Severe Maternal Morbidity in Massachusetts

May 2024

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- **BACKGROUND**
- Inequities in Severe Maternal Morbidity
- Spending and Affordability Implications
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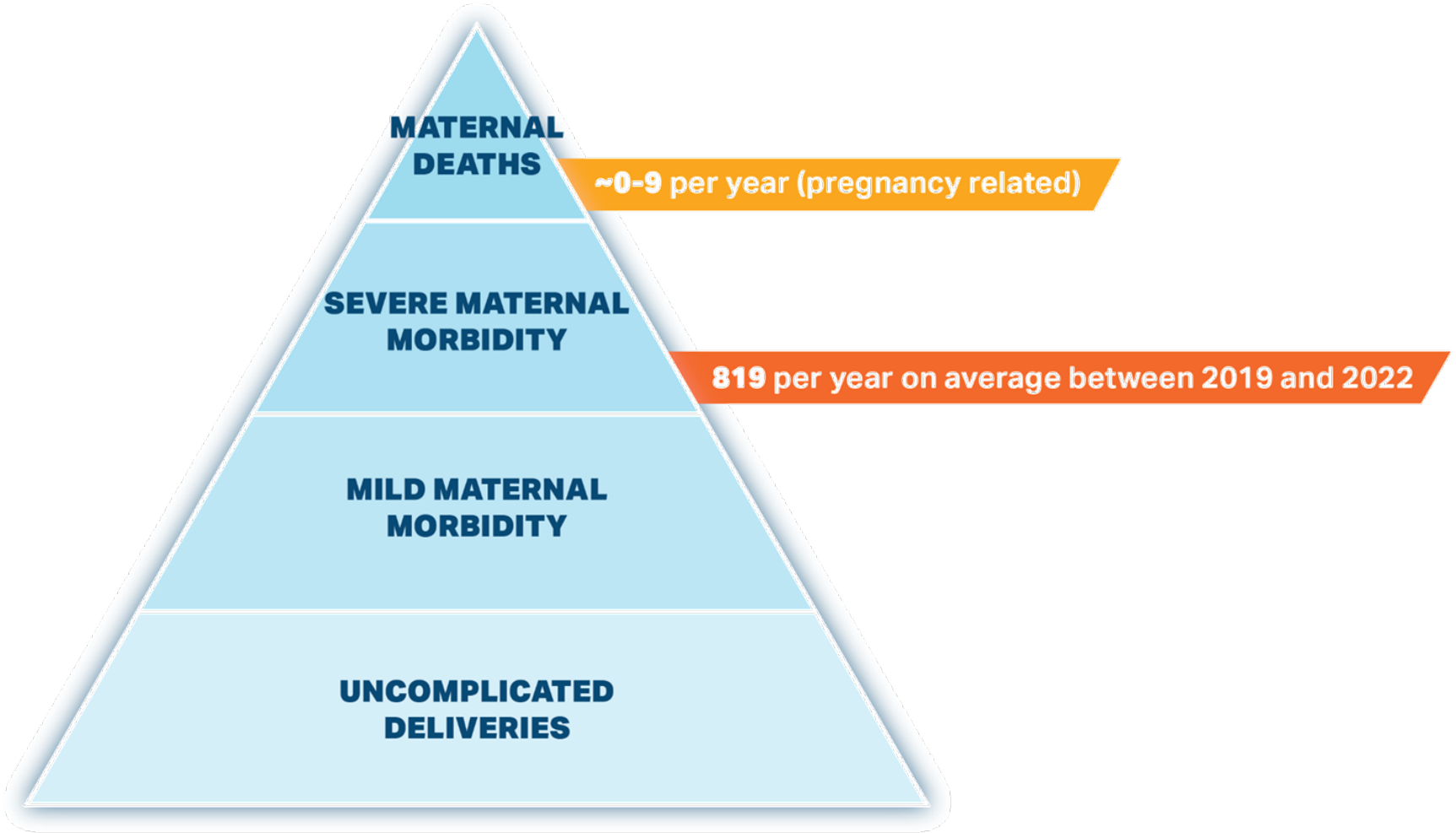
Severe maternal morbidity accounts for a large portion of the overall burden of poor maternal health in Massachusetts.



- Severe maternal morbidity (SMM) is defined as unexpected outcomes of labor and delivery that result in significant short- or long-term consequences to health.
- SMM includes 16 life-threatening conditions and 5 life-saving procedures that may occur at the time of birth but may not capture complications that manifest after delivery.

Notes: SMM includes cases that occurred during postpartum hospitalizations. There were on average 65,377 labor and delivery discharges per year between 2019 and 2022.

Source: Massachusetts Department of Public Health. An Assessment of Severe Maternal Morbidity in Massachusetts: 2011-2022. July 2023. Available at: https://www.mass.gov/doc/an-assessment-of-severe-maternal-morbidity-in-massachusetts-2011-2020/download; SMM number estimated from HPC analysis of Center for Health Information and Analysis Inpatient Discharge Database, CY2019-2022

Massachusetts performed highly on 11 out of 12 indicators for reproductive care and women's health but ranked 45th for severe maternal morbidity.

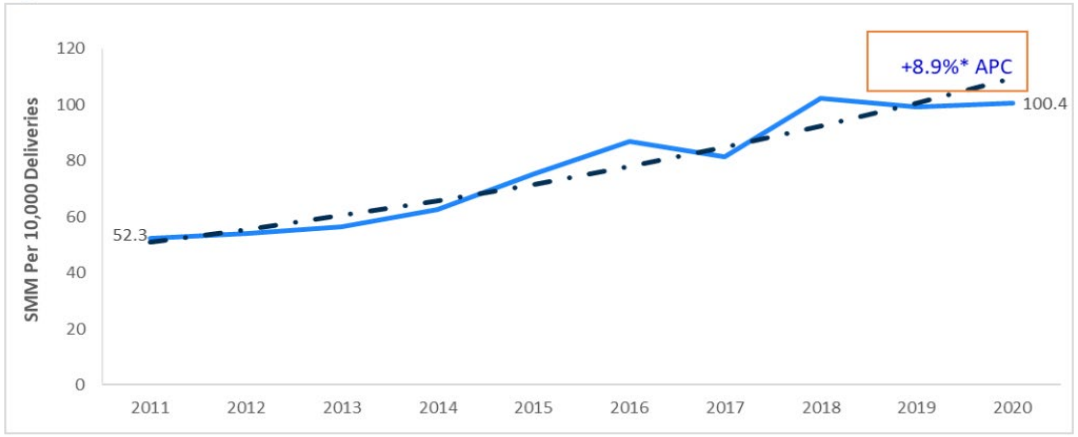
Massachusetts Reproductive Care and Women's Health Performance Commonwealth Scorecard, 2023

	INDICATOR	MASSACHUSETTS	MA RANK	U.S. COMPARISON	COMPARISON
1	**Maternal mortality**	14.7	4	25.6	▲
2	**Severe maternal morbidity**	105.5	45	88.2	■
3	**Infant mortality**	3.9	2	5.4	▲
4	**Preterm birth rate**	9%	5	11%	▲
5	**Breast and cervical cancer deaths**	16.3	1	21.7	▲
6	**All-cause mortality rate per 100,000 women ages 15-44**	81.8	2	124.2	▲
7	**Self-pay in-hospital births**	0.4%	2	2.7%	▲
8	**Women ages 18-44 without a usual source care**	13%	5	21%	▲
9	**Women ages 18-44 without a routine checkup**	9%	4	13%	▲
10	**No early prenatal care**	15%	5	22%	▲
11	**Women without a postpartum checkup after birth**	10%	9	11%	▲
12	**Women with up-to-date breast and cervical cancer screenings**	78%	5	74%	▲

Source: Radley et al. "2023 Scorecard on State Health System Performance." Commonwealth Fund. June 2023. https://www.commonwealthfund.org/publications/scorecard/2023/jun/2023-scorecard-state-health-system-performance

The Department of Public Health found that the rate of SMM in Massachusetts doubled from 2011 to 2020.

Figure 2. SMM in Massachusetts: 2011-2020

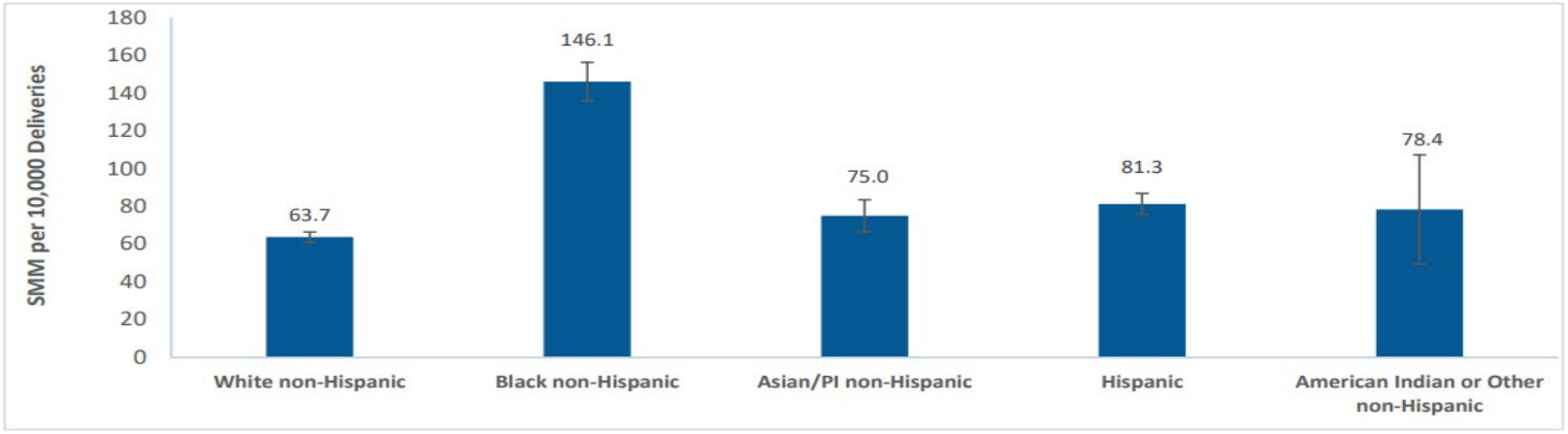


1. * Denotes statistical significance.
2. Annual Percent Change

"Large disparities in SMM rates among population subgroups, defined by race and Hispanic ethnicity, exist and have persisted. These persistent disparities arise from inequities in care and access, social and economic factors, and the enduring effects of structural racism."

- Department of Public Health Data Brief

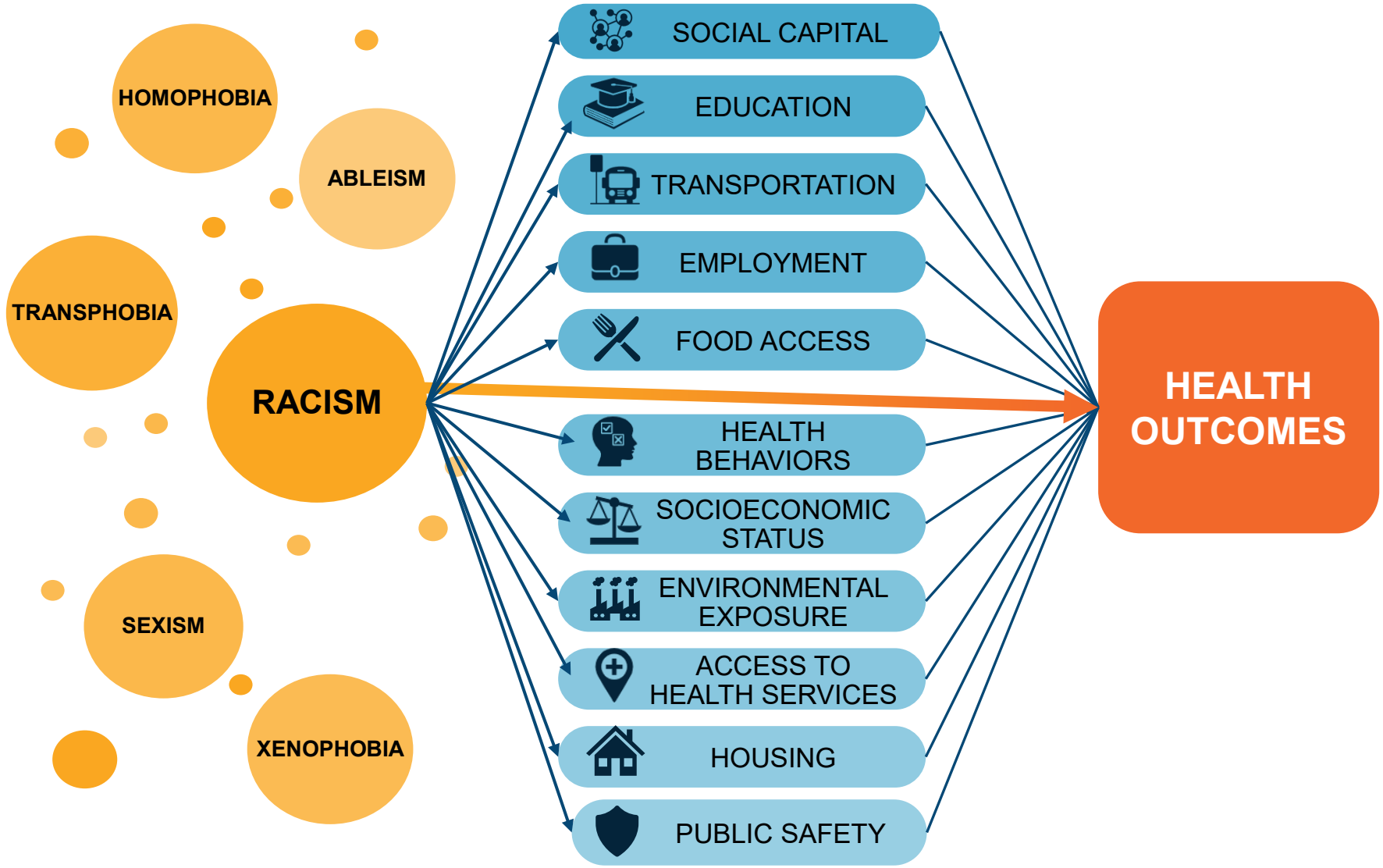
Figure 3. SMM in Massachusetts by Race and Hispanic Ethnicity: 2011-2020



- Rates of SMM are statistically significantly higher among people of color.
- Rates among Black non-Hispanic birthing people were 2.3 times higher than rates among White non-Hispanic birthing people.
- Rates among Asian/Pacific Islander non-Hispanic and Hispanic birthing people were 1.2 times higher than rates among White non-Hispanic birthing people.

Source: Assessment of Severe Maternal Morbidity in Massachusetts: 2011-2022. Accessed at: https://www.mass.gov/doc/an-assessment-of-severe-maternal-morbidity-in-massachusetts-2011-2020/download

Racism influences social determinants of health as well as having a direct impact on health outcomes.



Source: Boston Public Health Commission's Racial Justice and Health Equity Initiative; available: http://www.bphc.org/whatwedo/health-equity-social-justice/racial-justice-health-equity-initiative/Documents/RJHEI%202015%20Overview%20FINAL.pdf

Previous research on racial/ethnic inequities in health outcomes underscore role of racism.

- Empirical studies have shown **that racism, including structural, cultural, and individual discrimination, is a main driver of adverse health outcomes** among racial/ethnic minorities.[1]
  - Residential segregation, an example of structural racism, is one of the most pervasive drivers of adverse health outcomes by way of differentially allocating opportunities and resources.
  - Racial discrimination in the health care system is associated with delays in seeking care and being less trusting of health care workers and systems. This mistrust has roots in systemic racism and medical exploitation.[2]
- **Racial discrimination also directly influences physical health.** Everyday discrimination such as being treated with less respect or being insulted or harassed is a source of toxic stress that leads to accelerated aging or "weathering" as evidenced by early onset of chronic disease among Black patients compared to White patients.[3]
- **Representation in health care matters** and is beneficial for Black patients as evidenced by a significant decrease in infant mortality among Black newborns when cared for by Black physicians compared to White physicians.[4]

(1)Williams, D., Lawrence, J., and Davis, B. "Racism and Health: Evidence and Needed Research" April 2019. Available at: https://scholar.harvard.edu/sites/scholar.harvard.edu/files/davidrwilliams/files/williams_et_al._racism_and_health_evidence_and_needed_research_2019.pdf

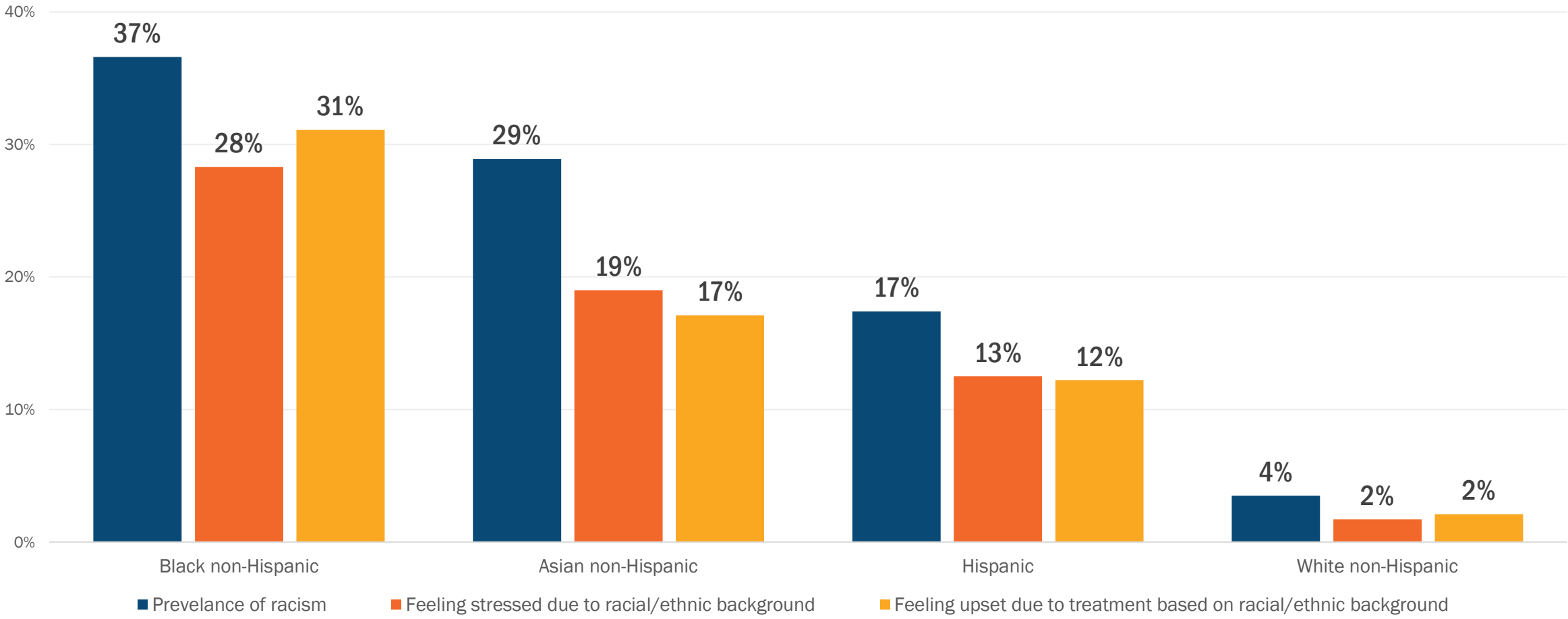
(2)Williams, D. et al. "Understanding how discrimination can affect health" 2019. Available at: https://scholar.harvard.edu/sites/scholar.harvard.edu/files/davidrwilliams/files/williams_et_al_hsr_discrimination_2019.pdf

(3)Williams, D. "COVID-19: Challenges and Opportunities of Addressing Health Equity in MA." 2020. Available at: https://www.mass.gov/doc/2020-cost-trends-hearing-david-williams-presentation/download

(4)Greenwood, B., et al. "Physician-patient racial concordance and disparities in birthing mortality for newborns." July 2020. Available at: https://www.pnas.org/doi/epdf/10.1073/pnas.1913405117

The Massachusetts DPH found 37% of Black non-Hispanic and 29% of Asian non-Hispanic birthing people reported experiencing racism before delivery.

Prevalence of racism and reactions to racism during the twelve months before delivery, Massachusetts PRAMS, by race/ethnicity, 2021



Source: Massachusetts Department of Public Health. Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) 2019-2021 Surveillance Report. Boston, MA; May 2023. Available at: https://www.mass.gov/doc/2019-2021-mass-prams-report-pdf/download

Growing attention to this issue has led to new activities at the state level.

An Act to Reduce Racial Inequities in Maternal Health, 2020

The emergency order established the Special Legislative Commission on Racial Inequities in Maternal Health. The Commission filed a report in 2022, detailing a comprehensive list of recommendations to reduce or eliminate racial inequities in maternal mortality and severe maternal morbidity in the Commonwealth.[1]

Maternal Health Task Force, 2022

Massachusetts Department of Public Health (DPH) established a Maternal Health Task Force (MHTF) to create a strategic plan to improve maternal health in the Commonwealth. The MHTF will complement the work for the Maternal Mortality and Morbidity Review Committee as well as the Perinatal Neonatal Quality Improvement Initiative to translate committee findings into prevention initiatives.

Review of Maternal Health Services, 2023

In September 2023, Governor Maura Healey instructed DPH to conduct a review of maternal health services across the Commonwealth and to develop a plan to support or improve access and quality where needed. The report found that distances traveled to a birth facility have increased in the past decade for most towns in the Commonwealth and identified 25 recommendations to improve maternal health.[2]

As a result, DPH will integrate the Levels of Maternal Care classification system into hospital licensure regulations to help patients with high-risk pregnancies receive care at hospitals equipped to provide appropriate care.

(1) Commonwealth of Massachusetts, An Act to Reduce Racial Inequities in Maternal Health. https://malegislature.gov/Laws/SessionLaws/Acts/2020/Chapter348; (2) Massachusetts Executive Office of Health and Human Services. Review of Maternal Health Services. November 2023. Available at: https://www.mass.gov/doc/essential-services-report/download

Growing attention to this issue has led to new activities at the state level.

Attorney General's Office Maternal Health Grant, 2023

Attorney General Andrea Joy Campbell has awarded $1.5 million to 11 organizations as part of the AG Office's Maternal Health Equity Grant. The grant, established under AG Campbell, aims to reduce maternal health disparities by increasing access to culturally competent maternal health support services. These grants will focus on expanding culturally competent group models of prenatal care, perinatal behavioral health support, and breastfeeding support. It also aims to increase access to the doula workforce.

Grants to Increase Maternal Care Access and Expand Delivery Models, 2024

In response to the recommendations made by the Special Commission and the Review of Maternal Health Services, the Bureau of Community Health and Prevention at DPH are developing a new funding opportunity to support healthcare and community organizations in addressing reproductive and family planning service needs in the Commonwealth.

Advancing Health Equity in Massachusetts (AHEM), 2024

The Healy-Driscoll administration announced an initiative to eliminate racial, economic, and regional disparities in health outcomes. Maternal health is one of the two areas of focus for AHEM's initial year.

(1) AG Campbell distributes $1.5 million for Maternal Health Equity Grant. Available at: https://www.mass.gov/news/ag-campbell-distributes-15-million-for-maternal-health-equity-grant; (2) Advancing Health Equity in MA. Available at: https://www.mass.gov/advancing-health-equity-in-ma

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New HPC research examines disparities in SMM in spending and affordability and health care experiences during the post-partum period.

WHY IT'S IMPORTANT

Racial and ethnic disparities in SMM are well documented both in Massachusetts and nationally, but there has been less research on spending and affordability challenges for birthing people experiencing adverse maternal outcomes. Prior HPC research has found increasing out-of-pocket costs for birth episodes. Understanding the implications of this affordability challenge is especially important because birthing people of color continue to experience disproportionate rates of maternal morbidity and report health care affordability challenges at higher rates.

WHAT THE HPC IS DOING

The HPC linked CHIA's Acute Hospital Case-Mix labor and delivery stays to the All-Payer Claims Database (APCD) to analyze spending and cost sharing by race/ethnicity and health outcome. Survey data from the Pregnancy Risk Assessment Monitoring System (PRAMS) was used to assess health care experiences and care access in Massachusetts and nationally.

Methods

DATA

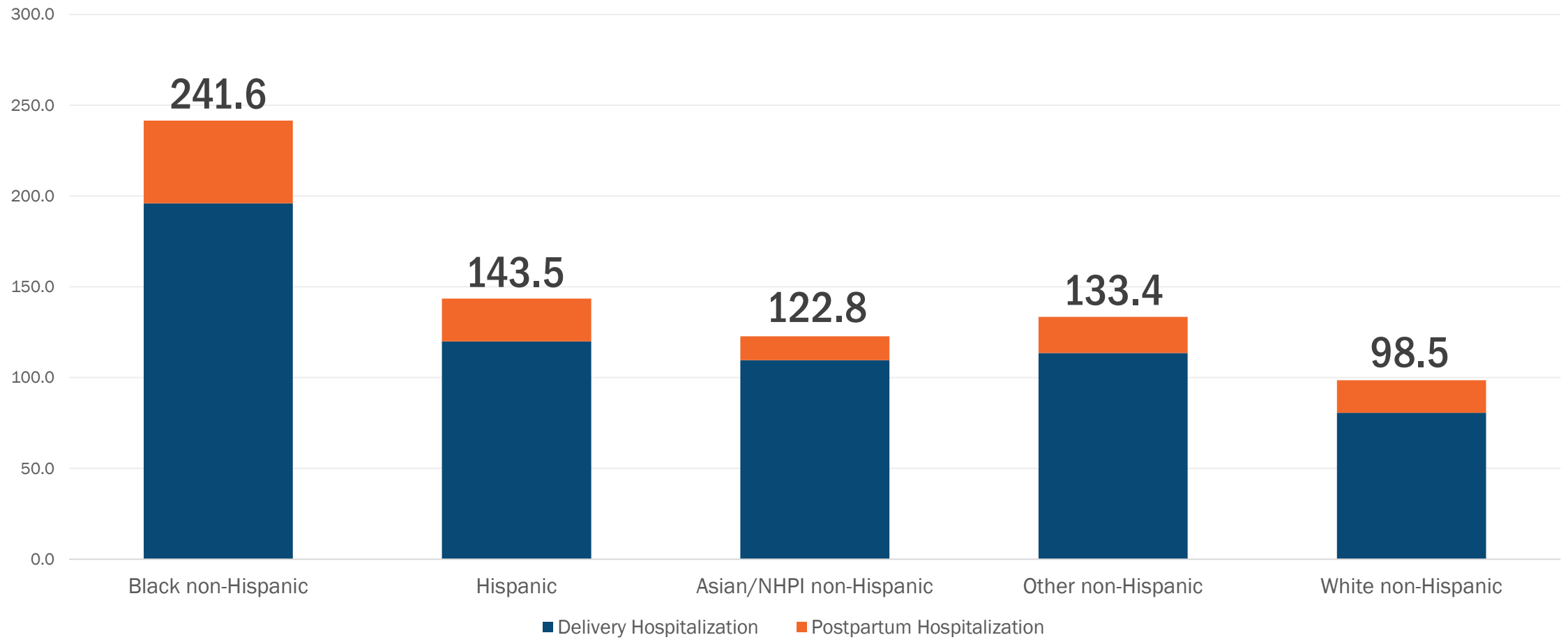
- Massachusetts All-Payer Claims Database (APCD) for 2019-2022
- Acute Care Hospital Inpatient Discharge Database for 2019-2022, capturing all labor and delivery stays occurring in Massachusetts hospitals
- The Pregnancy Risk Assessment Monitoring System (PRAMS) for 2017-2021

STUDY DESIGN

- Rates of SMM (excluding blood transfusions) were calculated including postpartum hospitalizations for SMM, which were defined as readmissions that occurred within 42 days after discharge.
- Labor-and-delivery inpatient hospital stays for patients ages 12-55 were linked to the APCD, allowing for analysis of spending and cost sharing by race/ethnicity.
  - Analyses used maternity episodes for individuals who gave birth from July 1, 2019 – September 30, 2022, including care for 6 months prior to admission for a labor-and-delivery inpatient hospital stay, during the inpatient stay, and for 3 months after discharge.
- PRAMS survey data allowed a comparison of Massachusetts to other states.

Black non-Hispanic birthing people had a rate of SMM 2.5 times higher than their White non-Hispanic counterparts and also had the highest rate of postpartum hospitalizations for SMM.

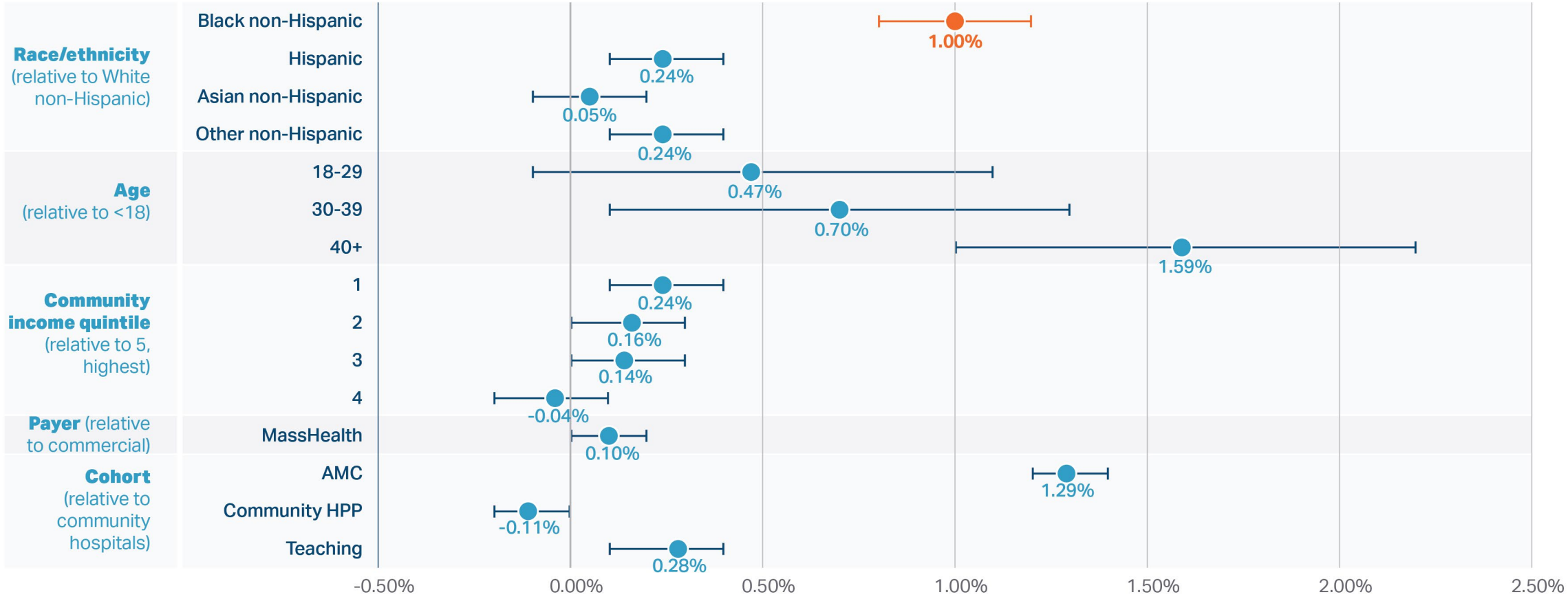
SMM per 10,000 deliveries including postpartum hospitalizations for SMM by race/ethnicity, 2019-2022



Note: Postpartum hospitalizations are defined as readmissions that occurred within 42 days after discharge and are counted in the year the initial delivery hospitalization occurred. "Other" includes American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Inpatient Discharge Database, CY2019-2022

Black non-Hispanic birthing people were statistically significantly more likely to experience SMM compared to White non-Hispanic birthing people even after accounting for age, hospital type, payer, and community income level.

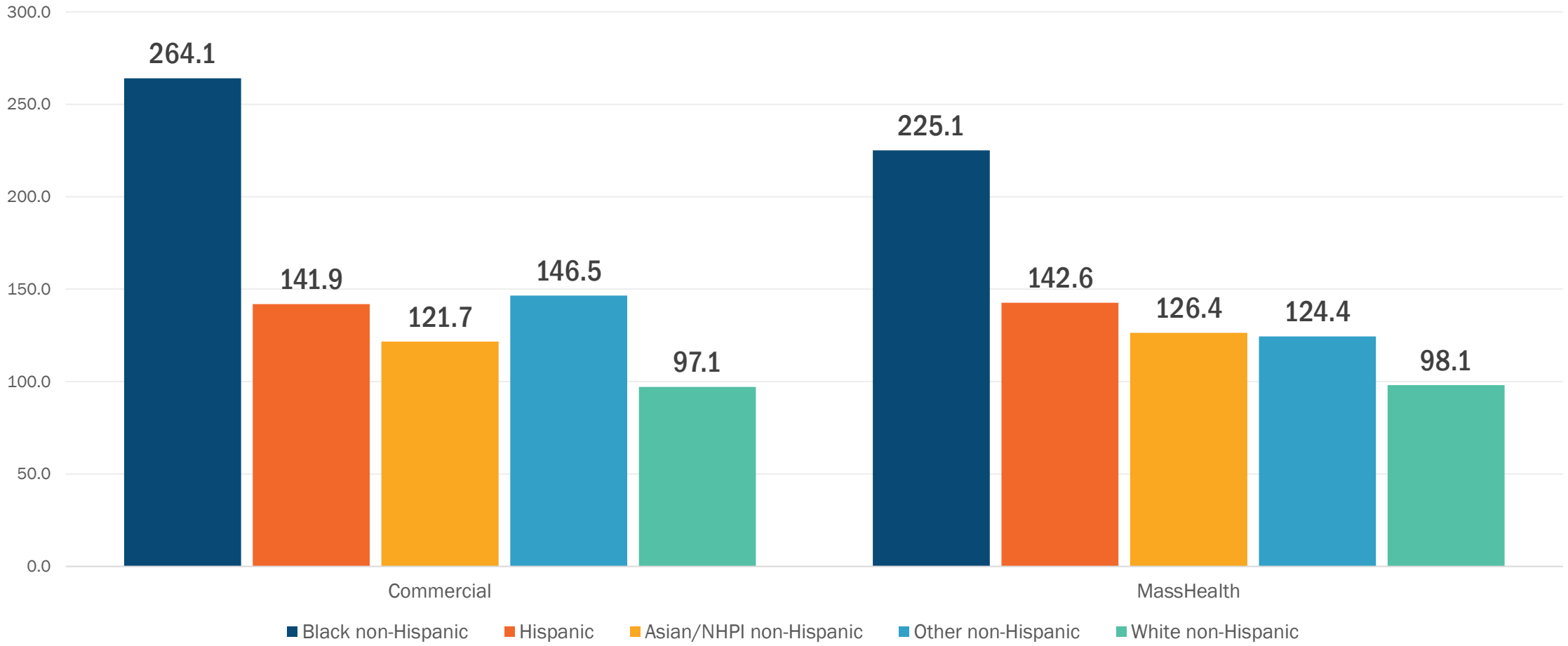
Percentage point difference in the likelihood of experiencing SMM during delivery or 42 days postpartum relative to the reference group, 2019-2022



Notes: "Other" includes American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Inpatient Discharge Database, CY2019-2022

Commercially insured Black non-Hispanic birthing people had a rate of SMM 17% higher than their publicly insured counterparts.

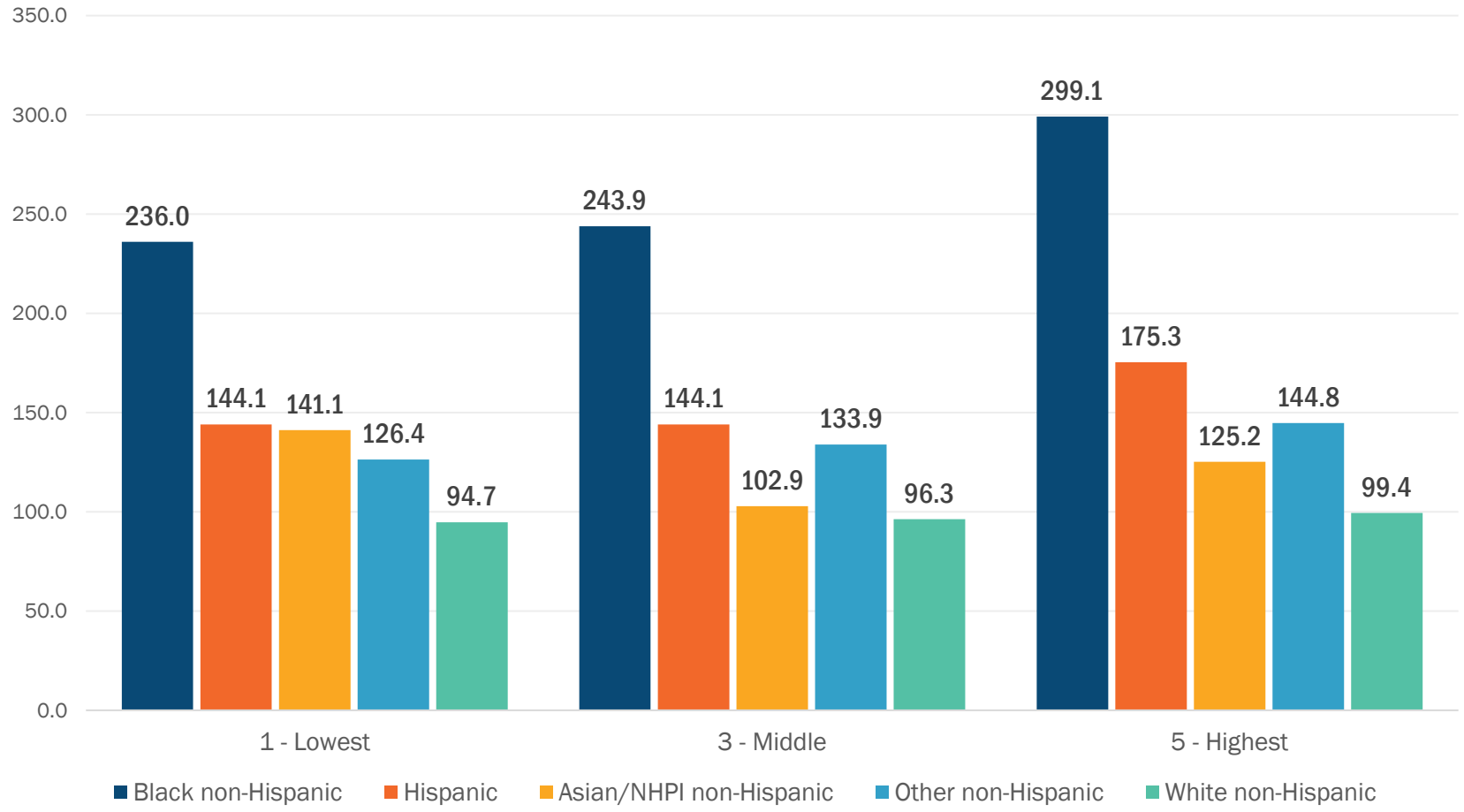
SMM per 10,000 deliveries including postpartum hospitalizations for SMM by race/ethnicity and payer, 2019-2022



Note: "Other" includes American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Inpatient Discharge Database, CY2019-2022

Black non-Hispanic birthing people had the highest rate of SMM within each subgroup of community income level and experienced increasing rates of SMM as income level increased.

SMM per 10,000 deliveries including postpartum hospitalizations for SMM by race/ethnicity and community income quintile, 2019-2022



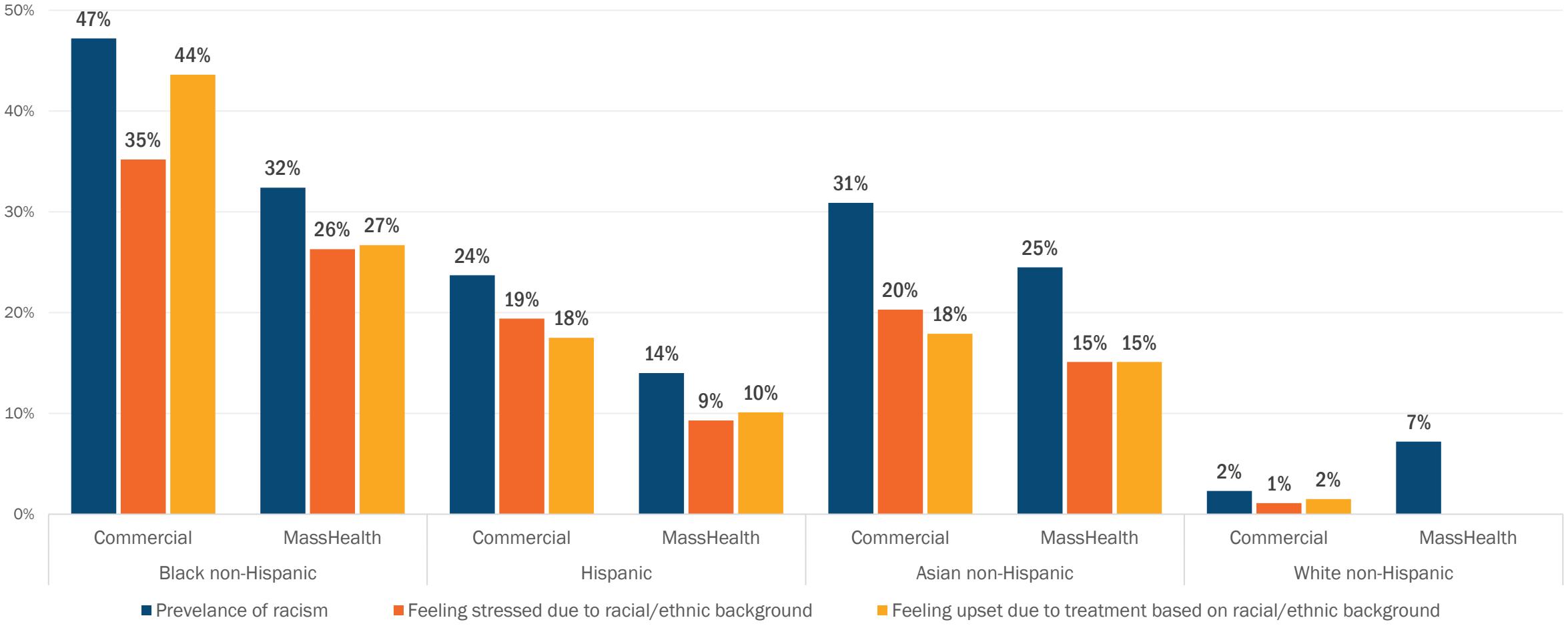
- The combination of cumulative stress from social inequality and dismissal of Black birthing people's concerns in the health care system may partially explain worse outcomes among Black birthing people who live in higher income areas.[1]

Note: "Other" includes American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Inpatient Discharge Database, CY2019-2022

(1) Soloman, J. Closing the Coverage Gap Would Improve Black Maternal Health. July 26, 2021. Available at: https://www.cbpp.org/research/health/closing-the-coverage-gap-would-improve-black-maternal-health

Black, Hispanic, and Asian birthing people who were commercially insured reported a higher prevalence of racism and feeling stressed or upset due to racism than publicly insured birthing people of the same race/ethnicity.

Prevalence of racism and reactions to racism during the twelve months before delivery, Massachusetts PRAMS, by payer and race/ethnicity, 2021

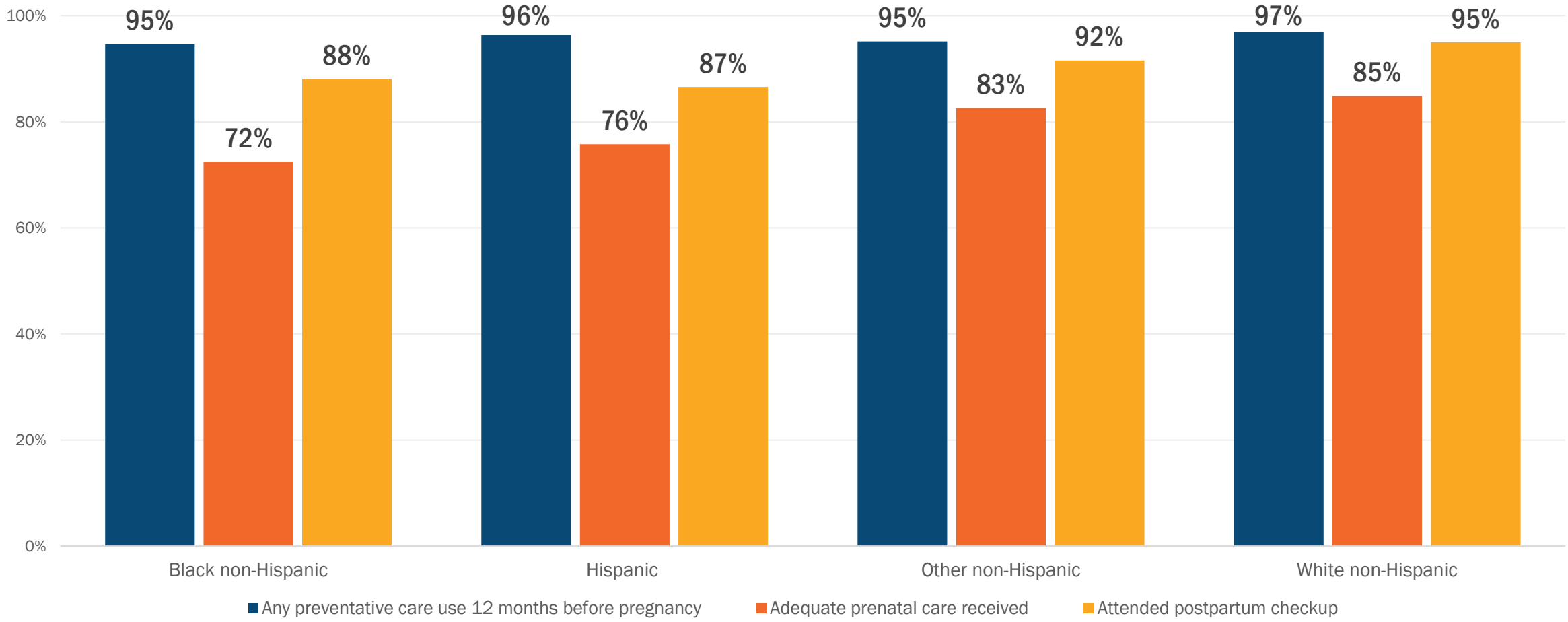


Notes: Missing bars represent insufficient data to report (n<5).

Source: Massachusetts Department of Public Health. Massachusetts Pregnancy Risk Assessment Monitoring System (PRAMS) 2019-2021 Surveillance Report. Boston, MA; May 2023. Available at: https://www.mass.gov/doc/2019-2021-mass-prams-report-pdf/download

In Massachusetts, Black birthing people received less prenatal care than birthing people from all other racial/ethnic groups.

Prevalence of care received before, during, and after pregnancy, by race/ethnicity, Massachusetts PRAMS, 2017-2021

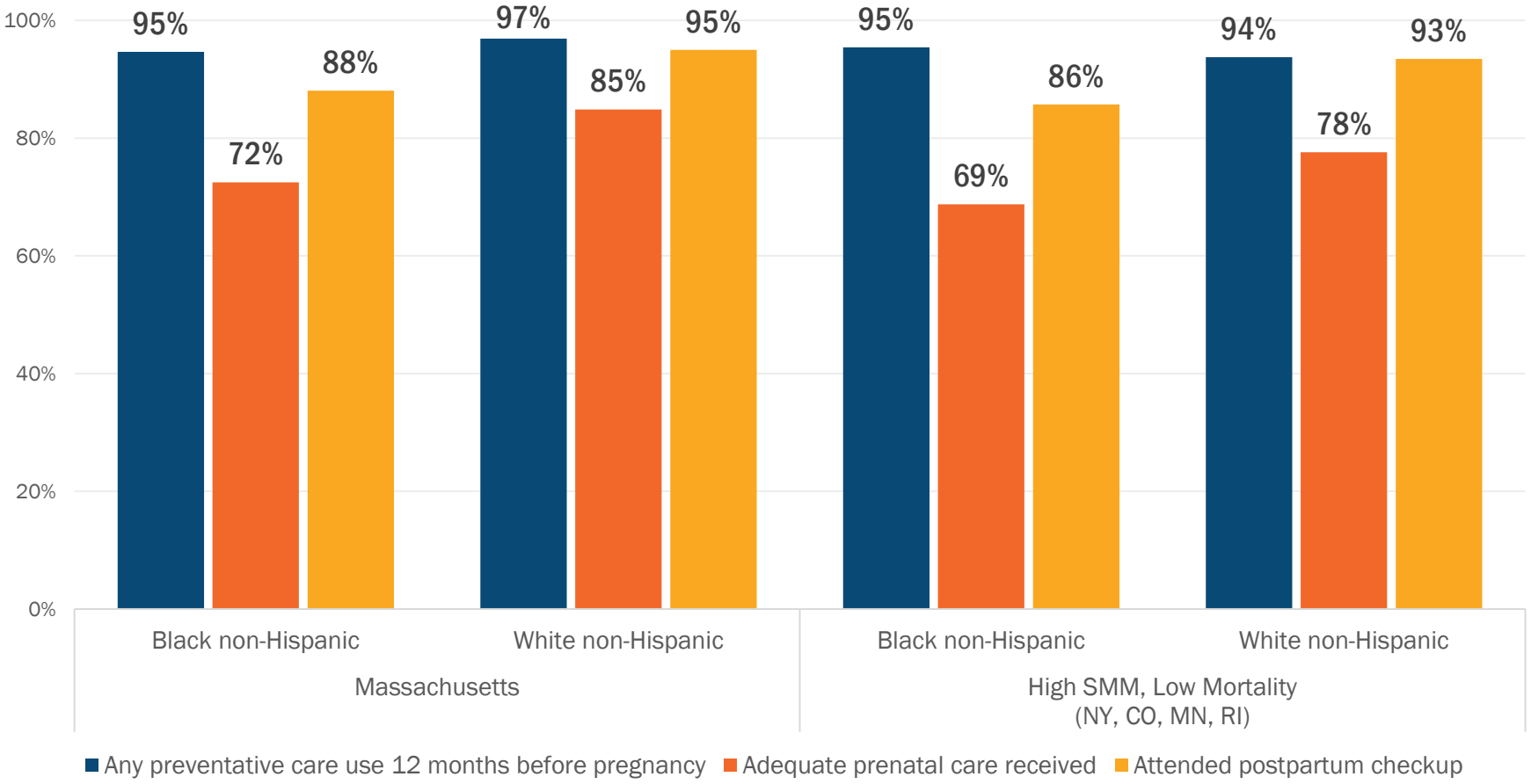


Notes: Other non-Hispanic includes Asian, American Indian/Alaska Native/Native Hawaiian, mixed race, and all other non-Hispanic race categories. Preventative care includes checkup with a doctor, checkup with an OB/GYN, visit for family planning/birth control, and visit with a dentist. Adequate prenatal care received is based on the Kotelchuck Index and includes "adequate" (received 80%-109% of expected visits) and "adequate plus" (received 110% or more of expected visits) categories.

Source: HPC analysis of Massachusetts Department of Public Health "Massachusetts PRAMS." 2017-2021

In Massachusetts, differences between racial/ethnic groups are similar or larger than racial/ethnic differences among comparison states.

Prevalence of care received before, during, and after pregnancy, by race/ethnicity, Massachusetts and 4 comparison states, PRAMS, 2017-2021



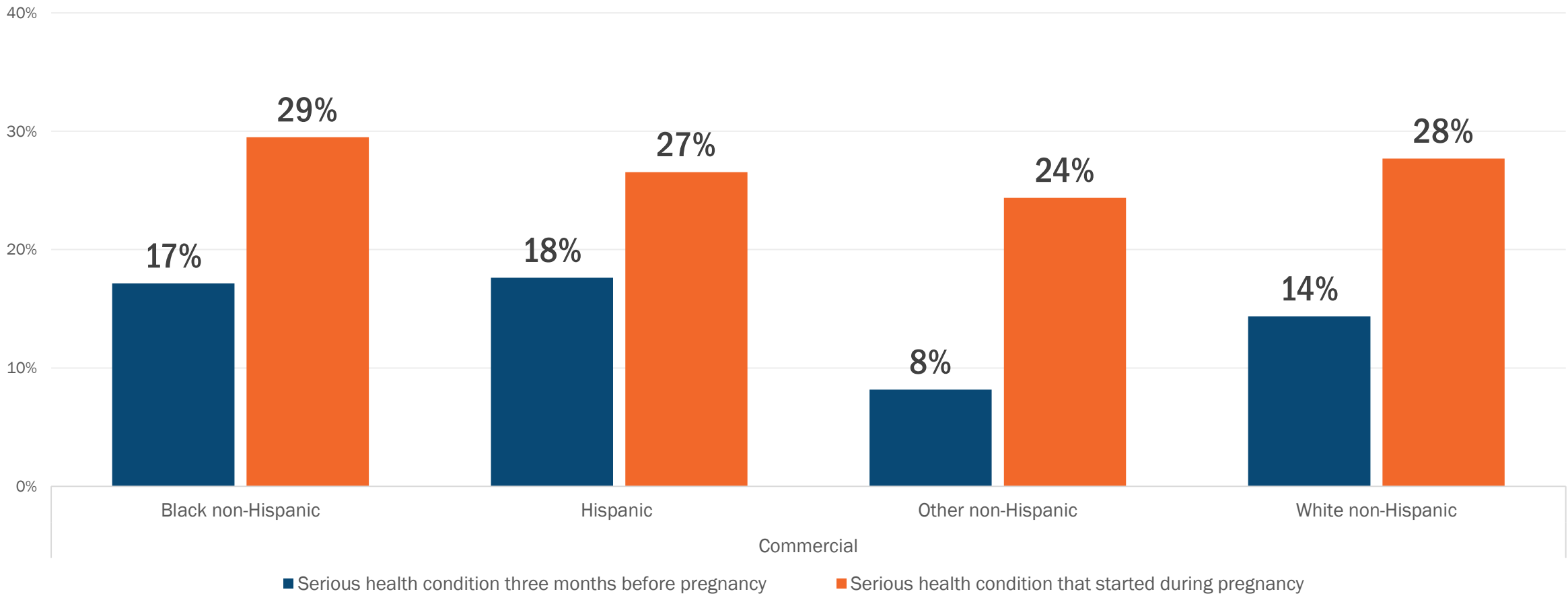
Notes: Other non-Hispanic includes Asian, American Indian/Alaska Native/Native Hawaiian, mixed race, and all other non-Hispanic race categories. Preventative care includes checkup with a doctor, checkup with an OB/GYN, visit for family planning/birth control, and visit with a dentist. Adequate prenatal care received is based on the Kotelchuck Index and includes "adequate" (received 80%-109% of expected visits) and "adequate plus" (received 110% or more of expected visits) categories.

Source: HPC analysis of Centers for Disease Control and Prevention and PRAMS sites (NY, CO, MN, RI, MA), "Pregnancy Risk Assessment Monitoring System (PRAMS)." 2017-2021

- The HPC also analyzed state variation in the prevalence of care received in the perinatal period.
- Despite having the one of the highest rates of SMM, Massachusetts performed better or as well as other states on all three measures of care access, including other states experiencing high SMM and low mortality.

Serious health conditions that increase risk of SMM before or during pregnancy were reported only slightly more frequently by Black non-Hispanic birthing people than their White non-Hispanic counterparts.

Prevalence of serious health conditions acquired before and during pregnancy among the commercially insured birthing population, by race/ethnicity, Massachusetts PRAMS, 2017-2021

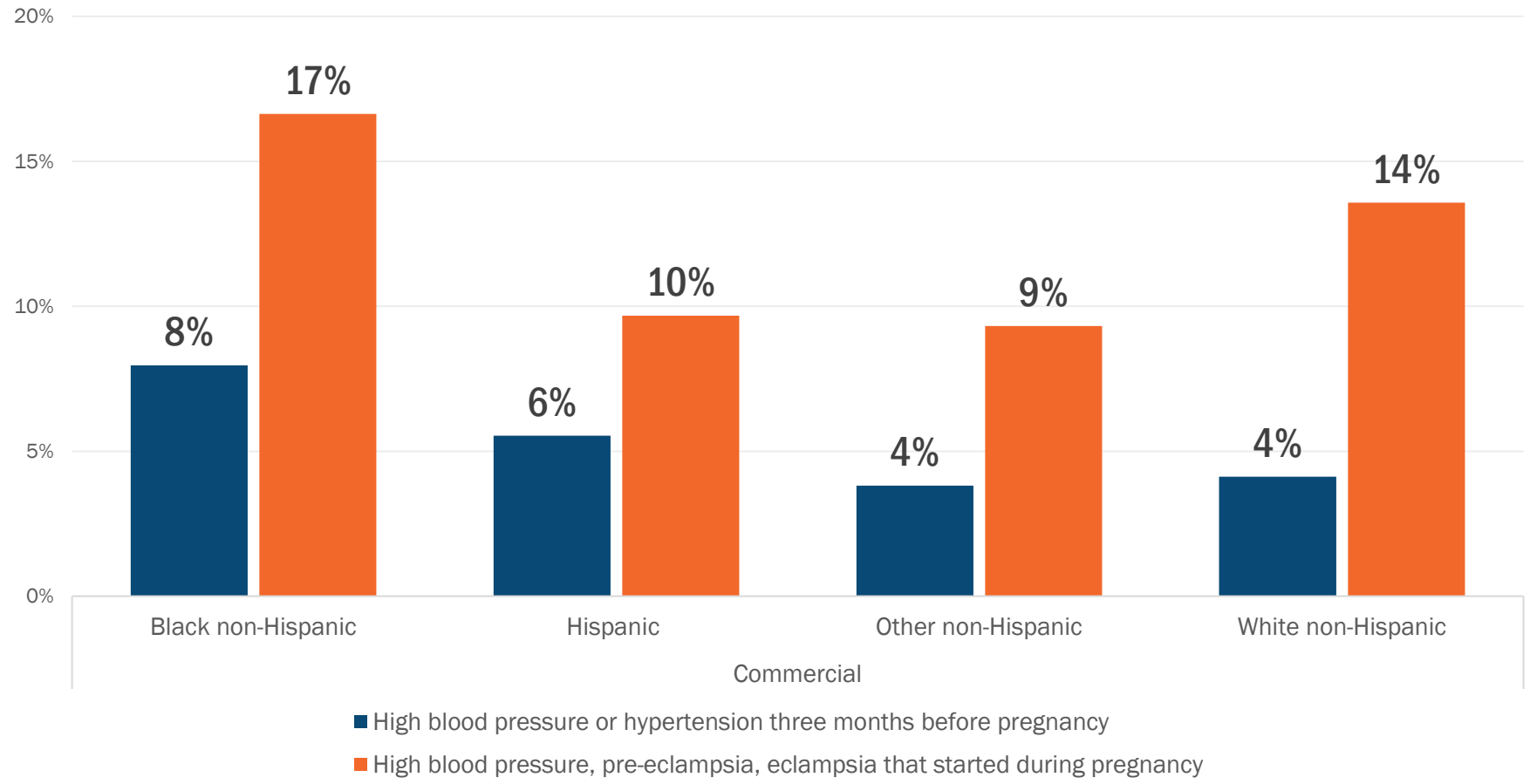


Notes: Other non-Hispanic includes Asian, American Indian/Alaska Native/Native Hawaiian, mixed race, and all other non-Hispanic race categories. Health conditions before pregnancy include diabetes, high blood pressure, depression, asthma, anemia, heart problems, epilepsy, thyroid problems, PCOS, anxiety, and sickle cell disease. Health conditions during pregnancy include diabetes, hypertensive disorders, depression, asthma, anemia, heart problems, epilepsy, thyroid problems, PCOS, anxiety, kidney/bladder infection, gum disease, sickle cell disease, Lyme disease, and labor pains.

Source: HPC analysis of Massachusetts Department of Public Health "Massachusetts PRAMS." 2017-2021

Black non-Hispanic birthing people had the highest prevalence of hypertension before pregnancy and the highest prevalence of hypertension, pre-eclampsia, and eclampsia during pregnancy.

Prevalence of hypertensive disorders acquired before and during pregnancy among the commercially insured birthing population, by race/ethnicity, Massachusetts PRAMS, 2017-2021



- Across the Commonwealth, 13% of birthing people reported high blood pressure or hypertensive disorders during pregnancy, compared to 5% reporting already having a diagnosis before pregnancy.
- The HPC is considering an investment in remote blood pressure monitoring, consistent with HPC priorities to advance health equity and contain health care costs.

Notes: Other non-Hispanic includes Asian, American Indian/Alaska Native/Native Hawaiian, mixed race, and all other non-Hispanic race categories.
Source: HPC analysis of Massachusetts Department of Public Health "Massachusetts PRAMS." 2017-2021

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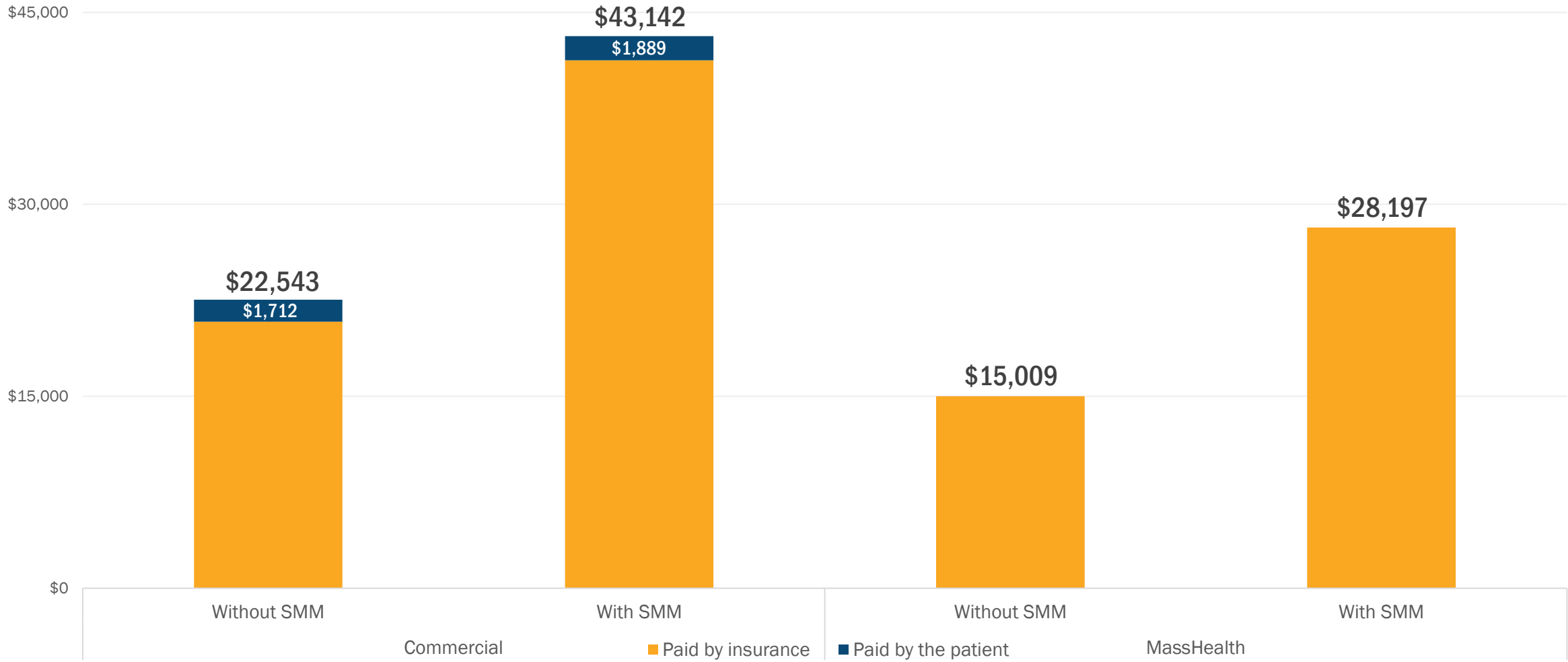
Maternity episodes with SMM were almost twice as costly, on average, than episodes without SMM among both commercially and publicly insured patients.

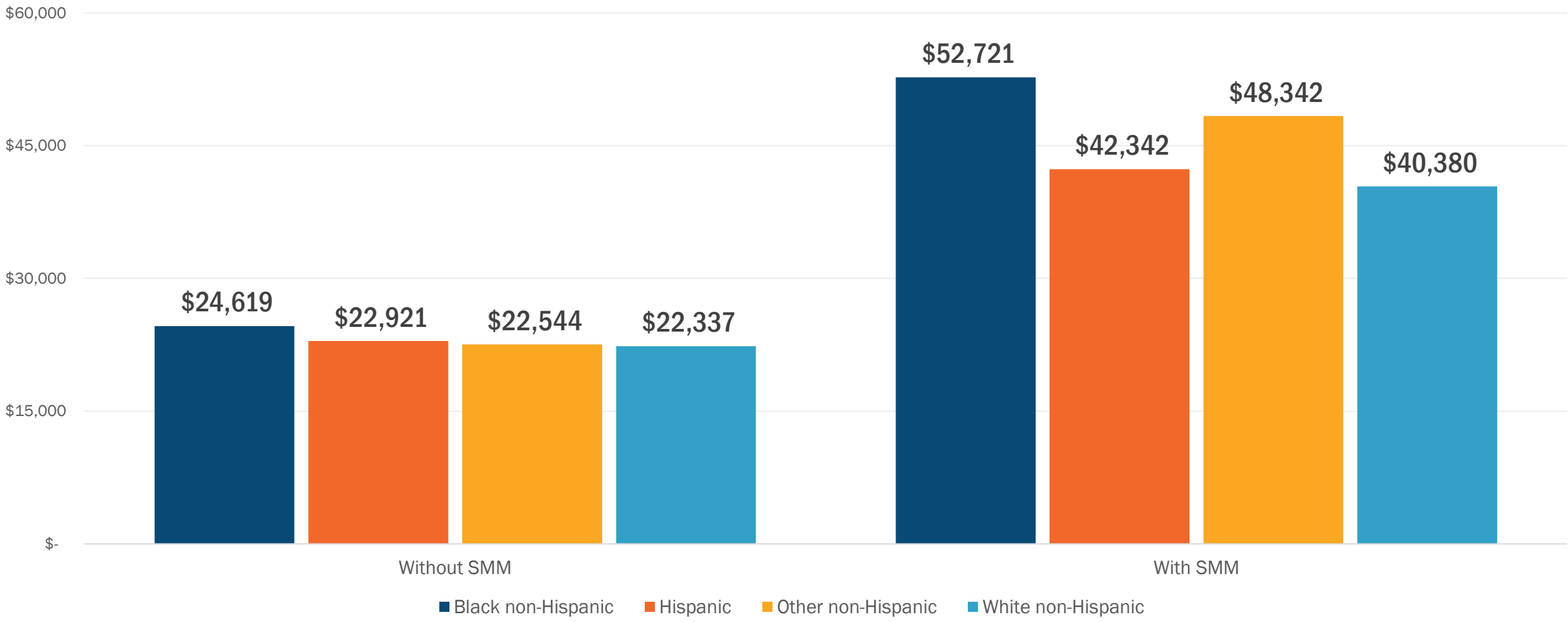
Average total spending and cost sharing for a maternity episode with and without SMM during delivery or postpartum, Commercial payers (2019-2022) and MassHealth (2019-2021)



Source: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, V2022, 2019-2022

Total spending for a maternity episode varied by race/ethnicity for birthing people who experienced SMM. The highest average spending amount was over $50,000.

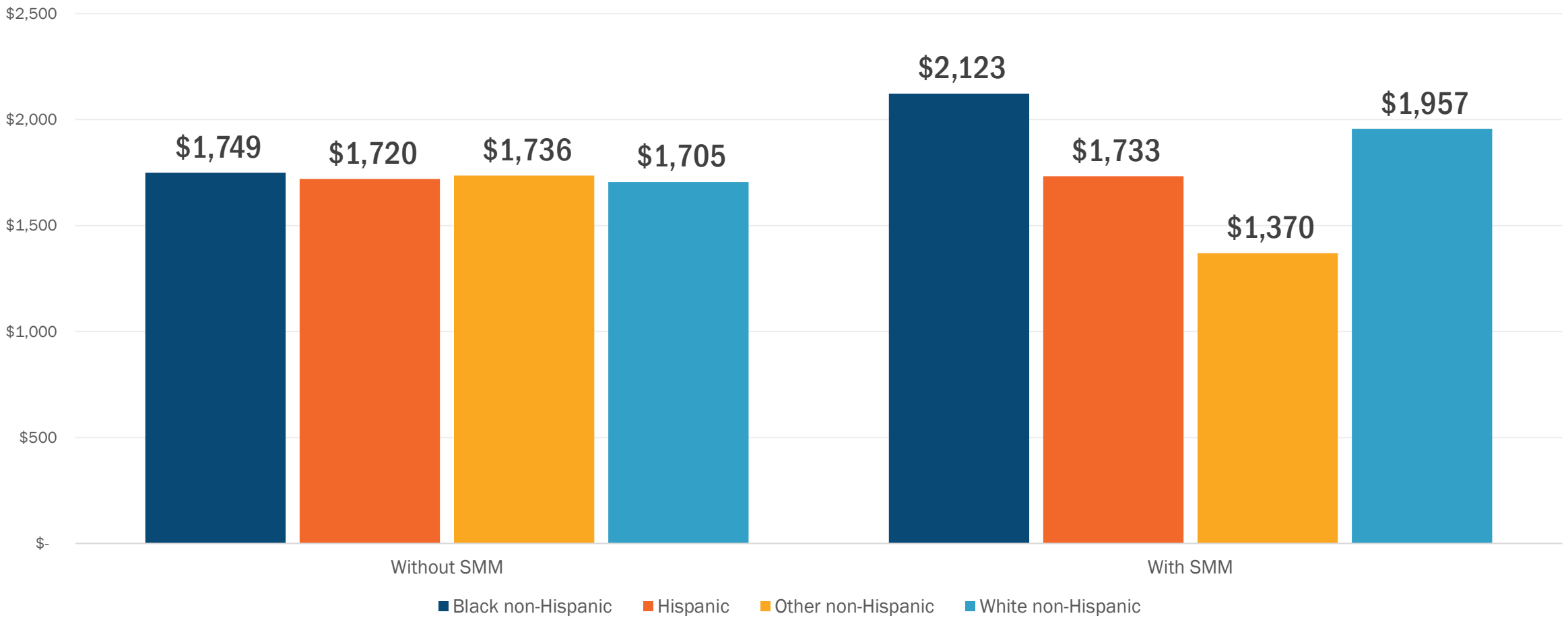
*Average total **commercial** spending for a maternity episode with and without SMM during delivery or postpartum, by race/ethnicity, 2019-2022*



Note: "Other non-Hispanic" includes Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, V2022, 2019-2022

Among patients who experienced SMM, cost sharing varied by 55% percent between the highest and lowest amounts.

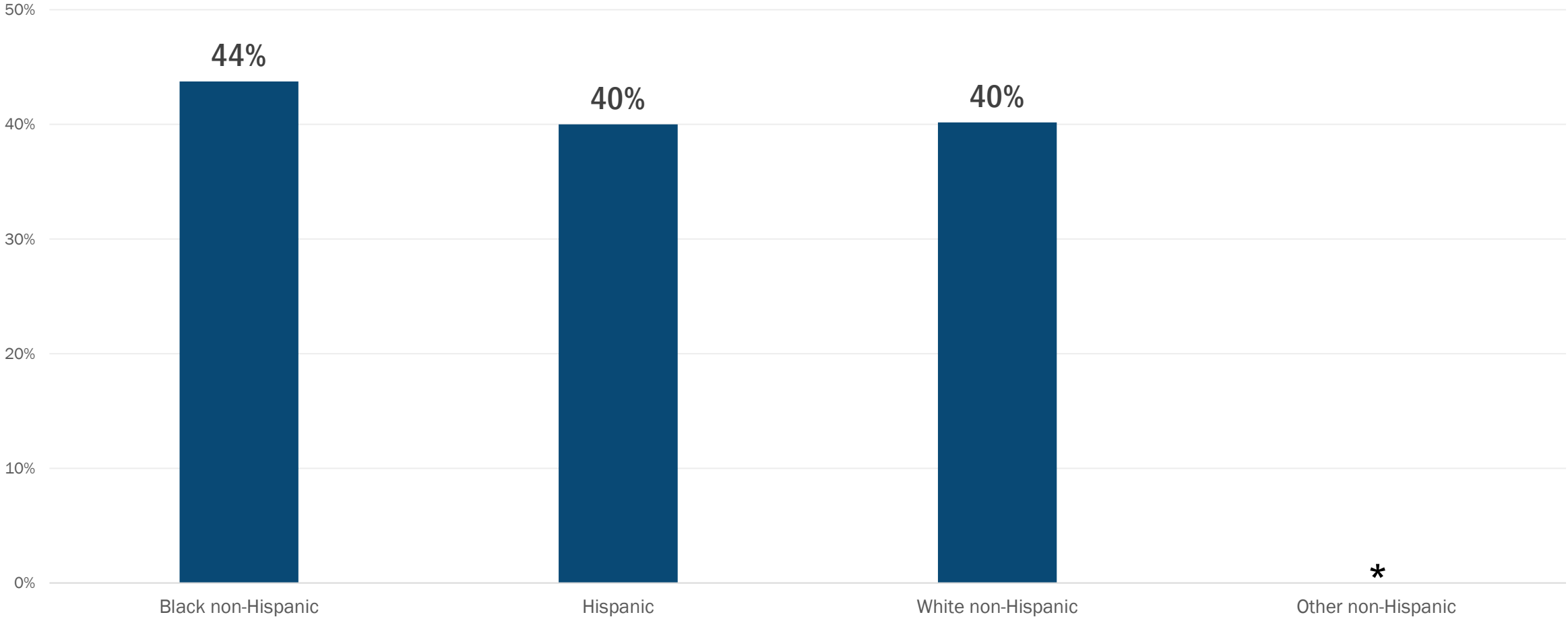
Average total commercial cost sharing for a maternity episode with and without SMM during delivery or postpartum, by race/ethnicity, 2019-2022



Note: Data represents episodes with non-zero cost sharing. "Other non-Hispanic" includes Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, V2022, 2019-2022

Some variation in spending and cost sharing may be explained by differences in service intensity. A larger share of Black non-Hispanic birthing people with SMM had an additional inpatient stay or ED visit during their maternity episode.

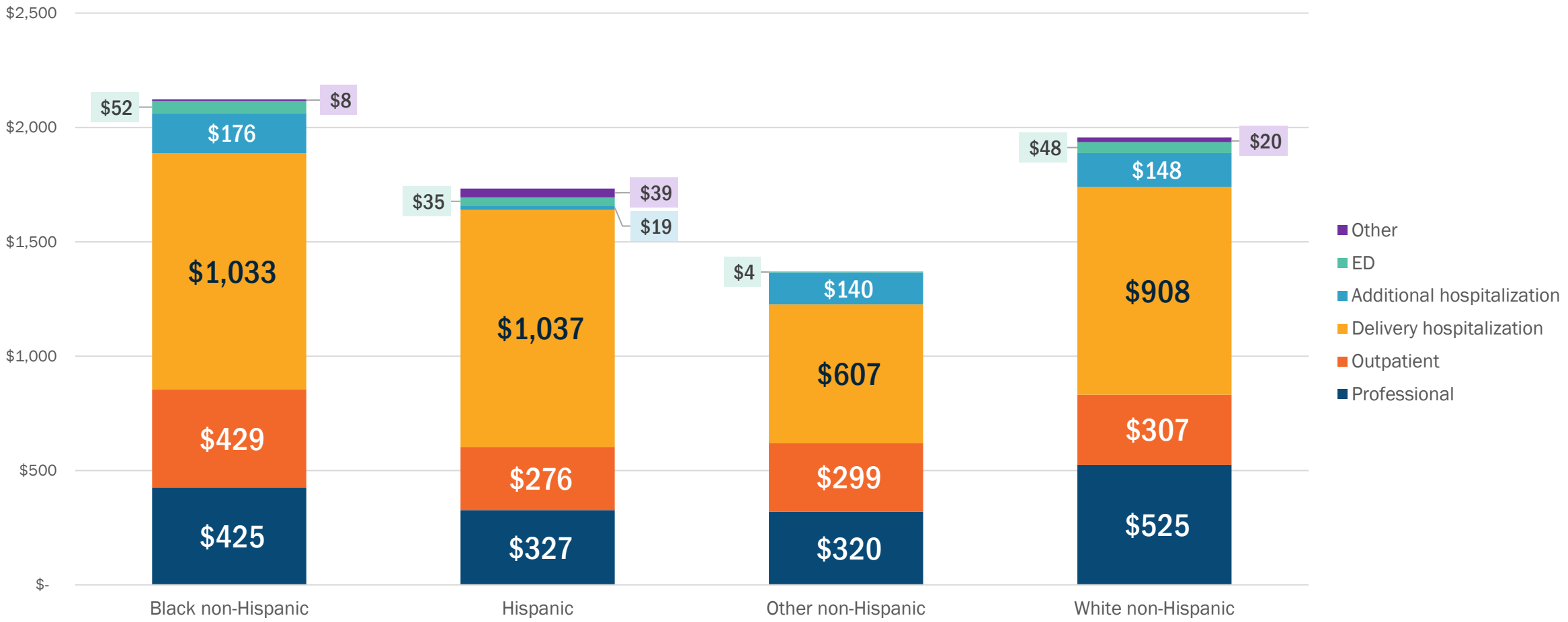
*Share of unique **commercial** patients with SMM who had an additional inpatient stay or ED visit during their maternity episode, 2019-2022*



Note: "Other non-Hispanic" includes Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native and other non-Hispanic race categories. Missing bars represent insufficient data to report.
Source: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, V2022, 2019-2022

Black non-Hispanic birthing people had on average $1,200 of out-of-pocket expenses for hospitalizations.

*Average total **commercial** cost sharing for a maternity episode with SMM during delivery or postpartum, by race/ethnicity, 2019-2022*



Note: Data represents episodes with non-zero cost sharing. "Other non-Hispanic" includes Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native and other non-Hispanic race categories. Spending on delivery and additional hospitalizations includes professional spending that occurred during the hospital stay.

Source: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, V2022, 2019-2022

Summary Findings

RACIAL/ETHNIC HEALTH INEQUITIES IN SMM

- Black non-Hispanic birthing people had a rate of SMM 2.5 times higher than White non-Hispanic birthing people. They also had the highest rate of postpartum hospitalizations for SMM.
- This increase in SMM persisted even after accounting for differences in age, hospital type, payer, and community income level.
- Commercially insured Black non-Hispanic birthing people had a higher rate of SMM than Black non-Hispanic birthing people covered by MassHealth.
- Commercially insured birthing people of color reported a higher prevalence of racism than publicly insured birthing people of color.

SPENDING AND AFFORDABILITY IMPLICATIONS

- Among commercially insured birthing people, Black non-Hispanic people with SMM had the highest average spending for a maternity episode (over $50,000).
- Cost-sharing varied by 55% by race/ethnicity for commercial patients who experienced SMM, with Black non-Hispanic patients having the highest average amount ($2,123).
- Some of this variation in cost-sharing may be explained by additional postpartum ED & hospitalization visits as well as differences in insurance design.

Key Takeaways

- Despite Massachusetts having a low rate of maternal mortality, **the rate of SMM was one of the highest in the nation**. Among Massachusetts residents the rate was **highest among Black non-Hispanic birthing people**.
  - Racism, which affects health directly through experiences in the health care system as well as indirectly through the social determinants of health, is likely a large contributor to the disparity in SMM.

- **SMM is costly** both to the patient and to the health care system at large.
  - Differences in cost sharing may be explained by differences in service intensity in addition to insurance design.

- Although the rates of serious health conditions overall were similar across racial/ethnic groups, **Black birthing people had higher rates of hypertension pre-pregnancy and had higher rates of hypertensive conditions, including pre-eclampsia and eclampsia, that started during pregnancy**. By intervening earlier on these conditions, Massachusetts may be able to improve health outcomes for this population.

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The Massachusetts Health Policy Commission (HPC) is an independent state agency charged with monitoring health care spending growth in Massachusetts and providing data-driven policy recommendations regarding health care delivery and payment system reform. The HPC's mission is to advance a more transparent, accountable, and equitable health care system through its independent policy leadership and innovative investment programs. The HPC's goal is better health and better care – at a lower cost – for all residents across the Commonwealth.

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The report was designed by Ashley Johnston and Rebecca Willmer.

For more information about the HPC:

www.mass.gov/hpc
HPC-Info@mass.gov
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- Background
- Inequities in Severe Maternal Morbidity
- Spending and Affordability Implications
- **APPENDIX**

Sample Population Characteristics

Inpatient Discharge Database, 2019-2022

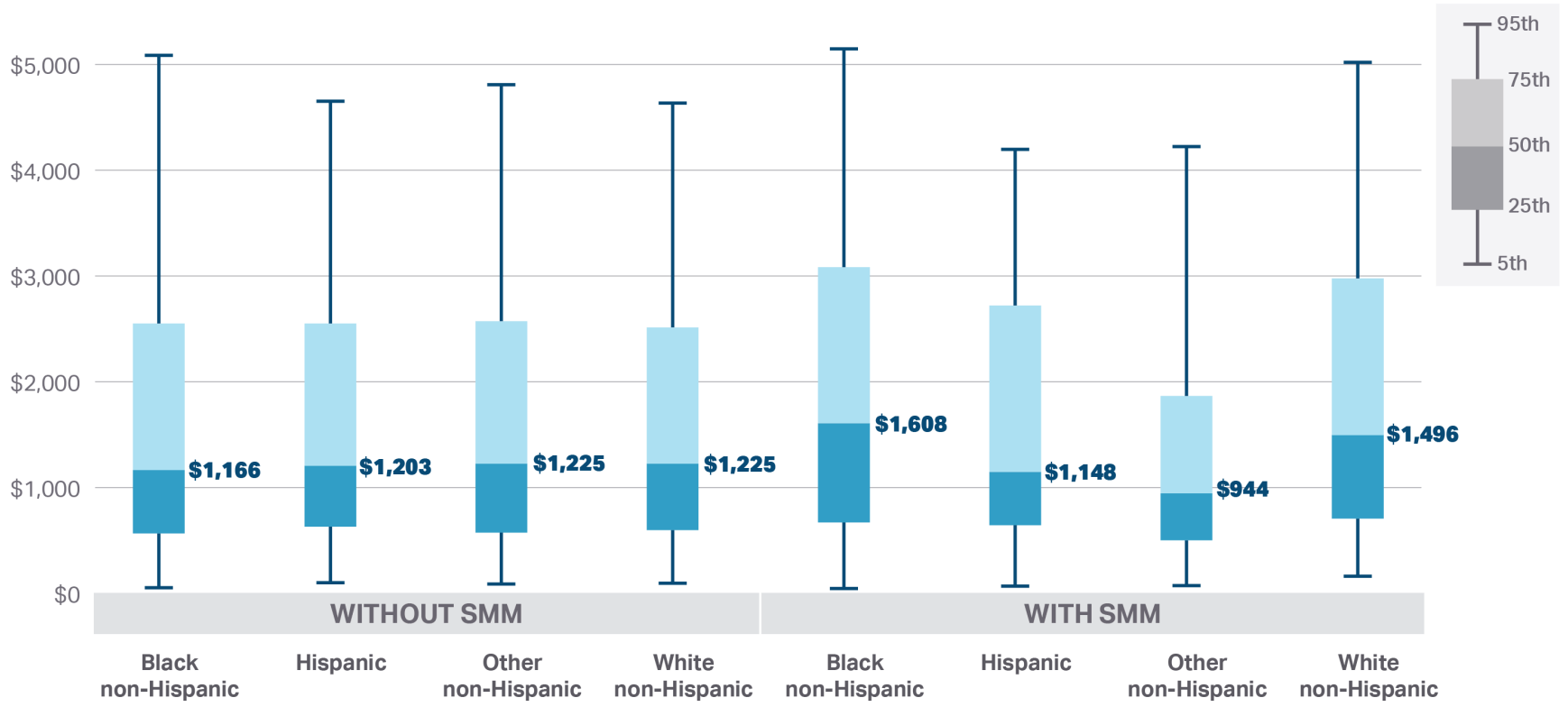
	Without SMM	With SMM
Age		
<30	33.8% (87,595)	28.6% (780)
30-34	38.1% (98,619)	35.5% (969)
35-39	23.0% (59,562)	26.2% (714)
40+	5.1% (13,238)	9.7% (264)
Race/Ethnicity		
Other non-Hispanic	8.9% (23,001)	9.7% (265)
Asian/NHPI non-Hispanic	7.8% (20,235)	8.2% (224)
Black non-Hispanic	9.7% (24,999)	18.4% (502)
Hispanic	17.1% (44,170)	19.8% (540)
White non-Hispanic	56.6% (146,609)	43.9% (1,196)
Disability		
Yes	1.9% (4,963)	4.5% (122)
No	98.1% (254,051)	95.5% (2,605)
Categories		
Developmental	0.3% (729)	-
Intellectual	0.2% (491)	-
Mental Health	0.7% (1,867)	2.1% (58)
Hearing	0.0% (113)	-
Vision	0.1% (174)	-
Mobility	1.0% (2,529)	2.2% (61)
Total	100% (259,014)	100% (2,727)

All-Payer Claims Database, 2019-2022

	Without SMM	With SMM
Age		
<30	19.2% (5,941)	16.8% (61)
30-34	43.0% (13,320)	39.3% (143)
35-39	30.6% (9,492)	32.4% (118)
40+	7.2% (2,223)	11.5% (42)
Race/Ethnicity		
Other non-Hispanic	10.8% (3,337)	11.5% (42)
Black non-Hispanic	6.2% (1,925)	13.2% (48)
Hispanic	7.2% (2,218)	11.0% (40)
White non-Hispanic	75.9% (23,496)	64.3% (234)
Disability		
Yes	1.5% (469)	3.3% (12)
No	98.5% (30,507)	96.7% (352)
Total	**100% (30,976)**	**100% (364)**

Regardless of SMM status, cost sharing for a maternity episode ranged from less than $100 to over $5,000, suggesting that differences in cost sharing may be partially explained by differences in insurance design.

*Total **commercial** cost sharing distribution for a maternity episode with and without SMM, by race/ethnicity, 2019-2022*



Note: Data represents episodes with non-zero cost sharing. Error bars represent the 5th and 95th percentiles. "Other non-Hispanic" includes Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native and other non-Hispanic race categories.

Source: HPC analysis of Center for Health Information and Analysis Massachusetts All-Payer Claims Database, V2022, 2019-2022

- Prior HPC research found that the size of a patient's employer was the strongest predictor of how much they would spend out-of-pocket for birth episodes, driven largely by spending on deductibles.
- Out-of-pocket spending for birth episodes was highest among those employed at small firms, which are more likely to offer only high deductible plans.[1]

(1) Massachusetts Health Policy Commission. DataPoints Issue 22: Growth in out-of-pocket spending for pregnancy, delivery, and postpartum care in Massachusetts. Mar. 29, 2022. Available at: https://mass.gov/info-details/hpc-datapoints-issue-2