

# Racial/Ethnic Inequities in Severe Maternal Morbidity in Massachusetts

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## INTRODUCTION

In 2014, nearly 50,000 women experienced serious pregnancy complications— or severe maternal morbidities (SMM) in the United States.<sup>1</sup> Data from the Centers for Disease Control and Prevention (CDC) indicate nationally increasing rates of SMM.<sup>2,3</sup> Massachusetts trends are similar.<sup>4</sup> PNQIN, a statewide perinatal quality collaborative in MA aims to eliminate preventable SMM, Mortality and racial/ethnic inequities in maternal outcomes

### Objectives:

- To examine state-level trends in SMM
- To examine variation/disparities in SMM by race/ethnicity

## METHODS

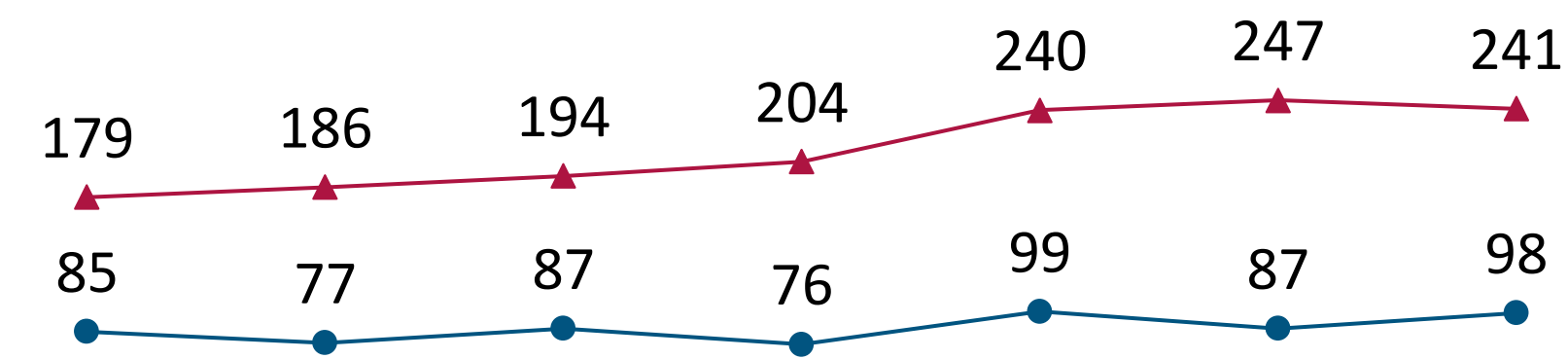
- Data Source:** Hospital discharge data collected by the MA Center for Health Information and Analysis
- Study population:** Birthing people with a delivery hospitalization in Massachusetts from January 1, 2016 to June 30, 2019
- Analysis:**
  - CDC algorithm used to identify deliveries with SMM. Calculated SMM rates both with and without transfusion
  - Estimated trends in SMM using the Cochran Armitage trend test. Logistic regression analyses controlled for patient and hospital characteristics

## RESULTS

### SMM has increased in Massachusetts

- The rate of SMM without transfusion increased significantly from 85 per 10,000 deliveries in 2016, to 98 in 2019 (Z= - 2.58, p=0.0049)
- SMM rates with transfusion also increased from 179 per 10,000 deliveries in 2016, to 241 in 2019 (Z= - 7.79, p<.0001)

MA Statewide SMM 20 and SMM 21 Rate, 2016-2019

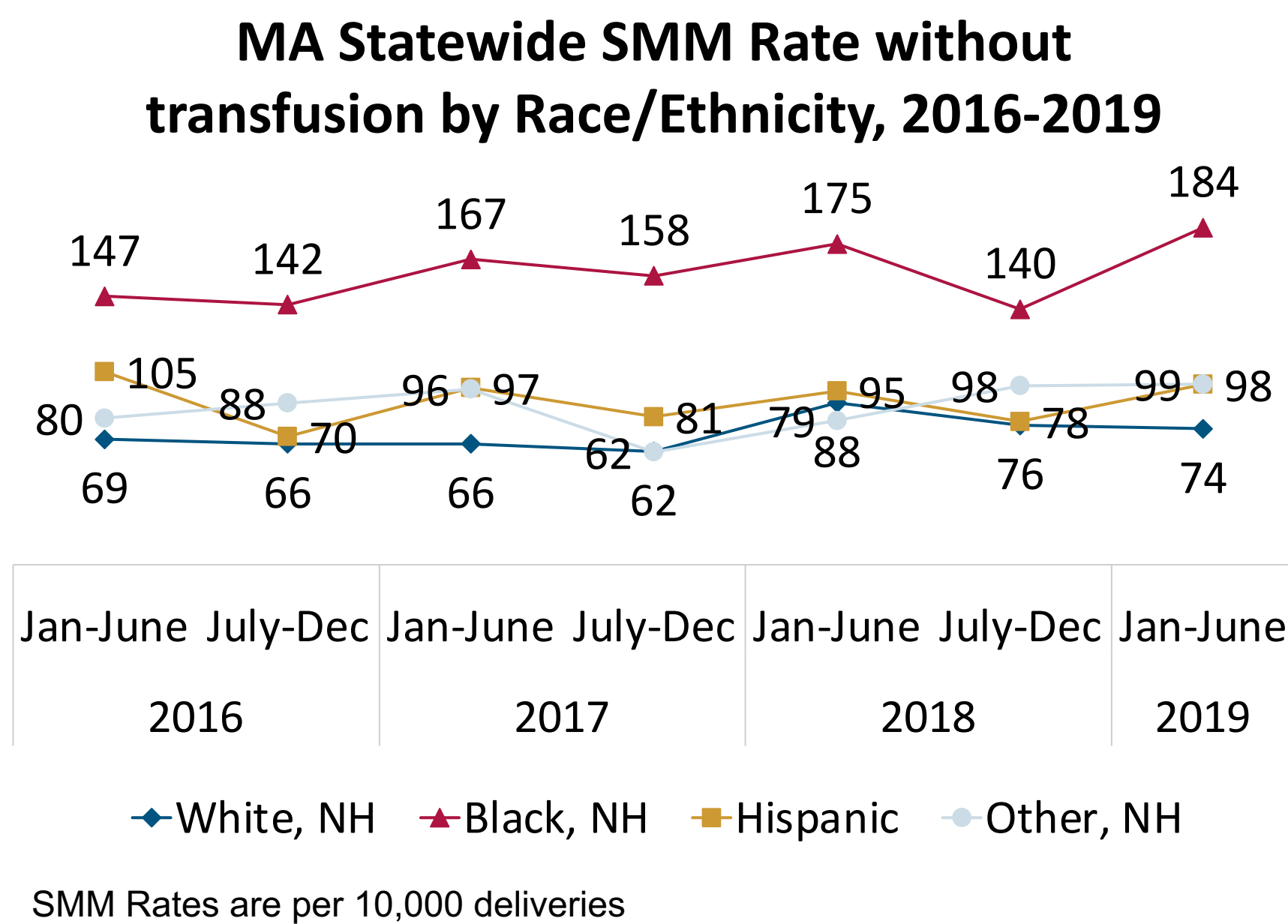


Year	Jan-June	July-Dec
2016	85	77
2017	87	76
2018	99	87
2019	98	98

SMM Rates are per 10,000 deliveries

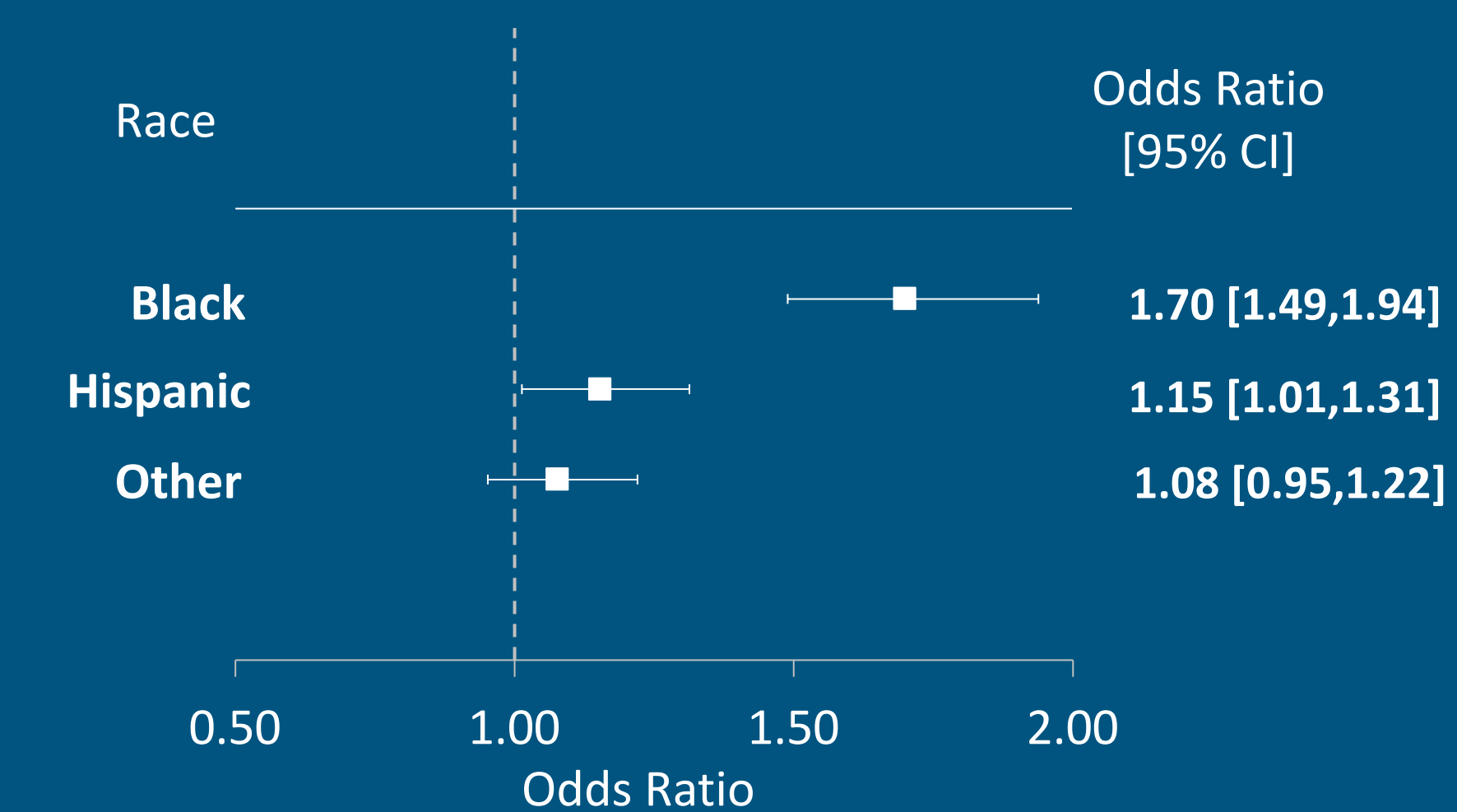
### Massachusetts has significant racial/ethnic disparities in SMM rates

- Black non-Hispanic birthing people have nearly twice the SMM rate of White non-Hispanic birthing people (157 vs.72 per 10,000)
- Hispanic birthing people have 1.2 times the SMM rate of White non-Hispanic birthing people (89 vs 72 per 10,000)



These disparities remained even after adjusting for patient and hospital characteristics

### Significant Racial/Ethnic Disparities remain in SMM in MA after risk adjustment



Model was adjusted for age, insurance, teaching status, %black serving, volume and ownership. Not shown

## DISCUSSION

The rising SMM rates in Massachusetts reflect national trends. There are still significant racial/ethnic disparities in SMM in Massachusetts, with Black non-Hispanic and Hispanic birthing people having the highest rates of SMM

### Policy Implications:

- PNQIN is implementing the AIM bundles, which provides an opportunity to share tailored SMM reports with each birthing hospital and support individual hospitals in their efforts to implement safety bundles (e.g. reduction in peripartum racial and ethnic disparities)
- Through collaborative learning and sharing of best practices, PNQIN will work with hospitals in using quality improvement science to improve outcomes and achieve equity

- Limitations:** We used administrative data which may be subject to coding errors by medical coders

## REFERENCES

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