

The Ecosystem of Maternity Care in the U.S.

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ESW CONSULTANTS
EQUITY. SAFETY. WELLBEING.

Meet NICHQ

The National Institute for Children's Health Quality **boldly leads improvements in children's health by addressing inequities** and other complex issues facing families.



Our Roadmap for Today's Presentation

**Introduction to the Maternal Health
Ecosystem and Current Crisis**

**Maternal Health Disparities along the
Continuum of Care**

**Maternal Health Outcomes and the Role of
Diagnosis**

Failures in the Diagnostic Process

**Opportunities to Improve Outcomes
through Diagnostic Excellence**



His partner died after giving birth. Fighting Black maternal mortality is now this dad's mission



Lost Mothers

An estimated 700 to 900 women in the U.S. died from pregnancy-related causes in 2016. We have identified 134 of them so far.

The New York Times

Black Mothers Keep Dying After Giving Birth. Shalon Irving's Story Explains Why

December 7, 2017 · 7:51 PM ET
Heard on All Things Considered

NINA MARTIN, PROPUBLICA



RENEE MONTAGNE



Maternal Deaths Rose During the First Year of the Pandemic

Deaths during pregnancy and the first six weeks after childbirth increased, especially for Black and Hispanic women, according to a new report.

US sees continued rise in maternal deaths – and ongoing inequities, CDC report shows

By Jacqueline Howard, CNN
Updated 8:24 AM EST, Wed February 23, 2022

CNN health



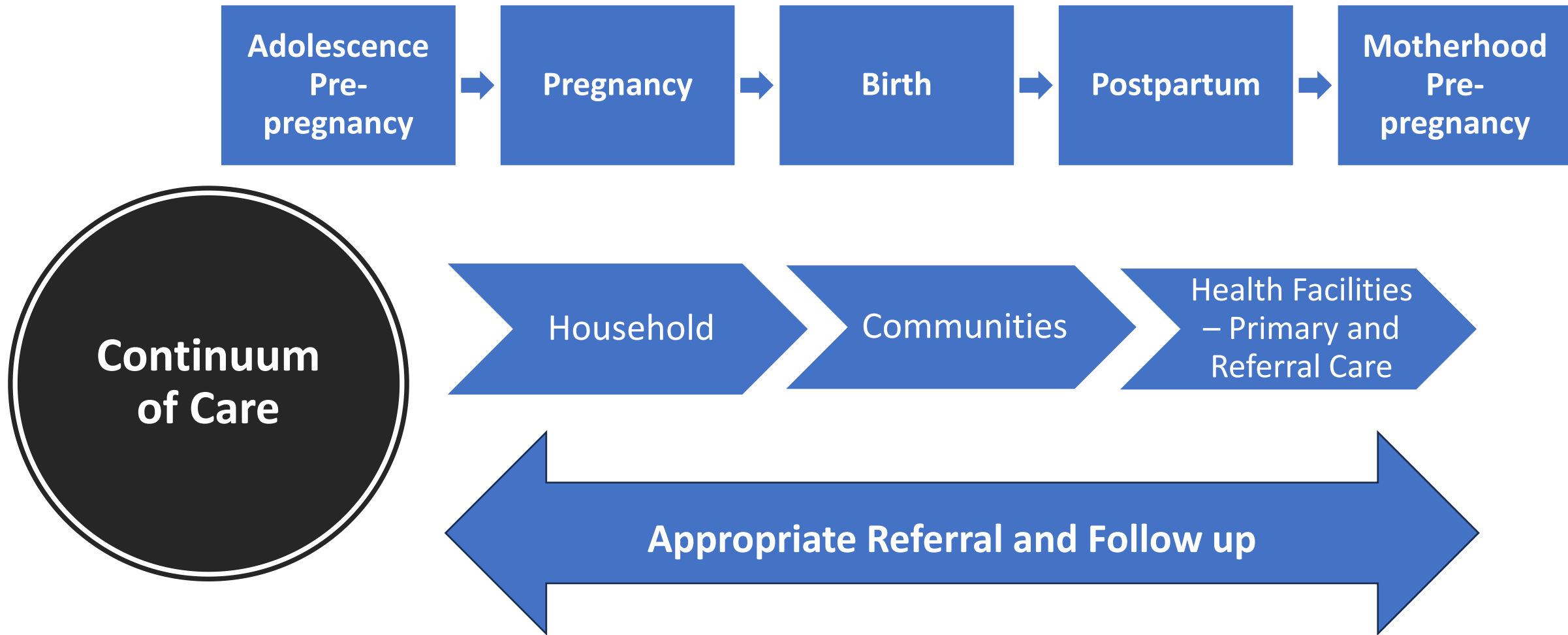
New York mother dies after raising alarm on hospital neglect

The Guardian

Amber Rose Isaac died less than four days after tweeting that she should write an exposé on 'dealing with incompetent doctors'



Amber Rose Isaac. Photograph: Bruce McIntyre III



Adapted from WHO, Partnership for Maternal, Newborn and Child Health



Midwives

Nurses

Healthcare
Facilities

Doulas
and Birth
Support

Health
Systems

Physicians

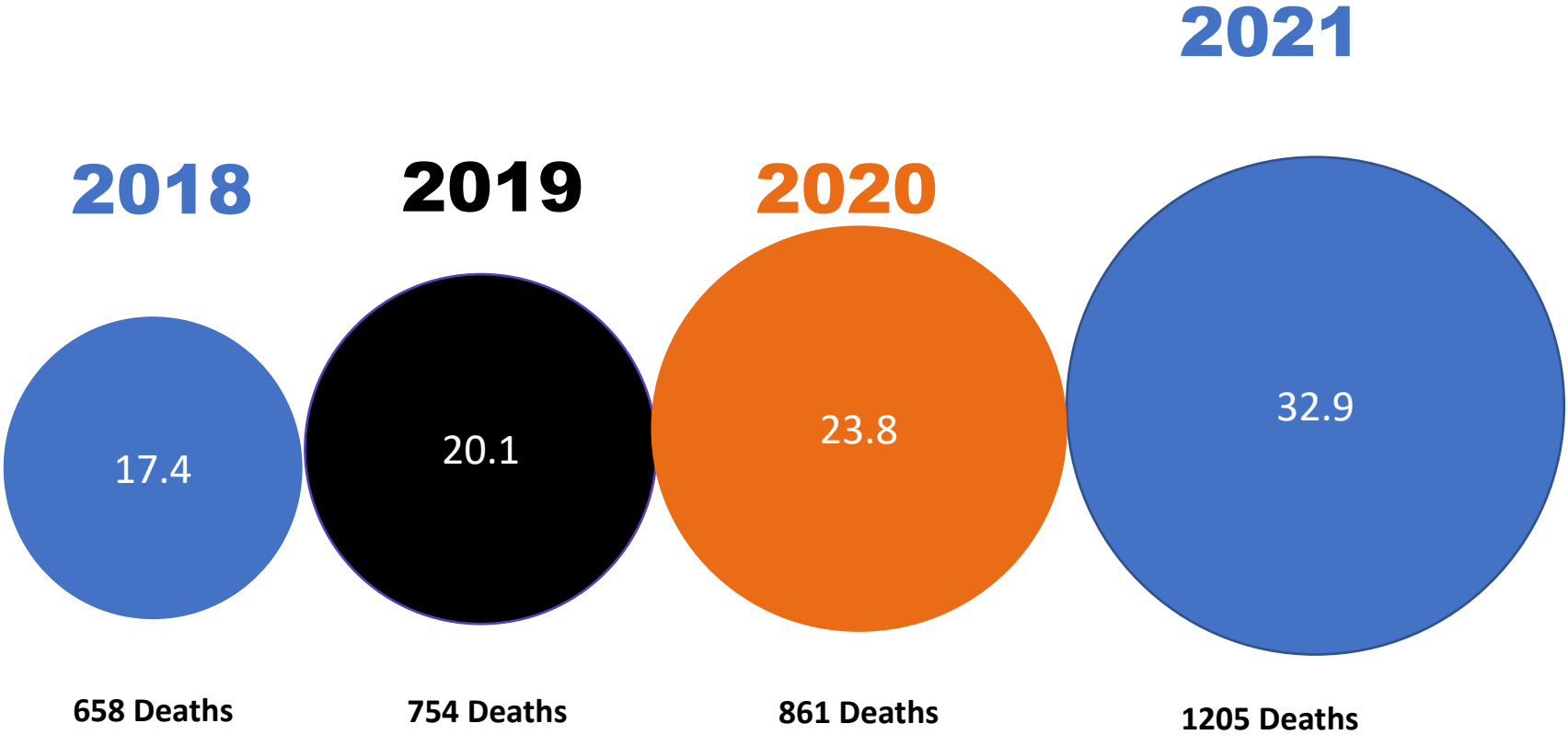
Public
Health

Pregnant
Individuals

MATERNAL MORTALITY RATES IN THE U.S.

**Latest data shows
a statistically
significant
increase in
maternal mortality.**

Maternal mortality rate is the number of maternal deaths per 100,000 live births.



What have we learned from maternal mortality reviews?



- **More than four in 5 pregnancy-related deaths (84.2%) in the US were determined to be preventable**
- **Most pregnancy-related deaths occurred between 7 days to 1 year after pregnancy (53%)**
- **Causes of death varied by race/ethnicity**
- **Almost 82% of deaths occurred among women who lived in an urban residence**

Trost SL, et al. Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017-2019. Atlanta, GA: Centers for Disease Control and Prevention, US Department of Health and Human Services; 2022.

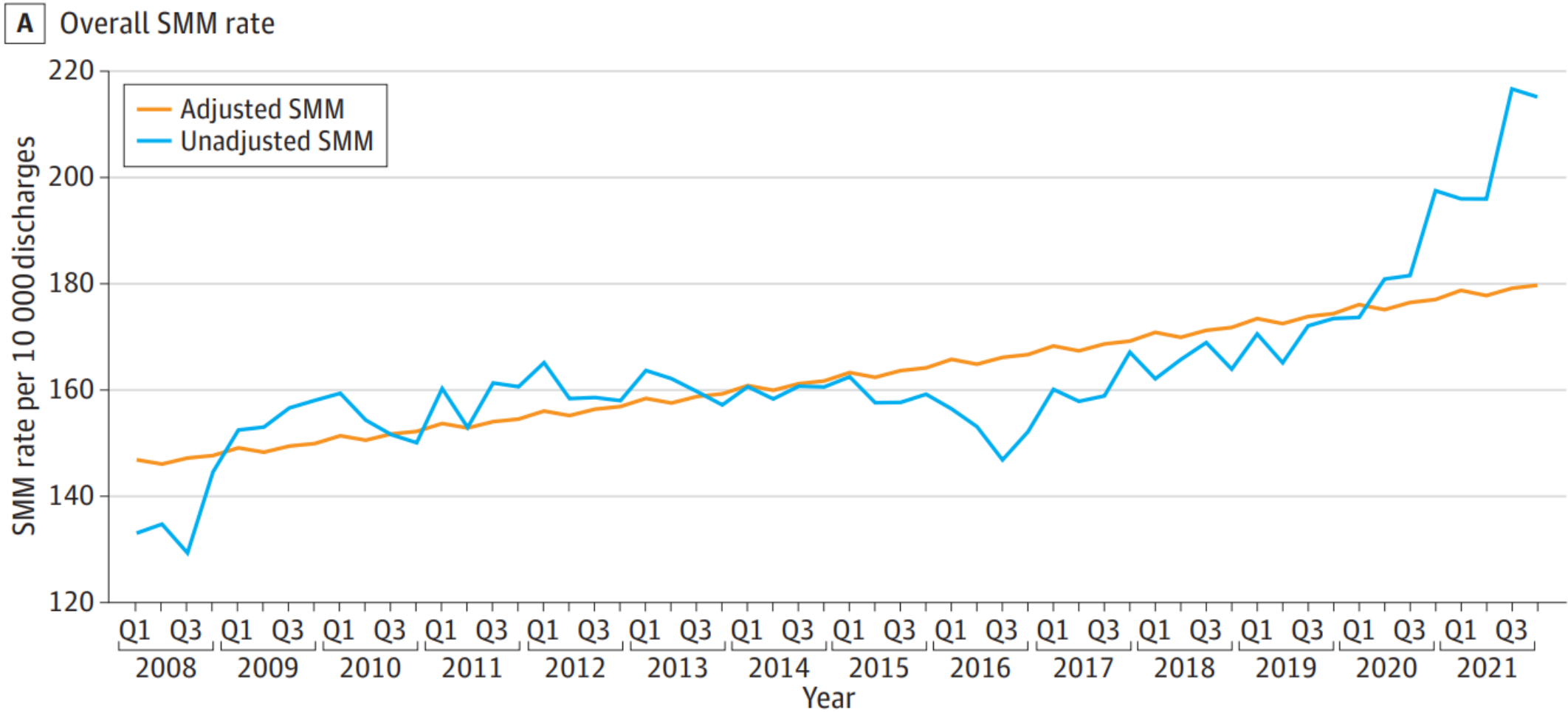
What have we learned from maternal mortality reviews?




CAUSES OF DEATH:

- **Mental health conditions (includes deaths to suicide and overdose/poisoning related to substance use disorder) – 23%.**
- Excessive bleeding (hemorrhage)- 14%
- Cardiac or coronary conditions (related to the heart)- 13%
- Infection- 9%
- Thrombotic embolism (a type blood clot)- 9%
- Cardiomyopathy (a disease of the heart muscle)- 9%
- Hypertensive disorders of pregnancy (relating to High Blood pressure) accounted for 7%

Figure 1. Trend of Unadjusted and Regression-Adjusted Severe Maternal Morbidity (SMM) Rates Among Hospital Inpatient Discharges for Newborn Delivery, 2008 to 2021, Overall



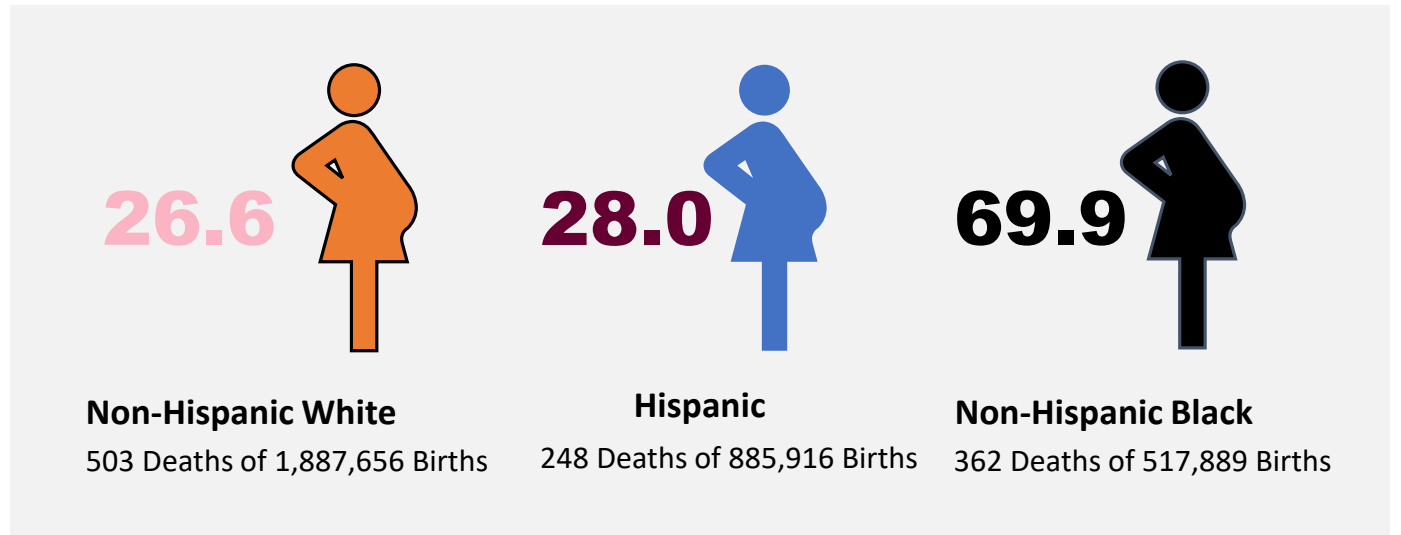
Fink DA, et al. Maternal Mortality and Severe Maternal Morbidity in the United States, 2008-2021. JAMA Network Open 2023.



Maternal Health Disparities along the Continuum of Care

RACIAL & ETHNIC DISPARITIES REMAIN

In 2021, Black women accounted for more than double the overall Maternal Mortality Rate (MMR) of 32.9.

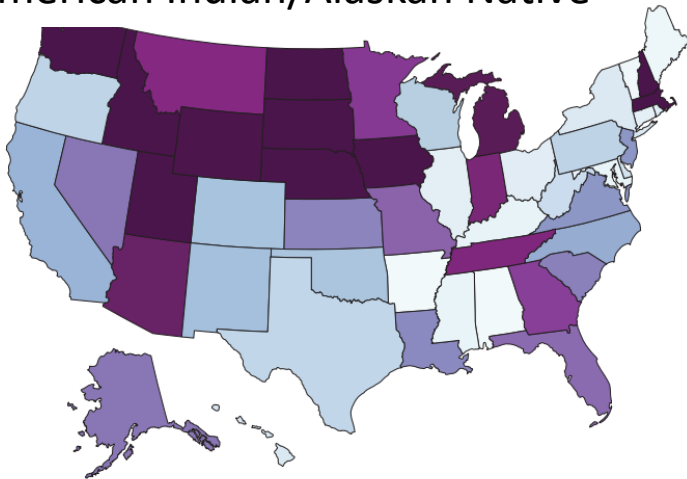


Note: Asian, Native American, and other racial categories not provided.

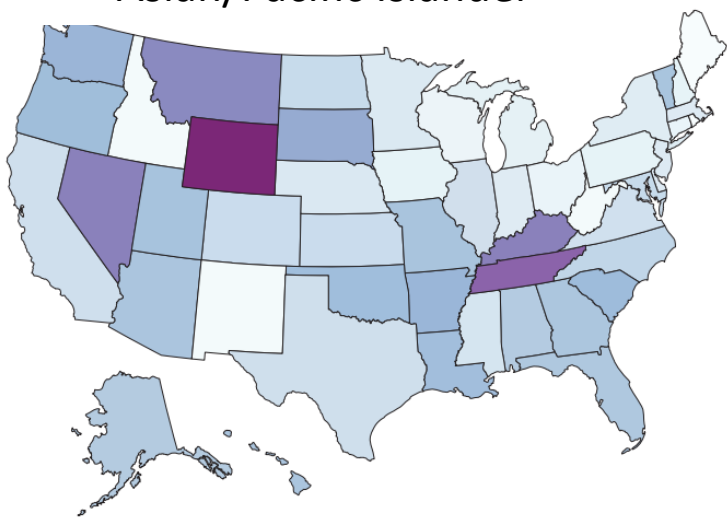
Source: Hoyert DL. Maternal mortality rates in the United States, 2021. NCHS Health E-Stats. 2023.

Maternal Mortality Ratios (MMRs) by State and Race, 2019

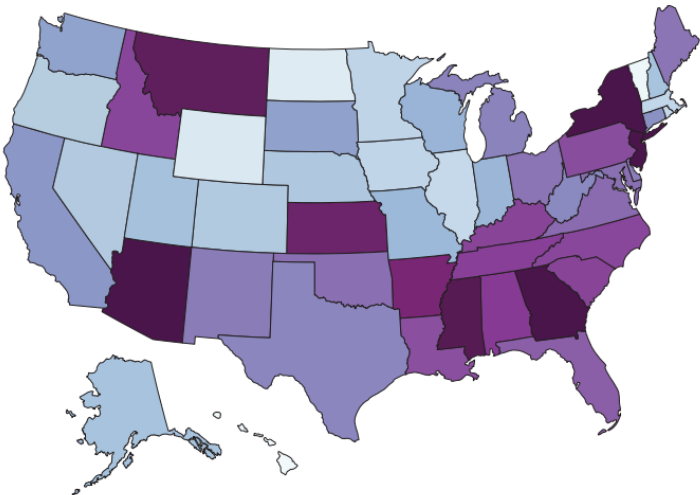
American Indian/Alaskan Native



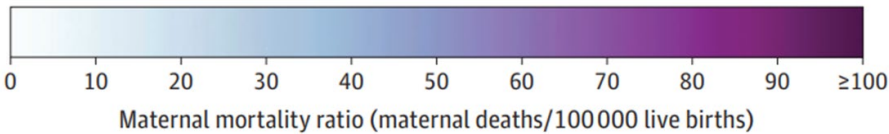
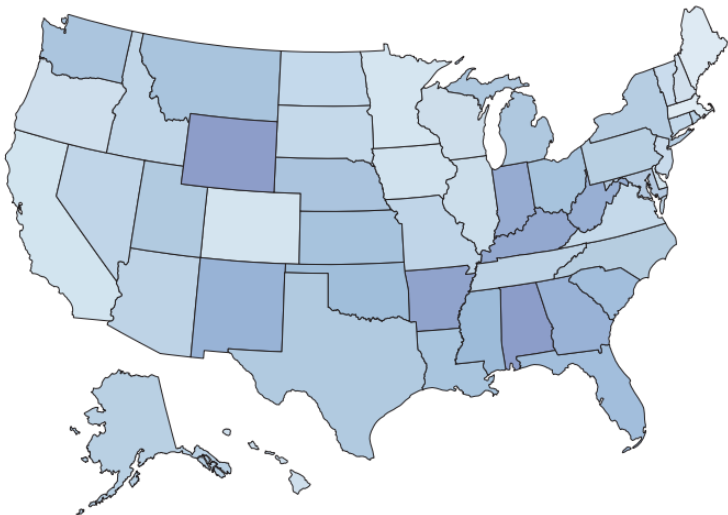
Asian/Pacific Islander



Black



White



Source: Fleszar LG, et al. Trends in State-Level Maternal Mortality by Racial and Ethnic Group in the United States. JAMA 2023

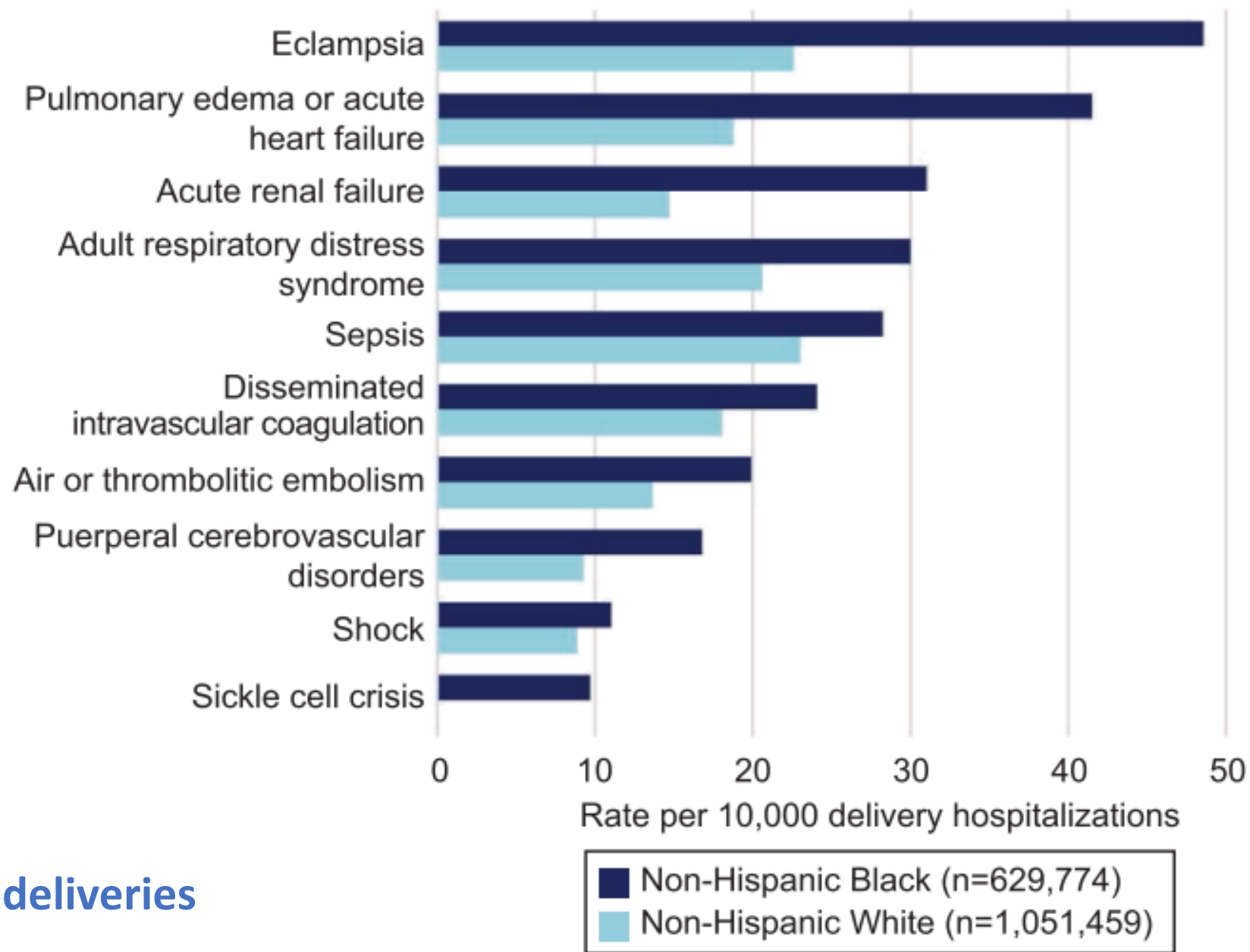
INDICATORS OF SEVERE MATERNAL MORBIDITY AMONG BLACK AND WHITE INDIVIDUALS WITH MEDICAID

Lowest SMM

Utah 80/10,000 deliveries

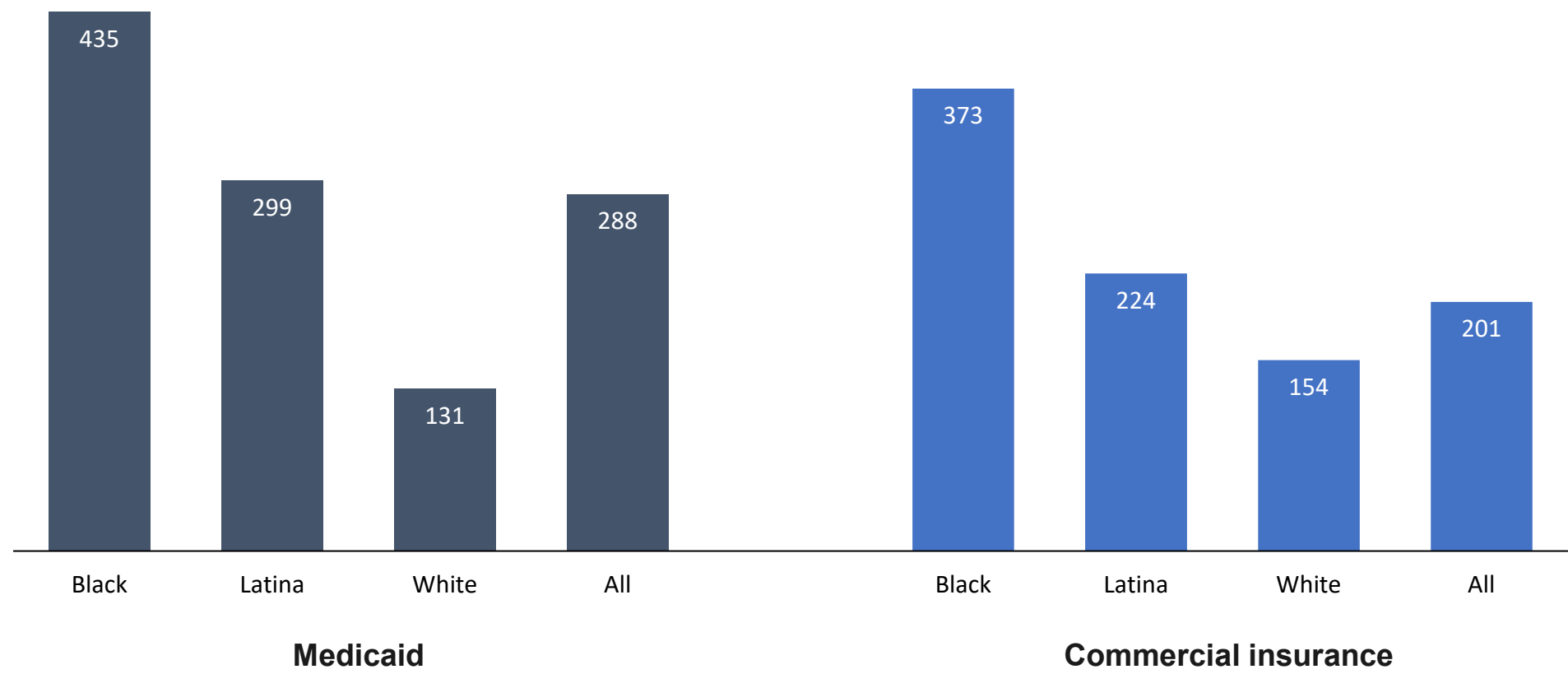
Highest SMM

Washington, DC 210/10,000 deliveries



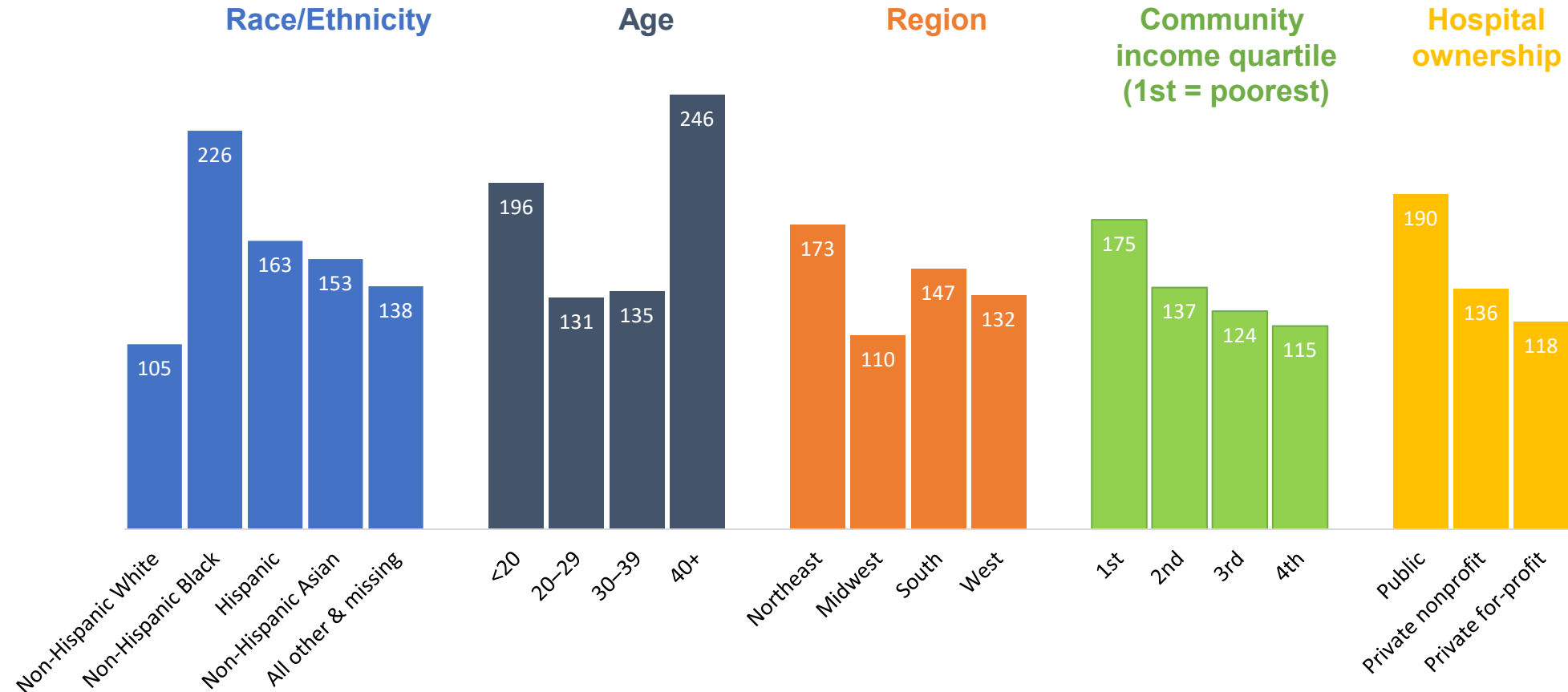
Racial inequities in severe maternal morbidity exist among both Medicaid and commercial insurance enrollees.

Severe maternal morbidity in New York City hospitals, per 10,000 births, by race/ethnicity and insurance type, 2010–14



There are strong relationships between severe maternal morbidity and race/ethnicity, age, region, community-level income, and hospital type.

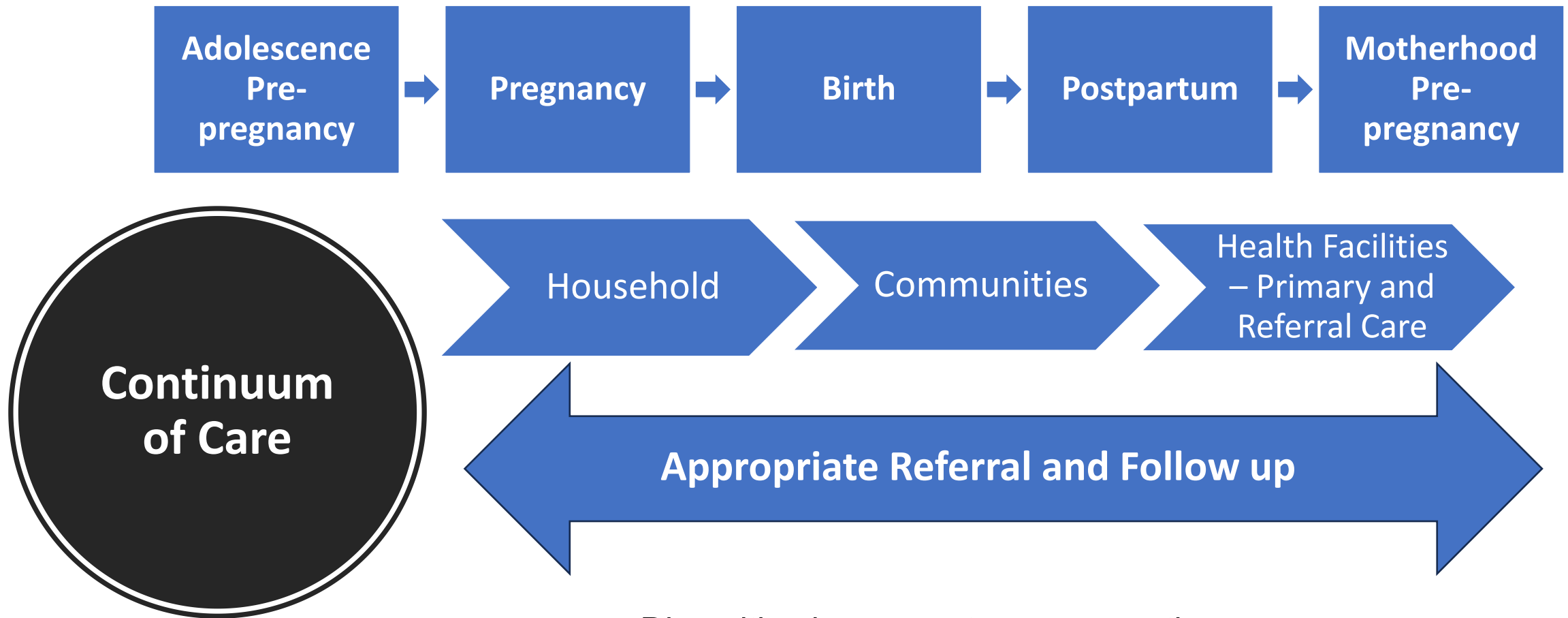
Severe maternal morbidity per 10,000 births, 2016–17



Data: Clare C. Brown et al., "[Associations Between Comorbidities and Severe Maternal Morbidity](#)," *Obstetrics and Gynecology* 136, no. 5 (Nov. 2020): 892–901.

Source: Eugene Declercq and Laurie Zephyrin, *Severe Maternal Morbidity in the United States: A Primer* (Commonwealth Fund, Oct. 2021). Data: Elizabeth A. Howell et al., "[Race and Ethnicity, Medical Insurance, and Within-Hospital Severe Maternal Morbidity Disparities](#)," *Obstetrics and Gynecology* Feb. 2020.





Disparities along the maternal health continuum

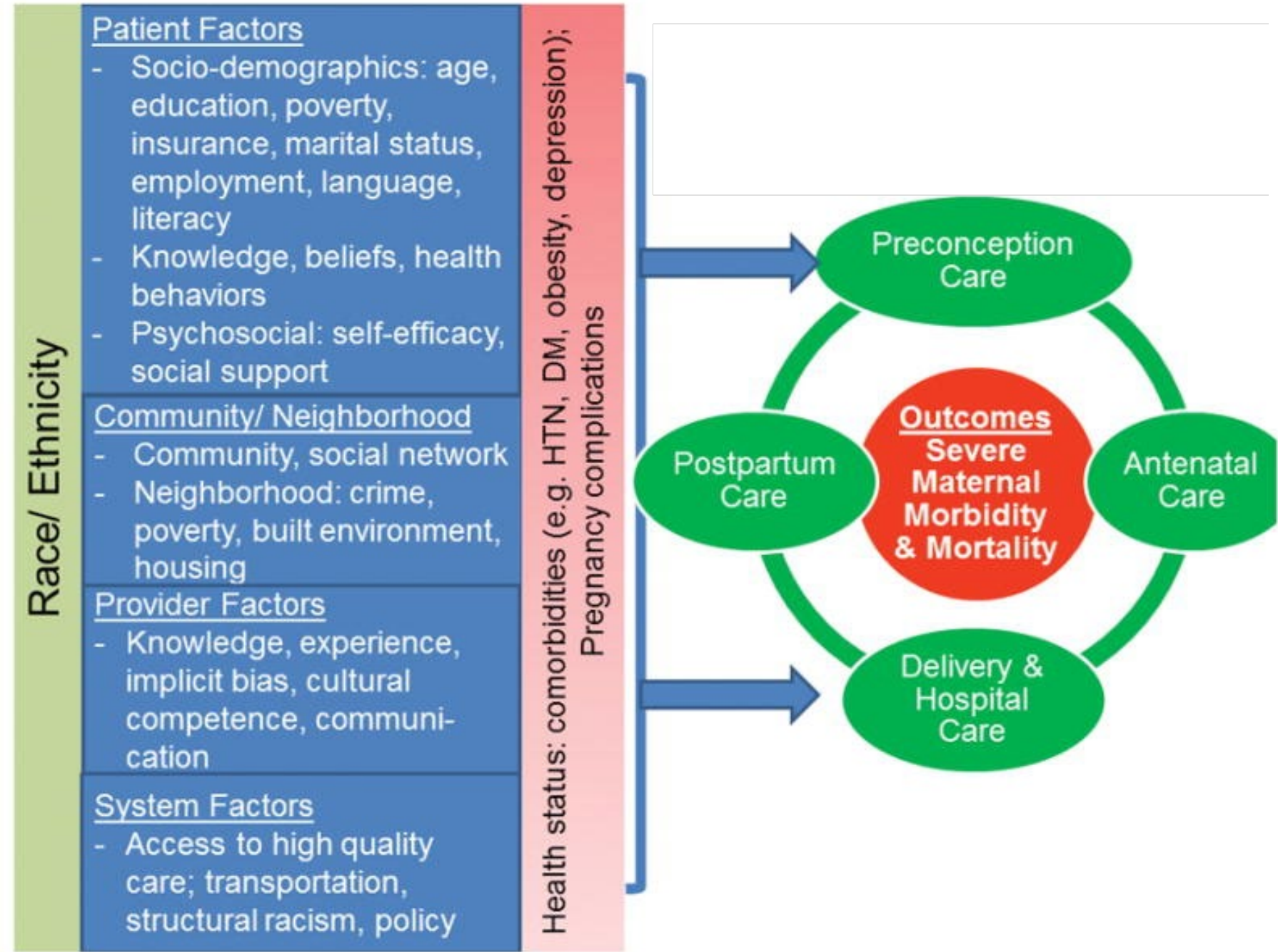
- Disparities in access to preconception care
- Access to prenatal care differs by race/ethnicity and insurance status
- Postpartum visits differ by race/ethnicity

Mistreatment in maternity care



**1 in 6 women reported
experiencing one or more
types of mistreatment**

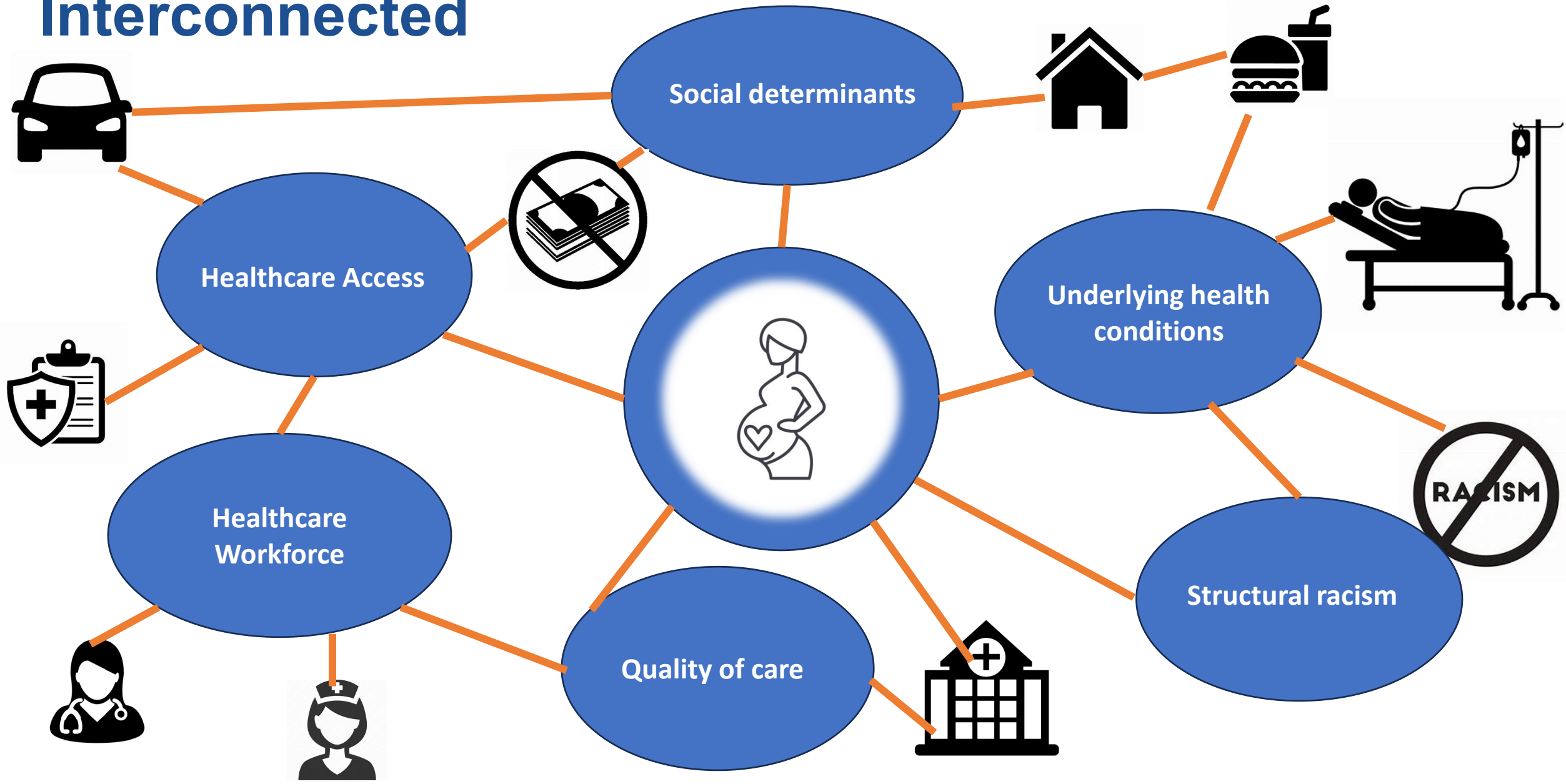
Pathways to Racial and Ethnic Disparities in Severe Maternal Morbidity and Mortality



Source: Howell EA. Clin Obstet Gynecol. 2018 Jun;61(2):387–399

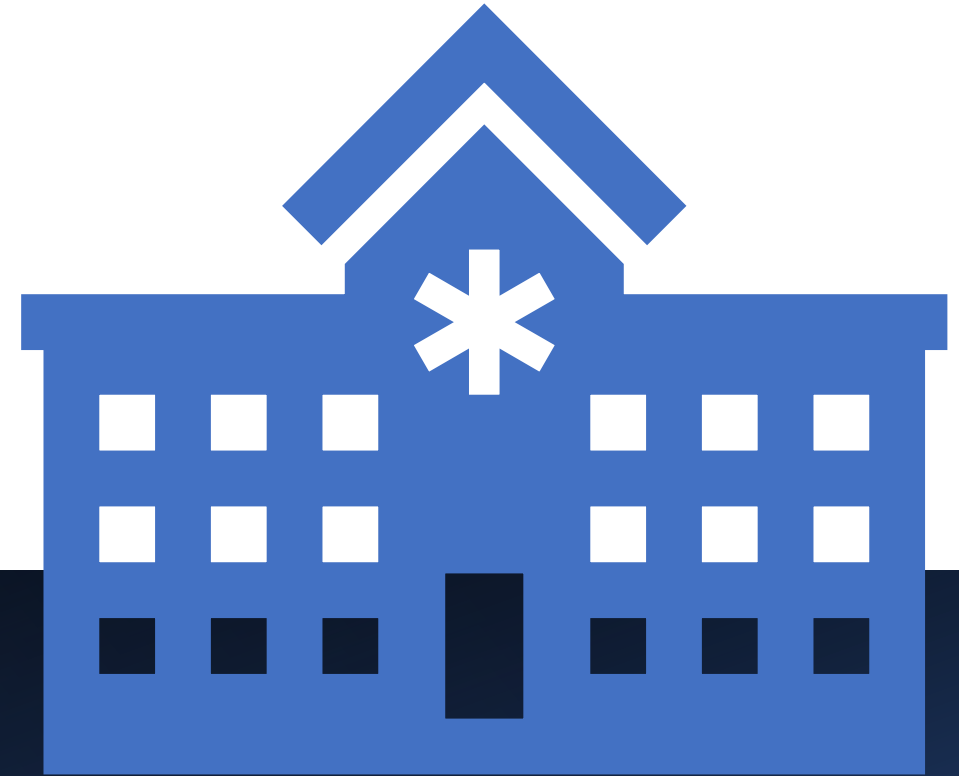
The Contribution of Diagnostic Error to Maternal Mortality and Severe Maternal Morbidity

The Drivers of Maternal Health are Complex and Interconnected

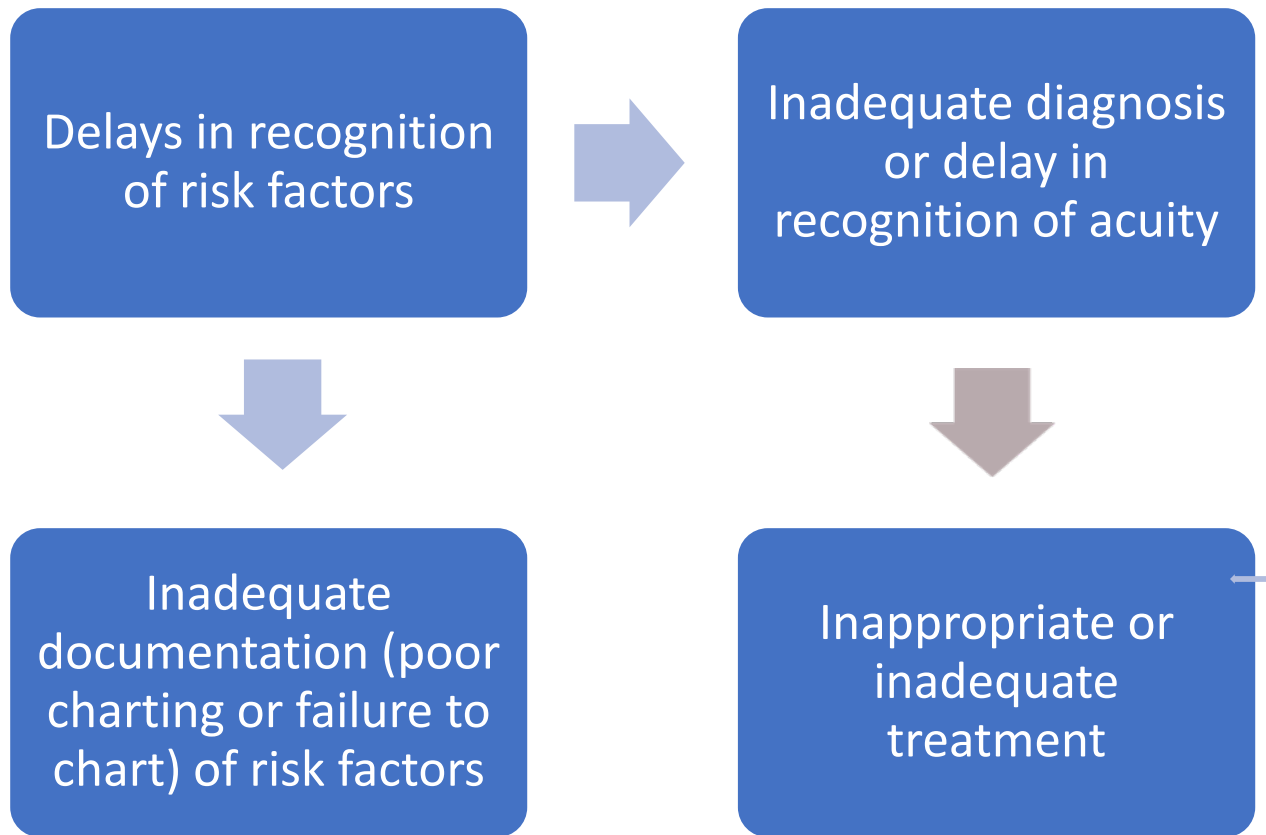


“Diagnostic safety failures are common in medical care....Although such errors have many potential sources, numerous evidence-based approaches to reduce errors exist, and these deserve more systematic and scaled implementation.”

Shah NR, et al. Diagnostic Excellence and Patient Safety Strategies and Opportunities. JAMA 2022.



The Contribution of Diagnostic Error to Maternal Mortality and Severe Maternal Morbidity



Source: Bajaj K, et al. The Contribution of Diagnostic Errors to Maternal Morbidity and Mortality During and Immediately After Childbirth: State of the Science. AHRQ Publication No. 20(21)

Contributing Factors & Quality Improvement Opportunities for CVD, CA PAMR (2002-2006)

- Contributing Health Provider Factors: (69% of all cases)
 - Delayed or inadequate response to clinical warning signs (61%)
 - Ineffective or inappropriate treatment (39%)
 - Misdiagnosis (37.5%)
 - Failure to refer or consult (30%)
- Quality Improvement Opportunities
 - Better recognition of signs and symptoms of CVD in pregnancy
 - Shortness of breath, fatigue
 - Tachycardia, blood pressure change, or low oxygen saturation
 - Improved management of hypertension

Source: CA PAMR, Pregnancy-Related Deaths; 2002-2006; Hameed A, Lawton E, McCain CL, et al. Pregnancy-Related Cardiovascular Deaths in California: Beyond Peripartum Cardiomyopathy. AJOG 2015; CMQCC Cardiovascular Disease Toolkit CVD=Cardiovascular Disease PAMR=Pregnancy-Associated Mortality Review

Improving Care to Reduce Morbidity and Mortality

A number of different approaches can address known vulnerabilities, including:

- Implementing hospital wide safety bundles;
- Addressing implicit bias, structural racism, and social determinants of health;
- Using healthcare simulation
- Improving communication and teamwork



Bajaj K, et al. The Contribution of Diagnostic Errors to Maternal Morbidity and Mortality During and Immediately After Childbirth: State of the Science. AHRQ Publication No. 20(21, Weiseth A, et al. Improving communication and teamwork during labor. Birth 2022.

Successful Use of Safety Bundles by State Perinatal Quality Collaboratives

- **Increased the percentage of patients with severe high blood pressure treated within 60 minutes** from 41% at baseline to 79% in the first year of the project.
- **Increased access of mothers with opioid use disorder to medication-assisted treatment** (11% to 36%) and breastfeeding counseling (51% to 72%) over a 13-month time period.
- **Reduced serious pregnancy complications among women with severe bleeding during pregnancy or delivery**, decreasing rates by 22.7% at baseline to 18.0% in the last half of the 14-month project.



Opportunities to Improve Birth Equity

- Securing leadership commitment and investment
- Using an equity lens to collect, stratify and analyze data
- Addressing social determinants of health
- Promoting education and training
- Engaging patients and families
- Building community partnerships
- Centering patient and community narratives
- Providing respectful care

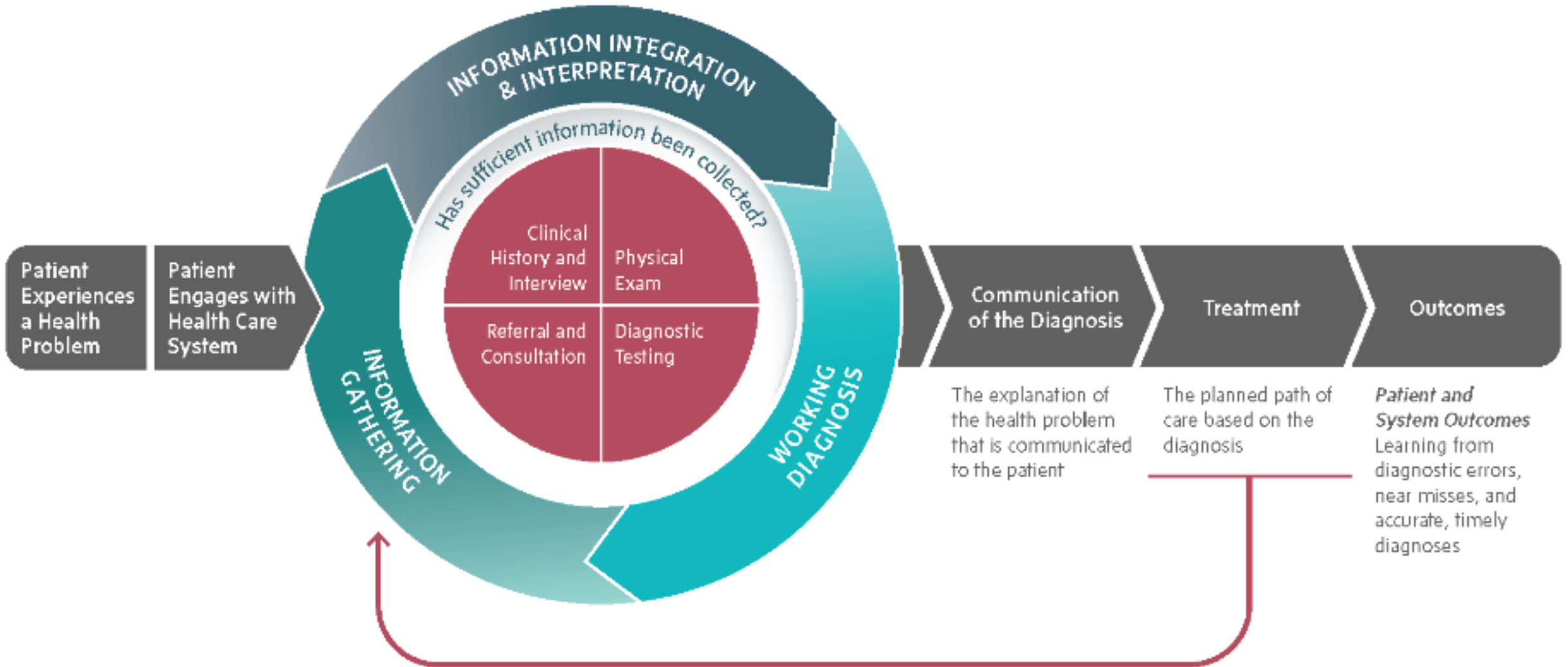
SHIFTING THE CULTURE!



[Perinatal Quality Collaboratives: Working Together to Improve Maternal Outcomes \(cdc.gov\)](https://www.cdc.gov/perinatalqualitycollaboratives/), Mason CL, et al.

Perinatal Quality Collaboratives and Birth Equity. Curr Opin Anaesthesiol. 2022 Jun

The Diagnostic Journey



A black and white photograph of a pregnant woman's belly. Her hands are gently resting on her abdomen, one on the left and one on the right. The lighting is soft, highlighting the contours of her skin. The background is a light, neutral color.

THANK YOU

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