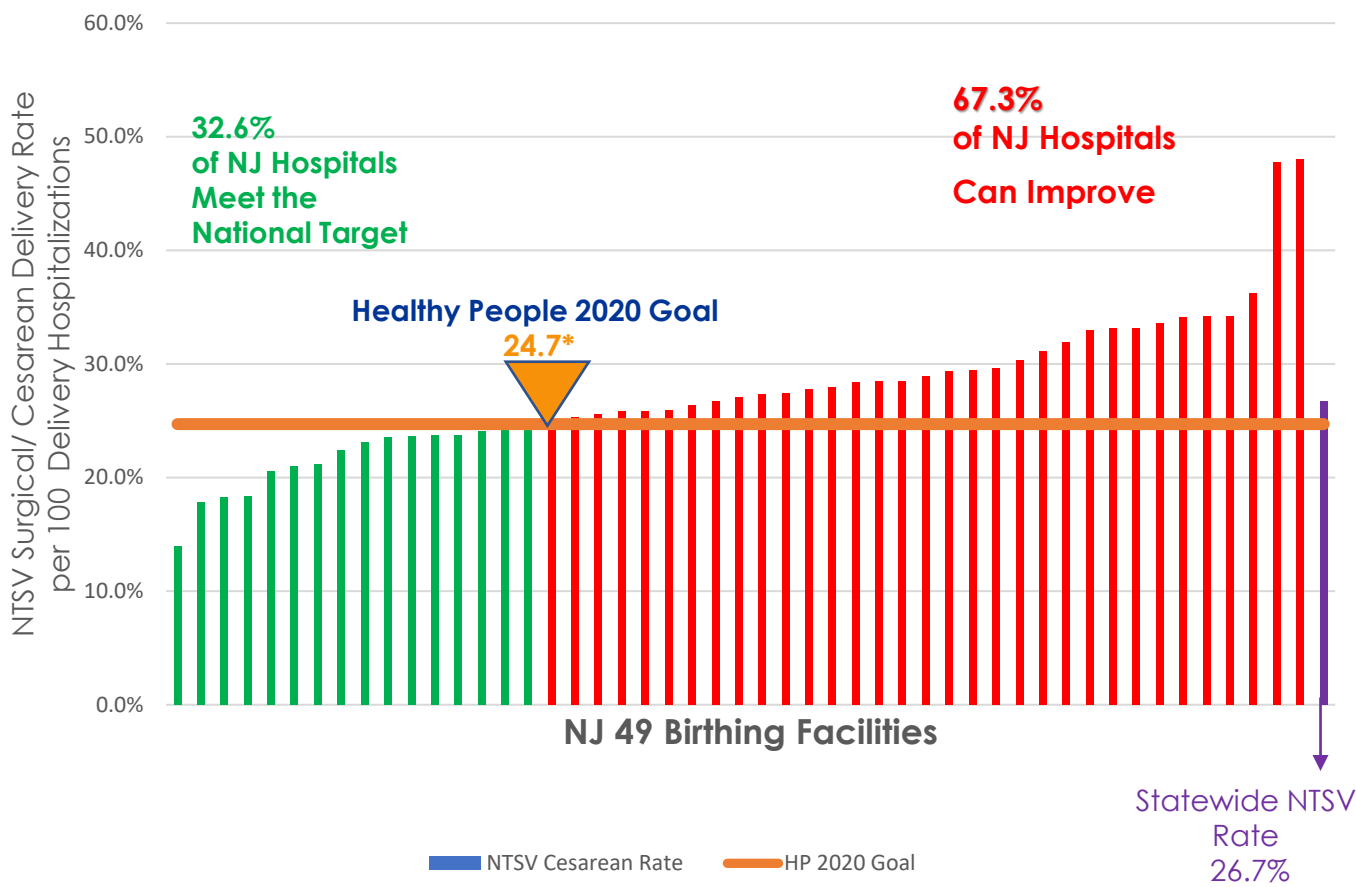
*2019 National Cesarean Rate is provisional

NTSV Low-Risk Cesarean Rate, by Hospital
New Jersey, 2019

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 2019, 16 of 49 (32.6%) NJ birthing hospitals met the Healthy People 2020 national target NTSV cesarean rate of 24.7% or less (target revised from 23.9% to 24.7% in 2019).

In 2019, 67.3% of birthing hospitals can improve. Rates of cesarean birth among NTSV status mothers varied hospital to hospital from as low as 14% up to 48%.

Chart labels:
- 32.6% of NJ Hospitals Meet the National Target
- 67.3% of NJ Hospitals Can Improve
- Healthy People 2020 Goal 24.7*
- Statewide NTSV Rate 26.7%
- NJ 49 Birthing Facilities
- NTSV Surgical/ Cesarean Delivery Rate per 100 Delivery Hospitalizations
- NTSV Cesarean Rate
- HP 2020 Goal

*National target of 24.7% NTSV rate established in Healthy People 2020

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Method of Delivery for Mothers with Previous Cesarean Birth
New Jersey, 2019

Outcomes

Trial Labor, Cesarean 3.8%

VBAC 12.3%

No Trial Labor, Cesarean 83.9%

Multiple Previous Cesarean Deliveries 32.4%

One Previous Cesarean Delivery 67.6%

In 2019, of mothers that previously experienced a cesarean delivery, 83.9% of them had a repeat cesarean delivery with no trial of labor. Only 12.3% experienced a VBAC and another 3.8% had a trial of labor before ultimately delivering via cesarean.

Of the cesarean deliveries for which there was no trial of labor, 67.6% were women who had previously experienced only one cesarean delivery.
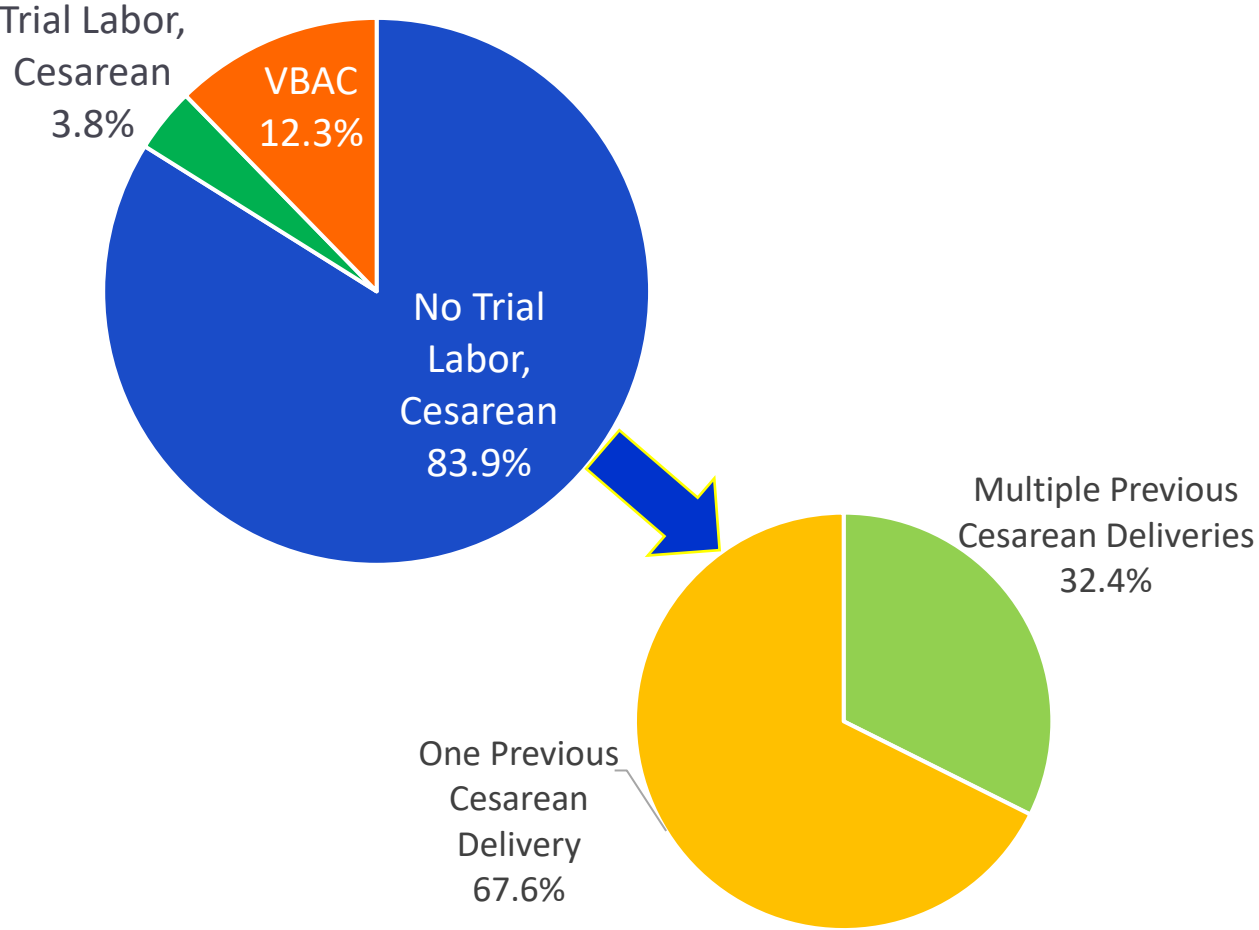
Data Source: 1. New Jersey Hospital Discharge Data Collection System, Health Care Quality Assessment, Healthcare Quality and Informatics, NJ Department of Health
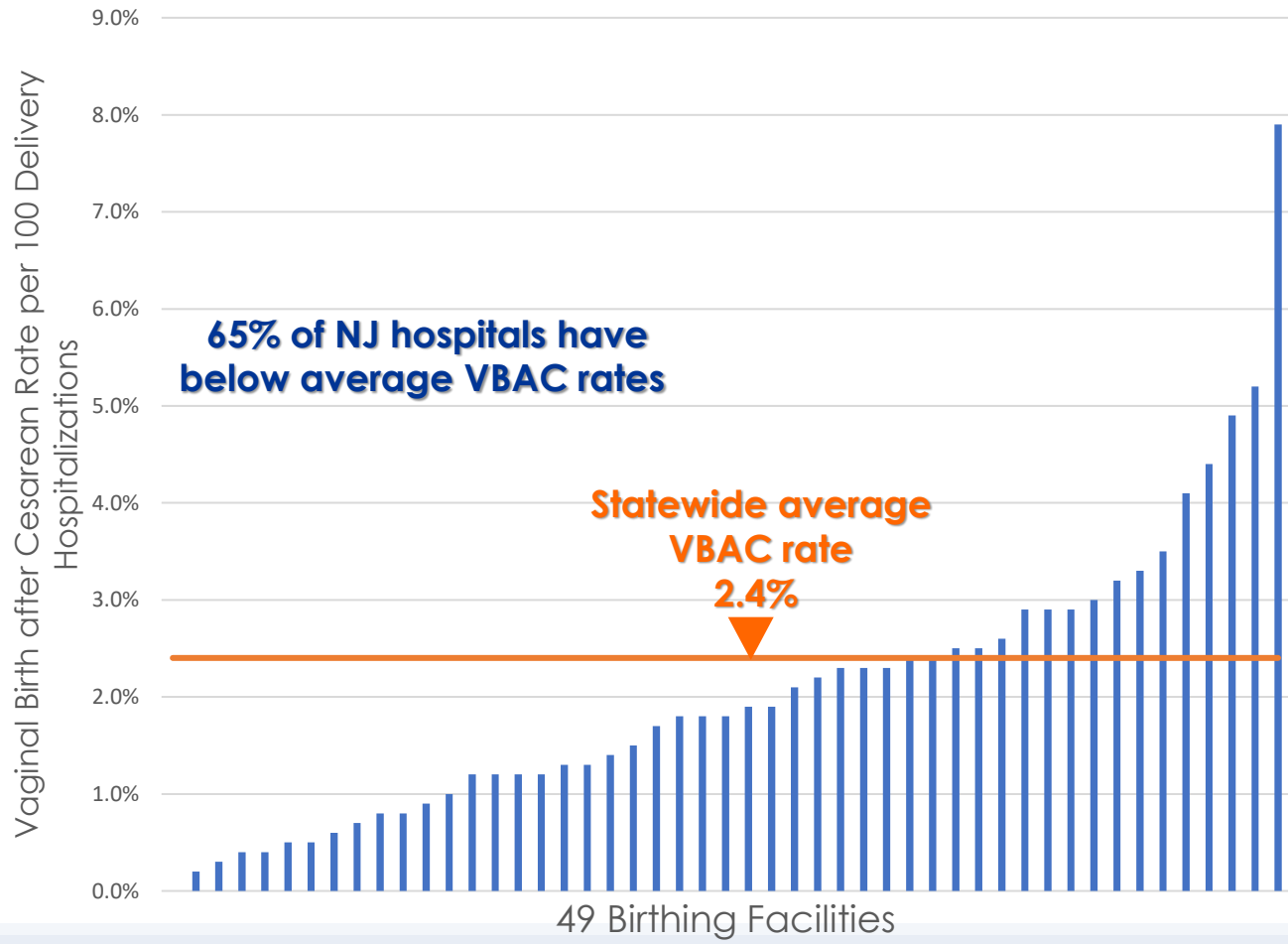2. Vital Information Platform (New Jersey Electronic Birth Certificate Database).

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Vaginal Birth After Cesarean (VBAC) Delivery Rate, by Hospital
New Jersey, 2019

65% of NJ hospitals have below average VBAC rates

Statewide average VBAC rate 2.4%

Vaginal Birth after Cesarean Rate per 100 Delivery Hospitalizations

49 Birthing Facilities

Among all delivery hospitalizations, the average vaginal birth after cesarean (VBAC) rate for all 49 birthing hospitals in NJ was 2.4% in 2019, compared to 2.2% in 2018 (not shown), representing a 9% increase.
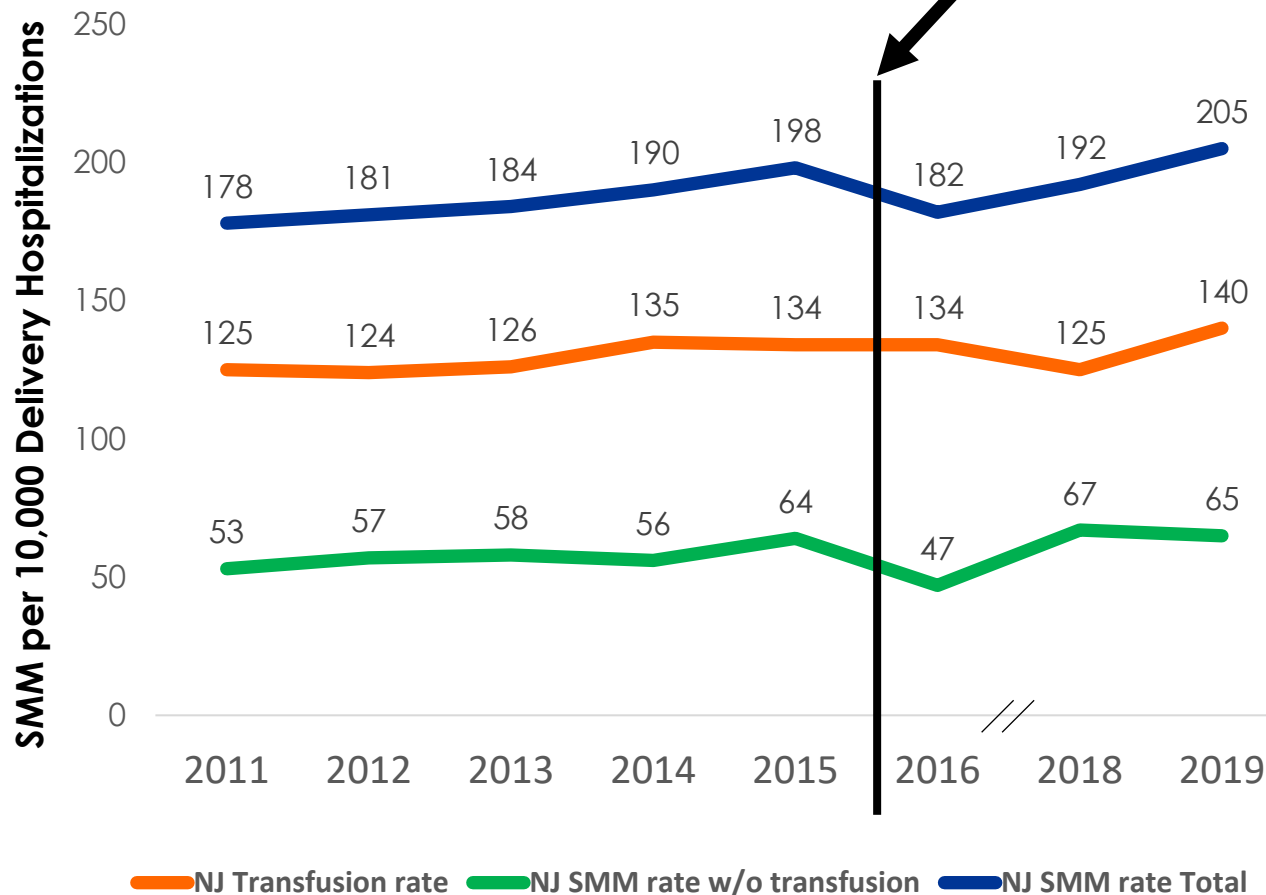
Wide variation in rates across hospitals is evident. Of the 49 birthing hospitals in NJ, 15 hospitals had a VBAC rate greater than the average, and rates varied from 0.0% to 7.9%.

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Severe Maternal Morbidity with and without Blood Transfusions
New Jersey, 2011 to 2019

Change from ICD-9 to ICD-10 on 10/1/15

SMM per 10,000 Delivery Hospitalizations

NJ SMM rate Total: 178, 181, 184, 190, 198, 182, 192, 205
NJ Transfusion rate: 125, 124, 126, 135, 134, 134, 125, 140
NJ SMM rate w/o transfusion: 53, 57, 58, 56, 64, 47, 67, 65

Years: 2011, 2012, 2013, 2014, 2015, 2016, 2018, 2019

Legend:
- NJ Transfusion rate
- NJ SMM rate w/o transfusion
- NJ SMM rate Total

Maternity Care in New Jersey

Complications

In 2019, New Jersey's total Severe maternal morbidities* (SMM) rate was 205 per 10,000 delivery hospitalizations (including those with blood transfusions), a 15% increase from 2011.
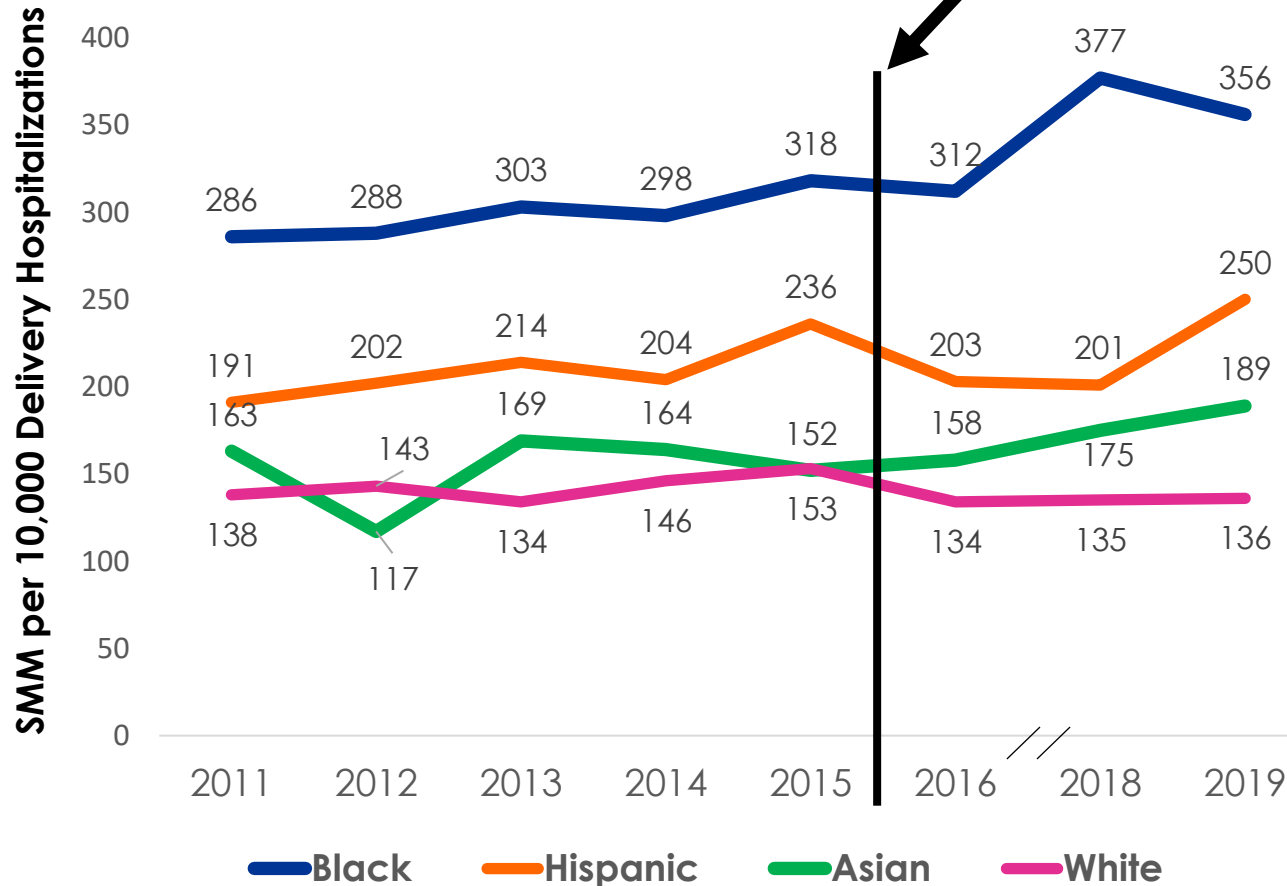
Excluding blood transfusions, the 2019 NJ SMM rate was 65 per 10,000 delivery hospitalizations, a 22% increase from 2011.

*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 2019

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 2019 (356 vs 136 per 10,000 Delivery Hospitalizations).

Change from ICD-9 to ICD-10 on 10/1/15

SMM per 10,000 Delivery Hospitalizations

Black: 286, 288, 303, 298, 318, 312, 377, 356
Hispanic: 191, 202, 214, 204, 236, 203, 201, 250
Asian: 163, 117, 169, 164, 152, 158, 175, 189
White: 138, 143, 134, 146, 153, 134, 135, 136

Years: 2011, 2012, 2013, 2014, 2015, 2016, 2018, 2019

Legend: **Black** **Hispanic** **Asian** **White**

*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).

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Severe Maternal Morbidity, Trends in Top Diagnoses
New Jersey, 2016 to 2019
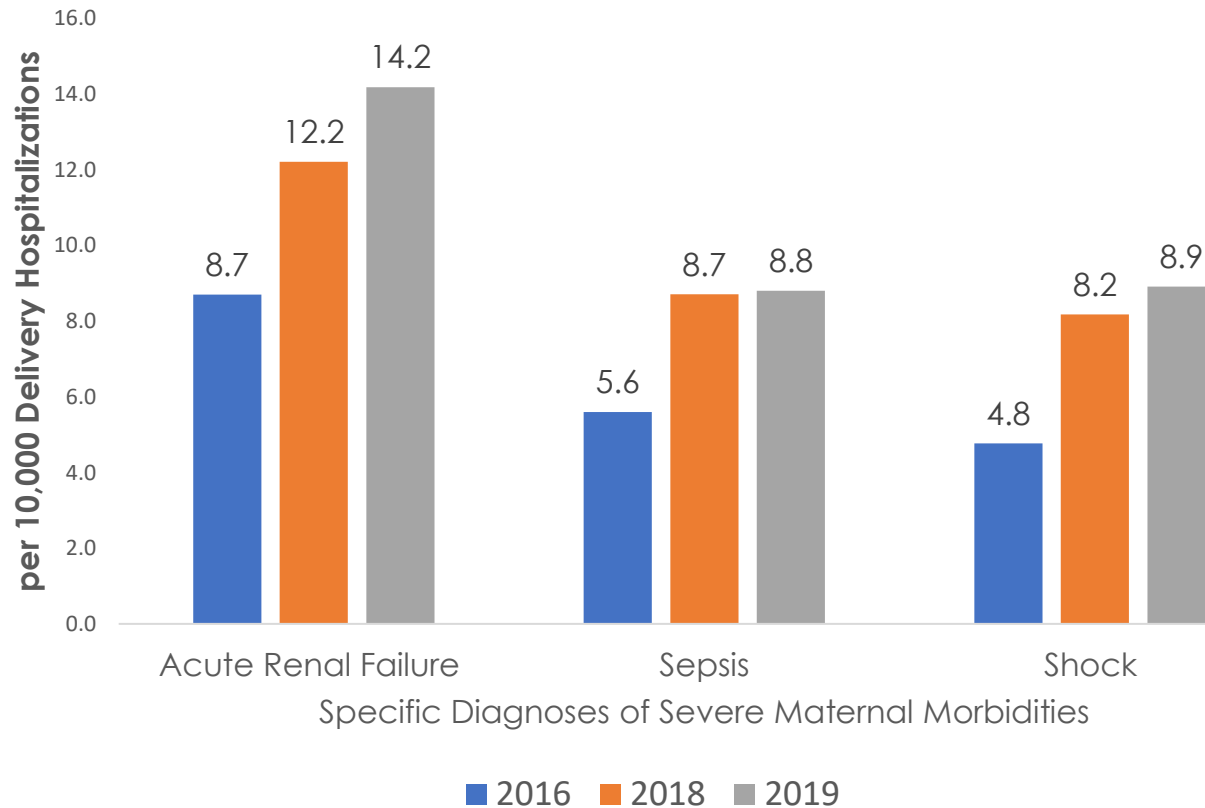
Maternity Care in New Jersey

Complications

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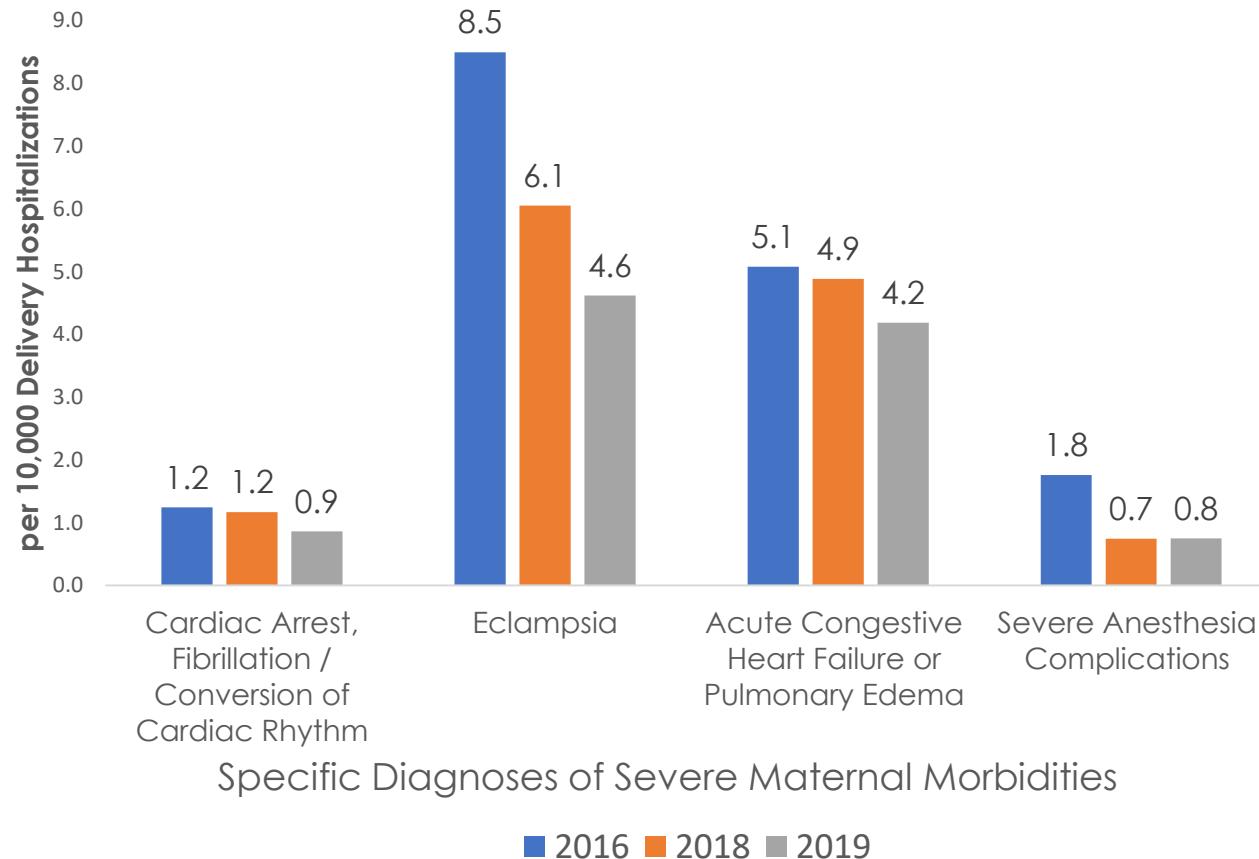From 2016 to 2019, acute renal failure, sepsis and rates of shock have been rising.

In 2019, among all delivery hospitalizations, the acute renal failure rate was 14.2 per 10,000 delivery hospitalizations compared to 8.7 in 2016, representing a 63 % increase.

Similarly, the rate of sepsis was 8.8 per 10,000 delivery hospitalizations compared to 5.6 representing 57% increase.

Lastly, the rate of shock was 8.9 per 10,000 delivery hospitalizations compared to 4.8 in 2016 representing an 87% increase.

Bar chart: per 10,000 Delivery Hospitalizations (y-axis) vs Specific Diagnoses of Severe Maternal Morbidities (x-axis). Legend: ■ 2016 ■ 2018 ■ 2019

- Acute Renal Failure: 8.7 (2016), 12.2 (2018), 14.2 (2019)
- Sepsis: 5.6 (2016), 8.7 (2018), 8.8 (2019)
- Shock: 4.8 (2016), 8.2 (2018), 8.9 (2019)

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Severe Maternal Morbidity, Trends in Improving Diagnoses
New Jersey, 2016 to 2019

Specific Diagnoses of Severe Maternal Morbidities

Legend: ■ 2016 ■ 2018 ■ 2019

Y-axis: **per 10,000 Delivery Hospitalizations** (0.0 to 9.0)

Data values:
- Cardiac Arrest, Fibrillation / Conversion of Cardiac Rhythm: 1.2, 1.2, 0.9
- Eclampsia: 8.5, 6.1, 4.6
- Acute Congestive Heart Failure or Pulmonary Edema: 5.1, 4.9, 4.2
- Severe Anesthesia Complications: 1.8, 0.7, 0.8

Maternity Care in New Jersey

Complications

From 2016 to 2019, cardiac arrest, eclampsia, acute congestive heart failure and rates of severe anesthesia complications have been dropping.

In 2019, among all delivery hospitalizations, the cardiac arrest rate was 0.9 per 10,000 delivery hospitalizations compared to 1.2 in 2016, representing a 25% decrease.

The rate of eclampsia in 2019 was 4.6 per 10,000 delivery hospitalizations compared to 8.5 in 2016, representing a 46% decrease.

The rate of acute congestive heart failure in 2019 was 4.2 per 10,000 delivery hospitalizations compared to 5.1 in 2016, representing a 18% decrease.

Lastly, the rate of severe anesthesia complications was 0.8 per 10,000 delivery hospitalizations compared to 1.8 in 2016 representing a 57% decrease.

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