MASSACHUSETTS
HEALTH POLICY COMMISSION

Meeting of the Care Delivery Transformation Committee

May 9, 2024

Agenda

CALL TO ORDER

Approval of Minutes **(VOTE)**

Severe Maternal Morbidity in Massachusetts

Remote Blood Pressure Monitoring Opportunities

Office of Patient Protection (OPP) 2022 Annual Report

Adjourn

Agenda

Call to Order

APPROVAL OF MINUTES (VOTE)

Severe Maternal Morbidity in Massachusetts

Remote Blood Pressure Monitoring Opportunities

Office of Patient Protection (OPP) 2022 Annual Report

Adjourn

VOTE

Approval of Minutes

MOTION

That the Members hereby approve the minutes of the Committee meeting held on **February 15, 2024**, as presented.

Agenda

Call to Order

Approval of Minutes **(VOTE)**

SEVERE MATERNAL MORBIDITY IN MASSACHUSETTS

- Background
- Inequities in Severe Maternal Morbidity
- Spending and Affordability Implications

Remote Blood Pressure Monitoring Opportunities

Office of Patient Protection (OPP) 2022 Annual Report

Adjourn

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Call to Order

Approval of Minutes **(VOTE)**

Severe Maternal Morbidity in Massachusetts

BACKGROUND

- Inequities in Severe Maternal Morbidity
- Spending and Affordability Implications

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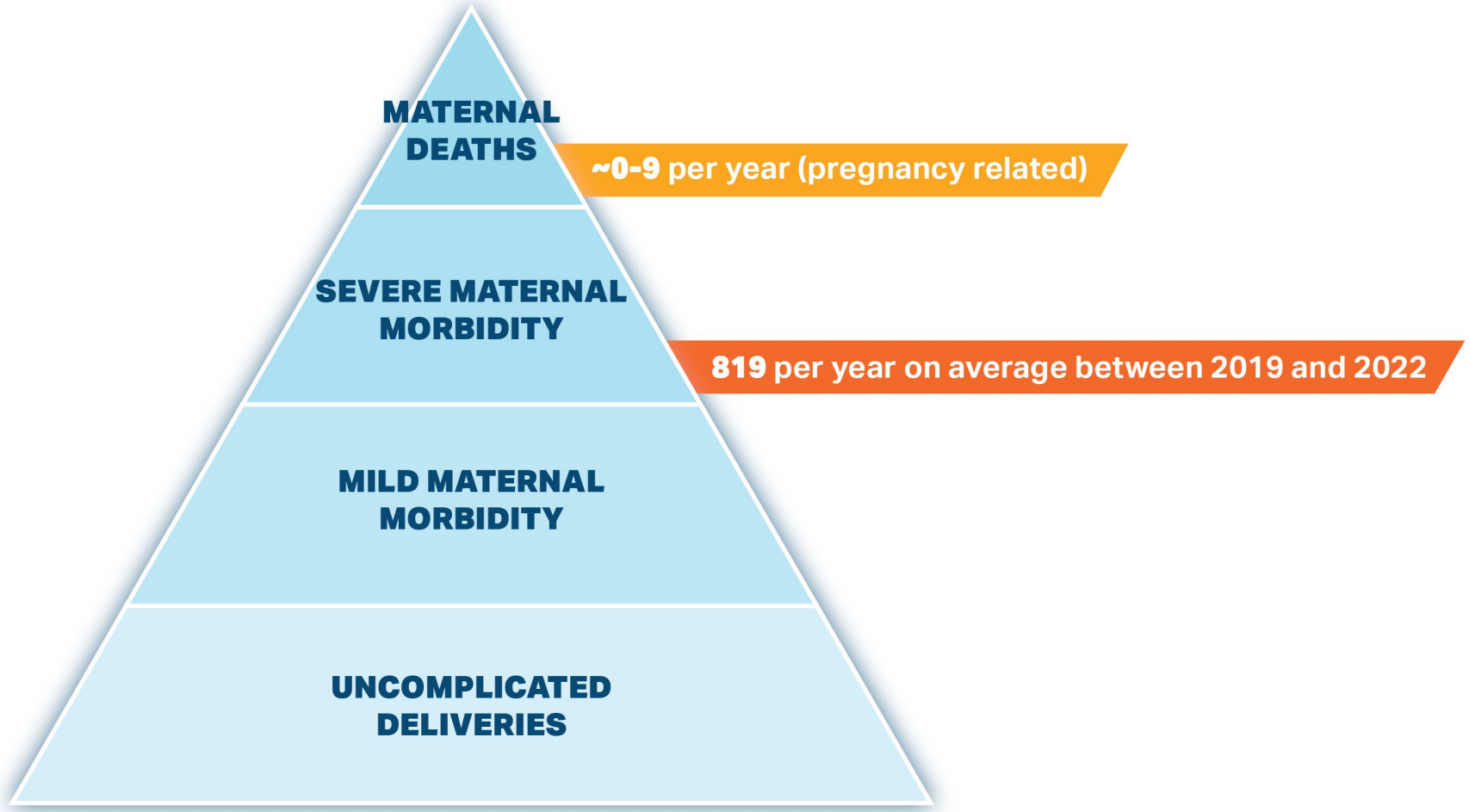
Severe maternal morbidity accounts for a large portion of the overall burden of poor maternal health in Massachusetts.



- 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.

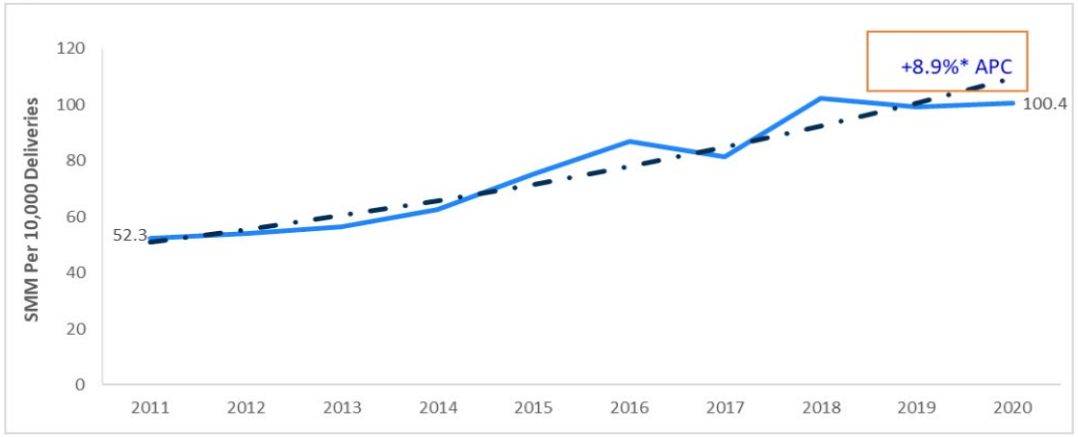
Massachusetts Reproductive Care and Women's Health Performance Commonwealth Scorecard, 2023

	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.

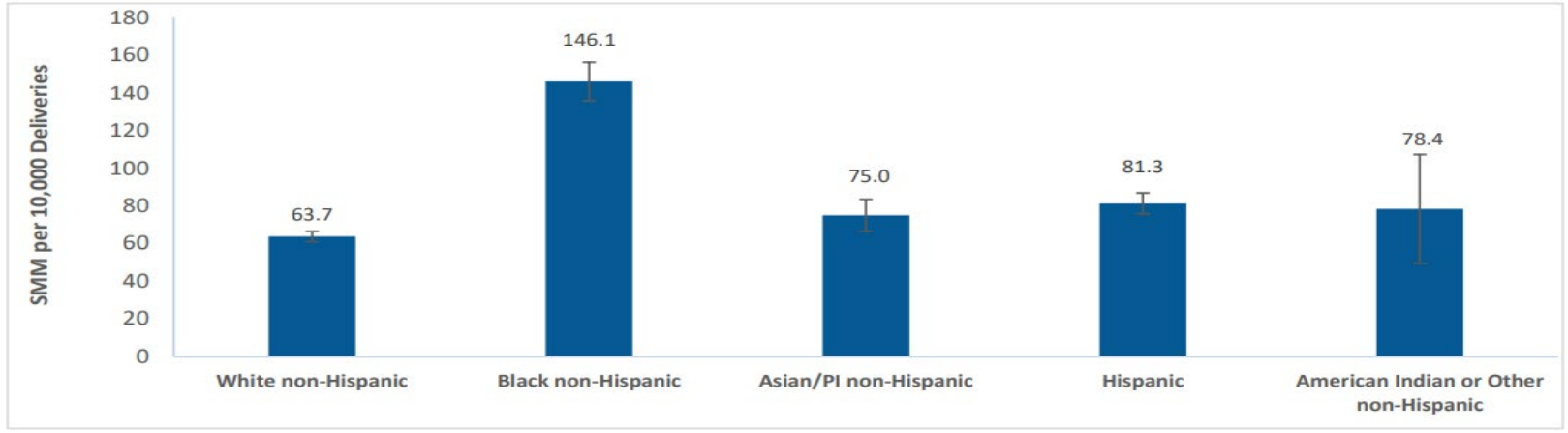
Figure 2. SMM in Massachusetts: 2011-2020



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***

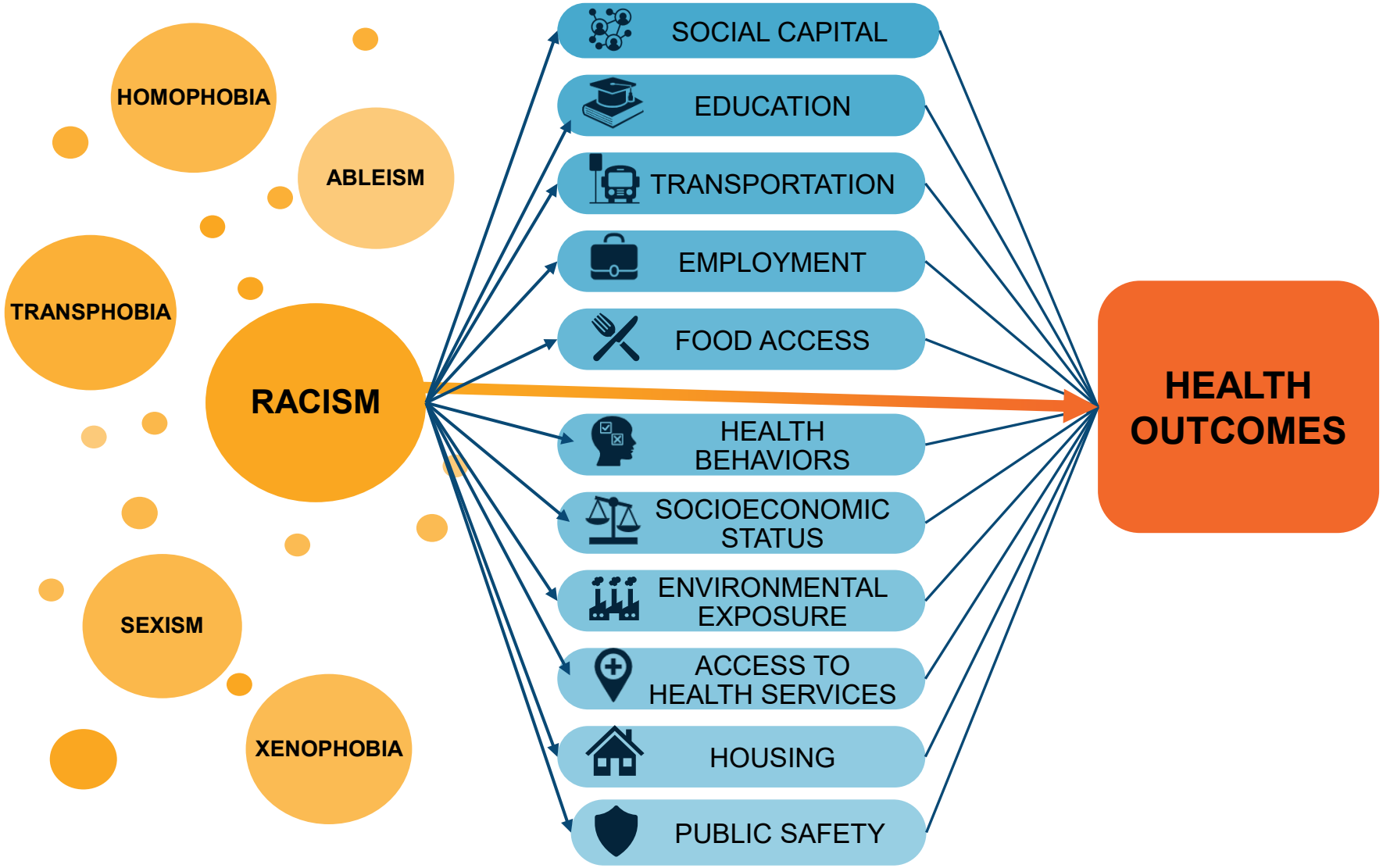
Figure 3. SMM in Massachusetts by Race and Hispanic Ethnicity: 2011-2020



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

- 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.

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

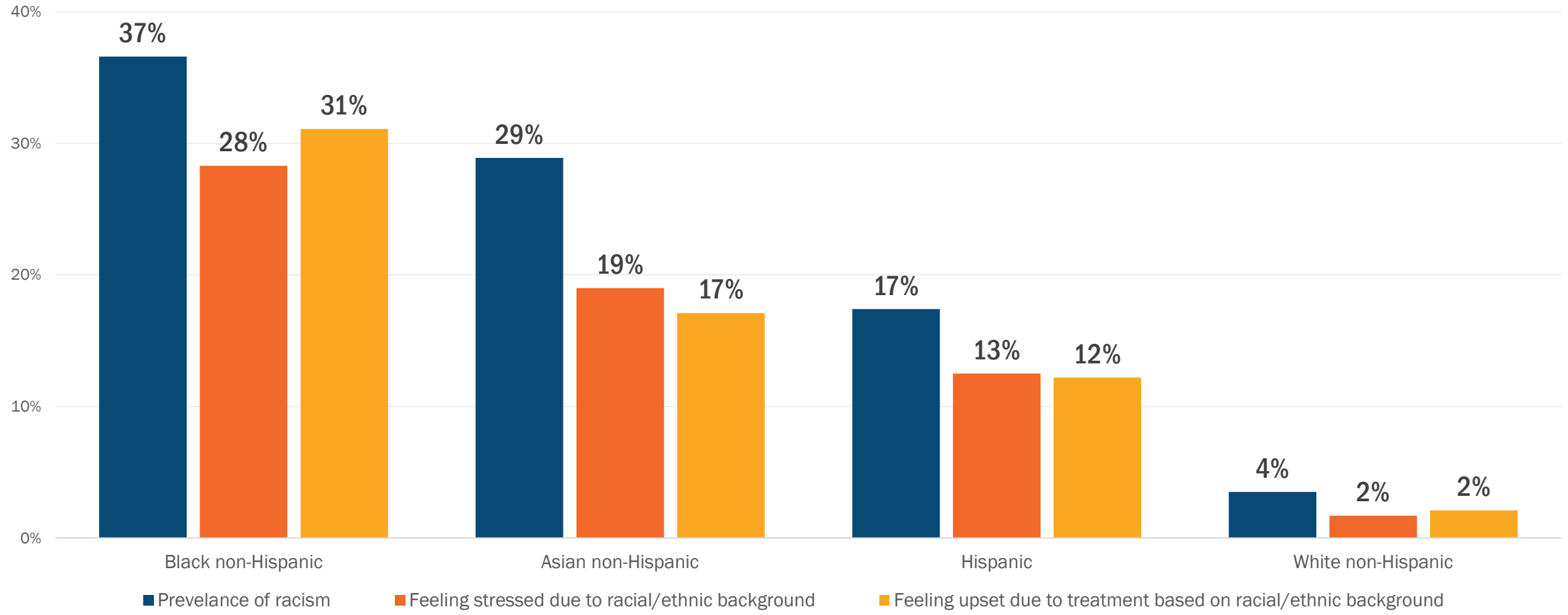
Previous research on racial/ethnic inequities in health outcomes underscore role of racism.

- 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 establishes a Maternal health Task Force (MHTF) to create a strategic plan to improve maternal health in the Commonwealth. The MHTR 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 the Department of Public Health (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 the 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 announces 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

Agenda

Call to Order

Approval of Minutes **(VOTE)**

Severe Maternal Morbidity in Massachusetts

- Background

INEQUITIES IN SEVERE MATERNAL MORBIDITY

- Spending and Affordability Implications

Remote Blood Pressure Monitoring Opportunities

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Adjourn

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 WE ARE DOING

HPC researchers 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. Additionally, 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

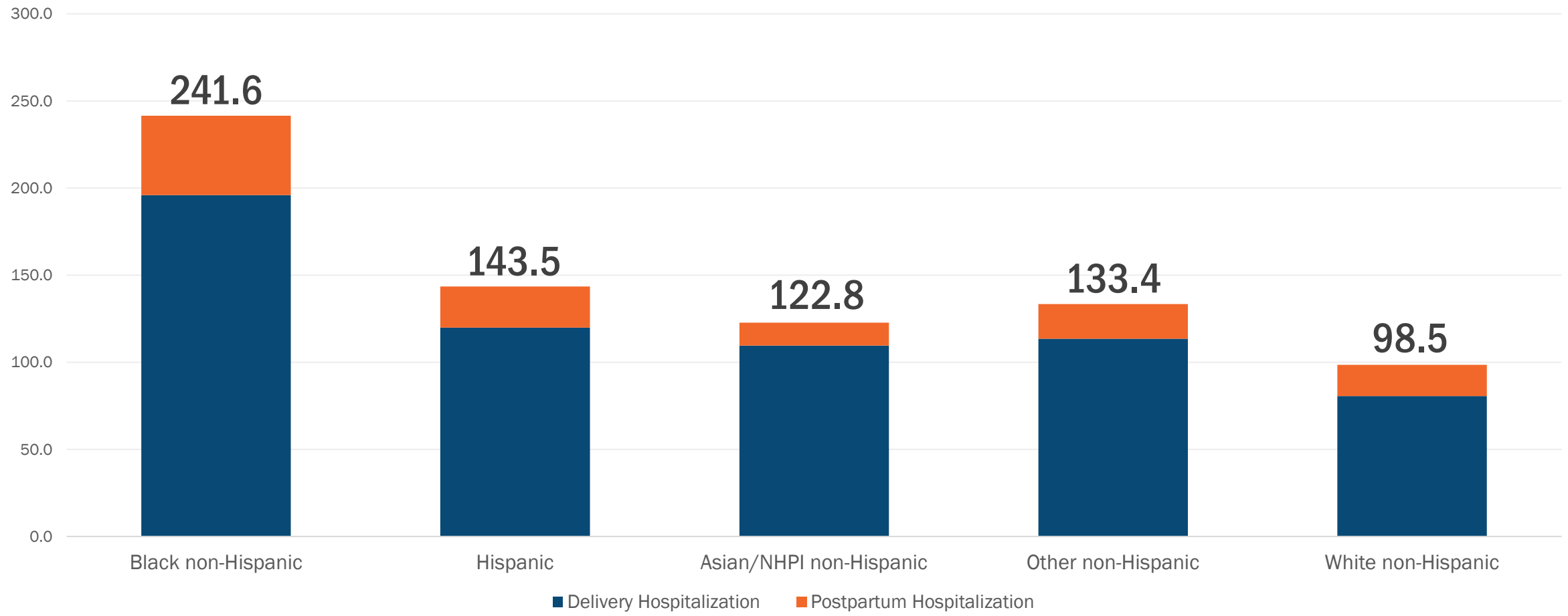
- Massachusetts All-Payer Claims Database (APCD) for 2019-2022
- Acute Care Hospital Inpatient Discharge Database for 2019-2022, capturing all labor and delivery stays occurring in Massachusetts hospitals
- The Pregnancy Risk Assessment Monitoring System (PRAMS) for 2017-2021

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.

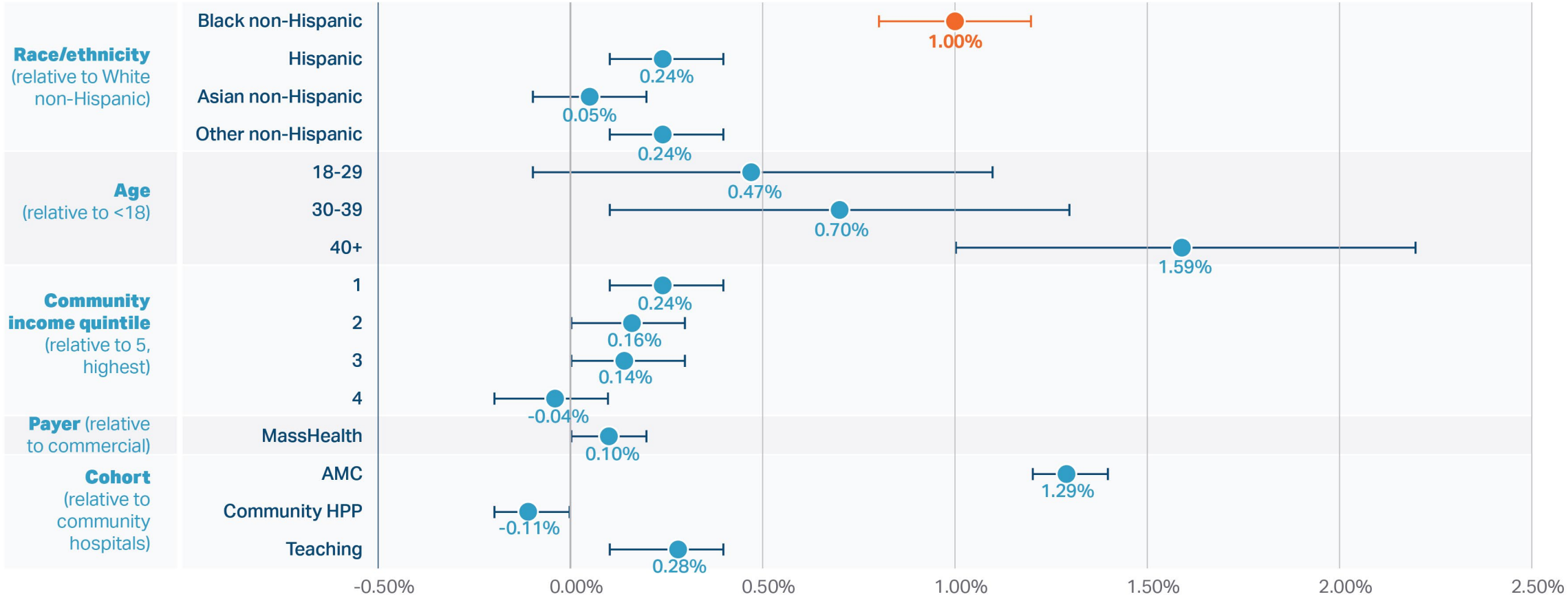
SMM per 10,000 deliveries including postpartum hospitalizations for SMM by race/ethnicity, 2019-2022



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.

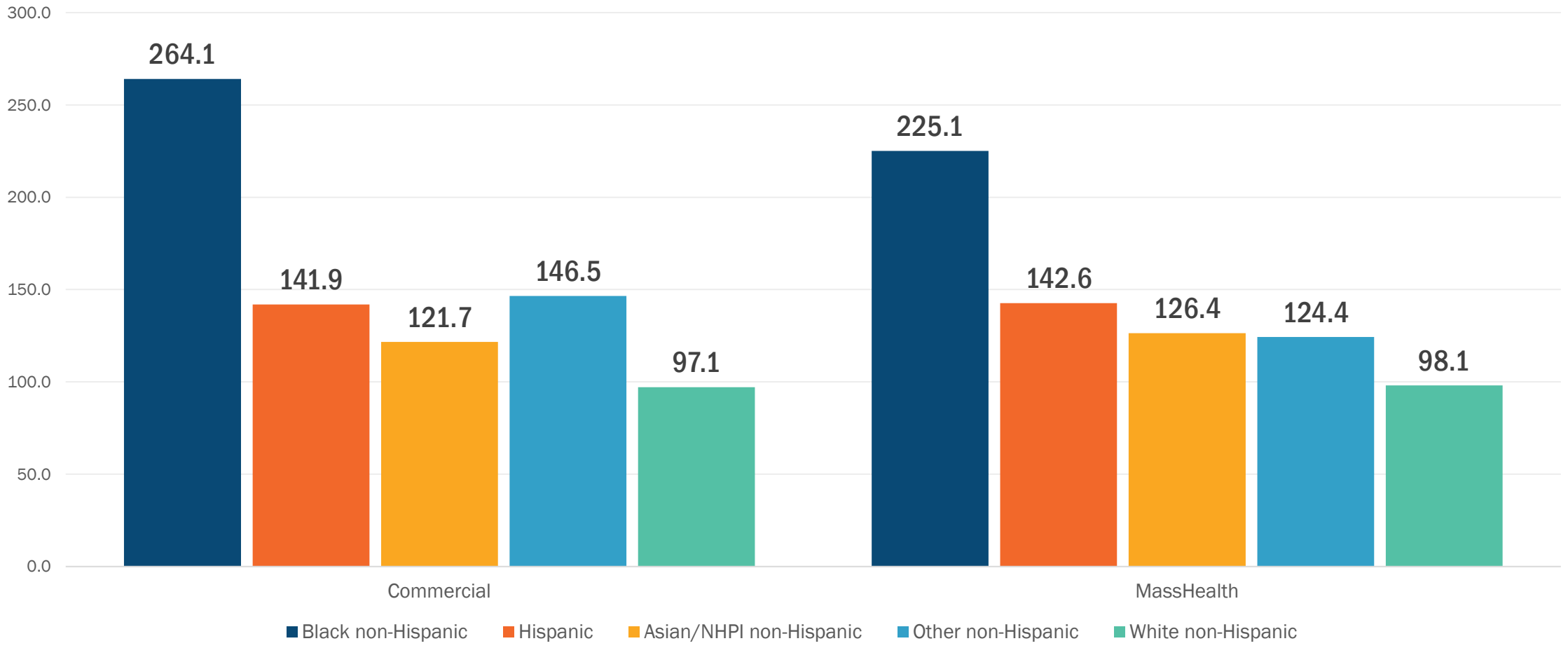
Percentage point difference in the likelihood of experiencing SMM during delivery or 42 days postpartum relative to the reference group, 2019-2022



Notes:
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.

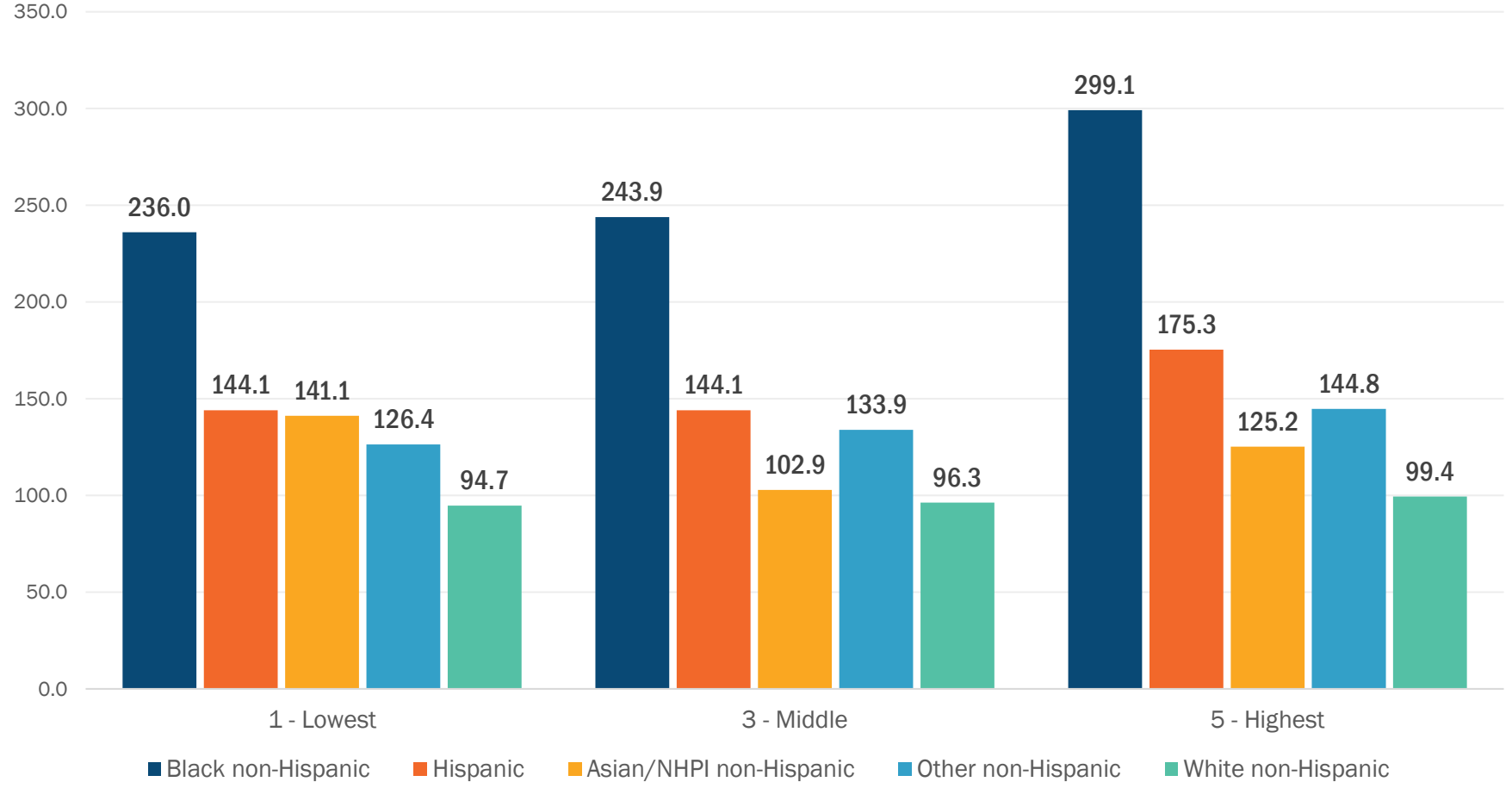
SMM per 10,000 deliveries including postpartum hospitalizations for SMM by race/ethnicity and payer, 2019-2022



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



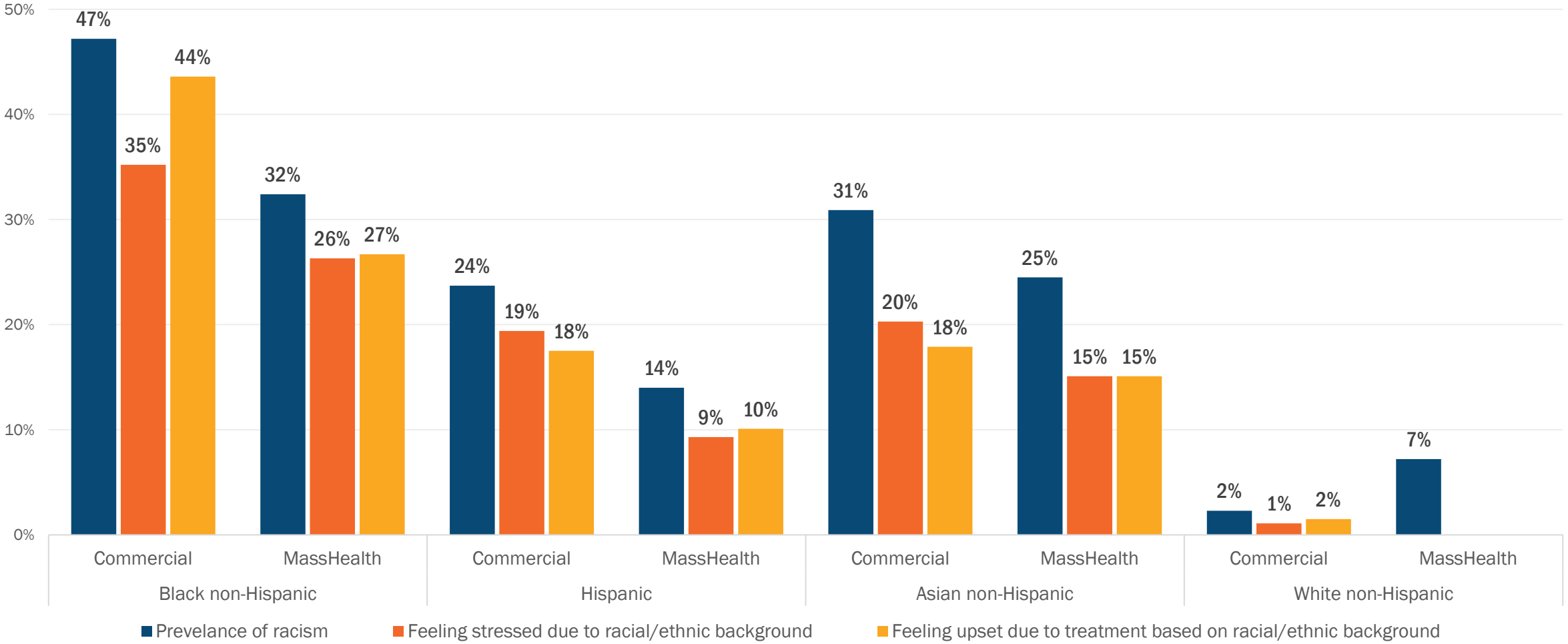
Note: "Other" includes American Indian/Alaska Native and other non-Hispanic race categories.
Source: HPC analysis of Center for Health Information and Analysis Inpatient Discharge Database, CY2019-2022

- 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]

(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.

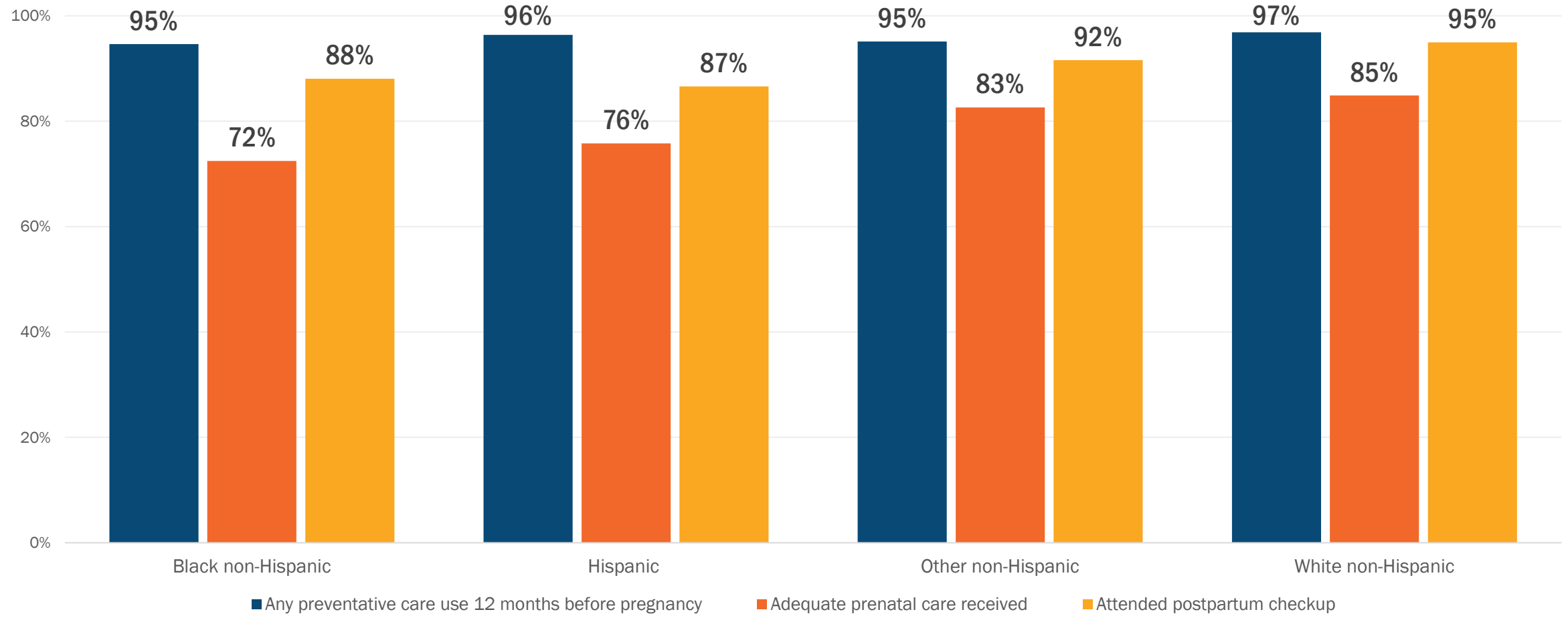
Prevalence of racism and reactions to racism during the twelve months before delivery, Massachusetts PRAMS, by payer and race/ethnicity, 2021



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.

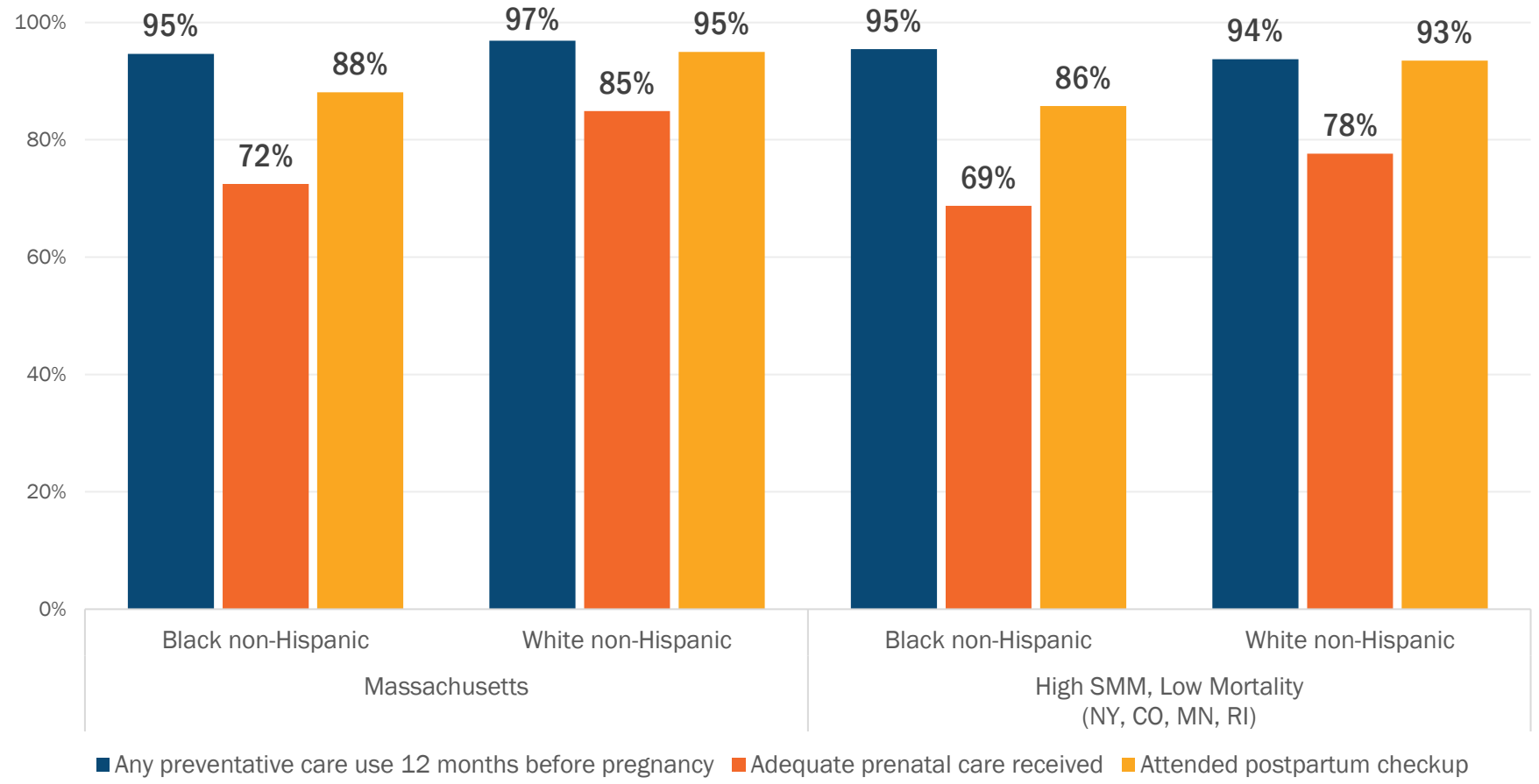
Prevalence of care received before, during, and after pregnancy, by race/ethnicity, Massachusetts PRAMS, 2017-2021



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

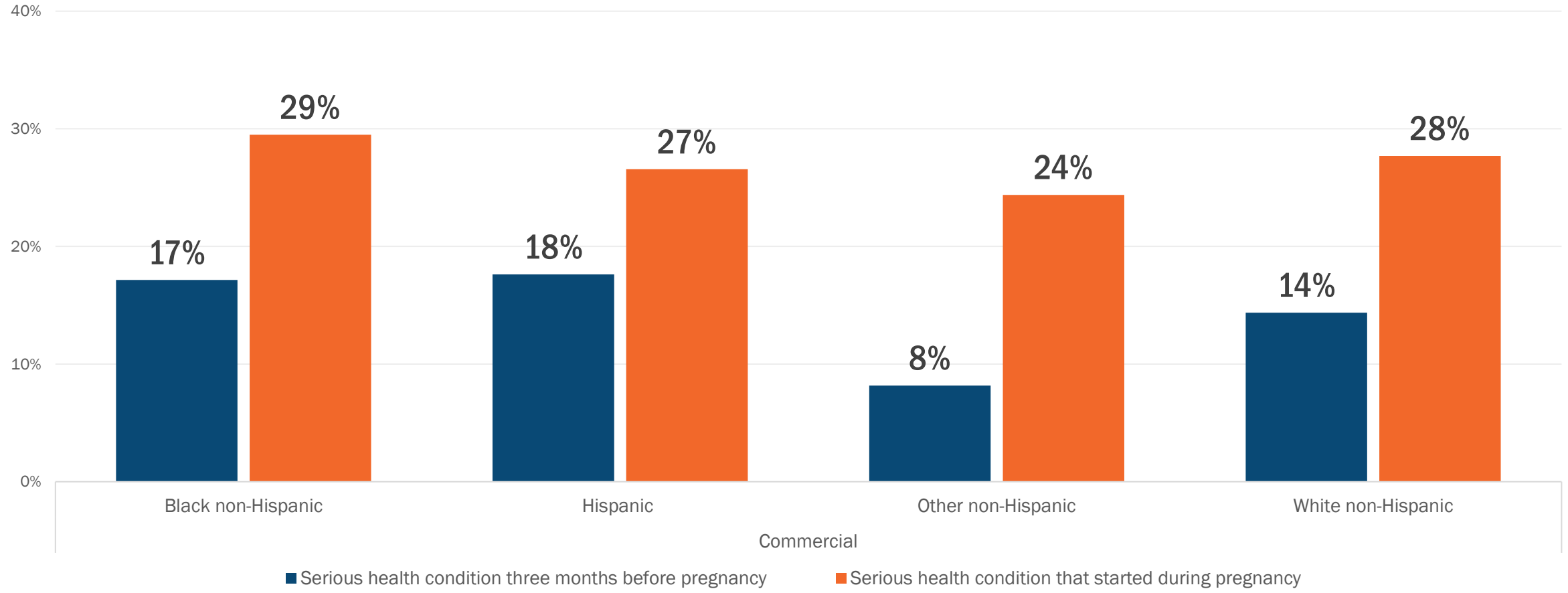


Notes: Other non-Hispanic includes Asian, American Indian/Alaska Native/Native Hawaiian, mixed race, and all other non-Hispanic race categories. Preventative care includes checkup with a doctor, checkup with an OB/GYN, visit for family planning/birth control, and visit with a dentist. Adequate prenatal 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.

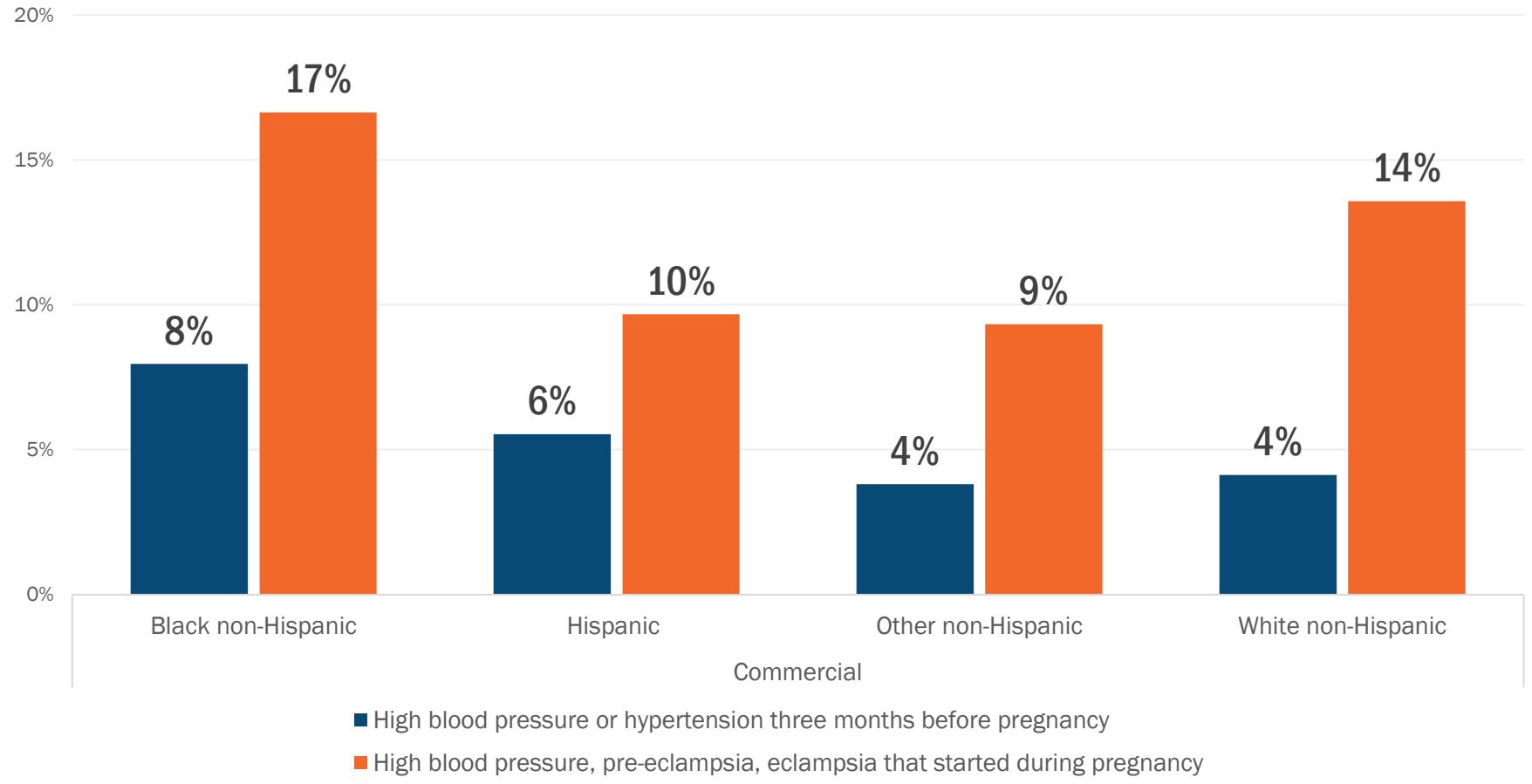
Prevalence of serious health conditions acquired before and during pregnancy among the commercially insured birthing population, by race/ethnicity, Massachusetts PRAMS, 2017-2021



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



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

- 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.

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Severe Maternal Morbidity in Massachusetts

- Background
- Inequities in Severe Maternal Morbidity

SPENDING AND AFFORDABILITY IMPLICATIONS

Remote Blood Pressure Monitoring Opportunities

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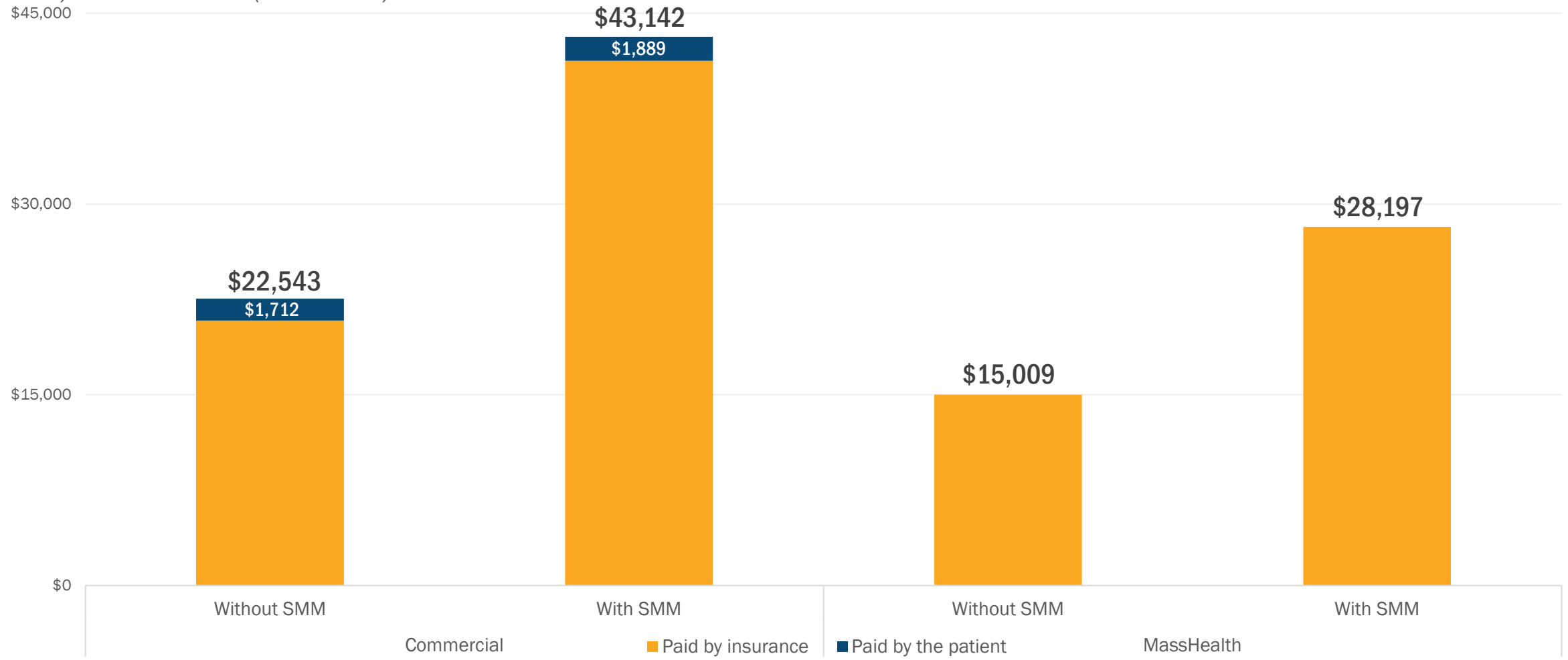
Adjourn

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

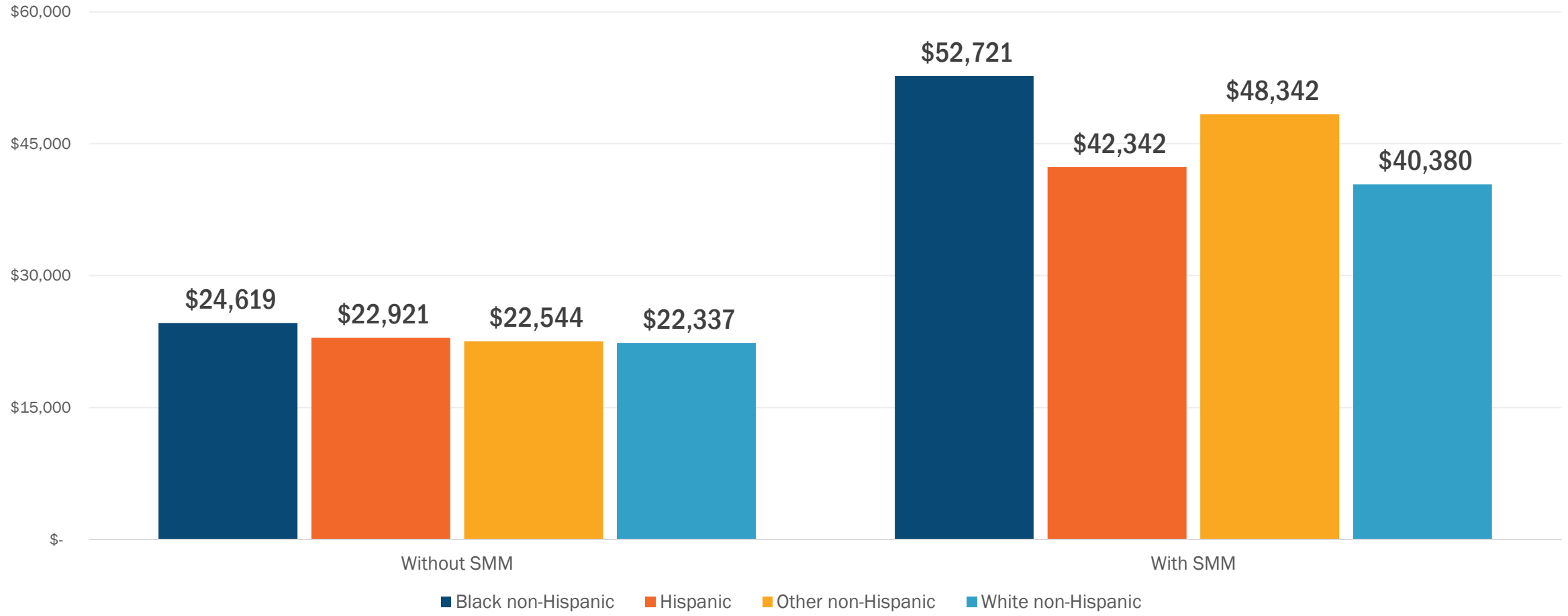
Average total spending and cost sharing for a maternity episode with and without SMM during delivery or postpartum, Commercial payers (2019-2022) and MassHealth (2019-2021)



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.

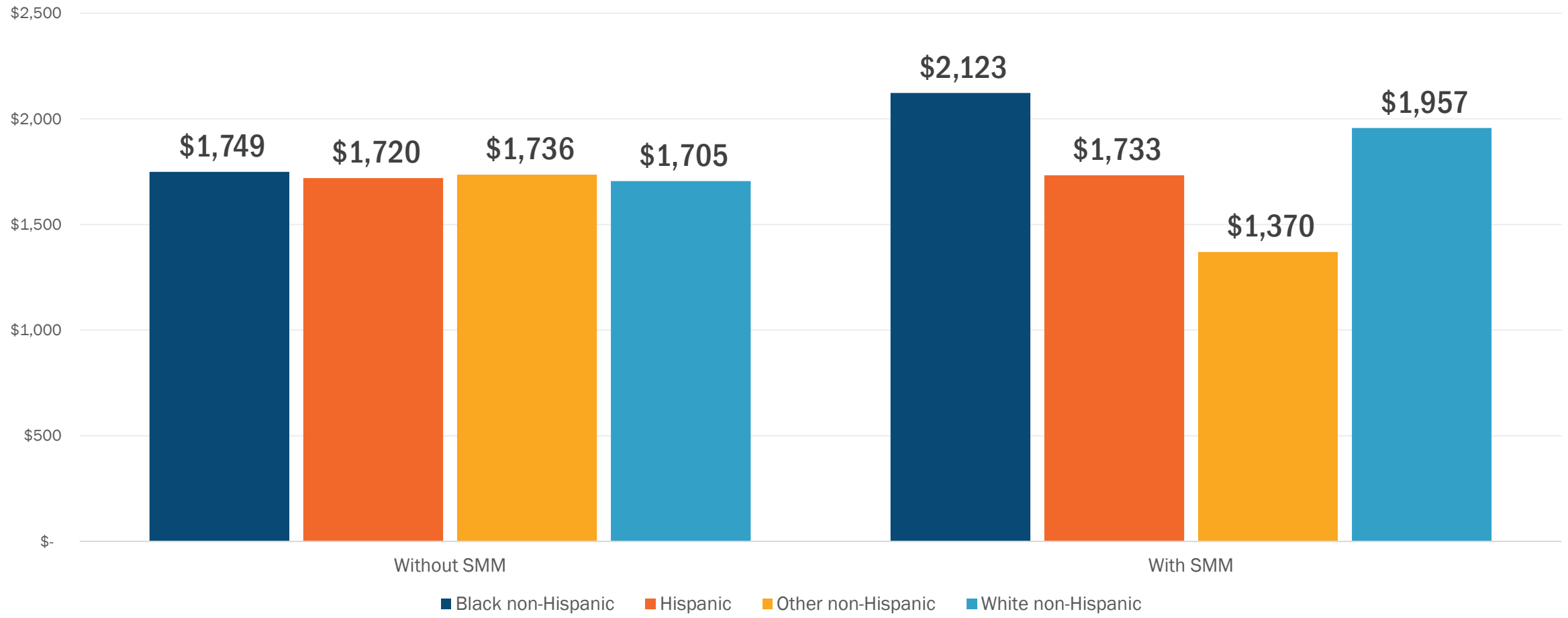
*Average total **commercial** spending for a maternity episode with and without SMM during delivery or postpartum, by race/ethnicity, 2019-2022*



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.

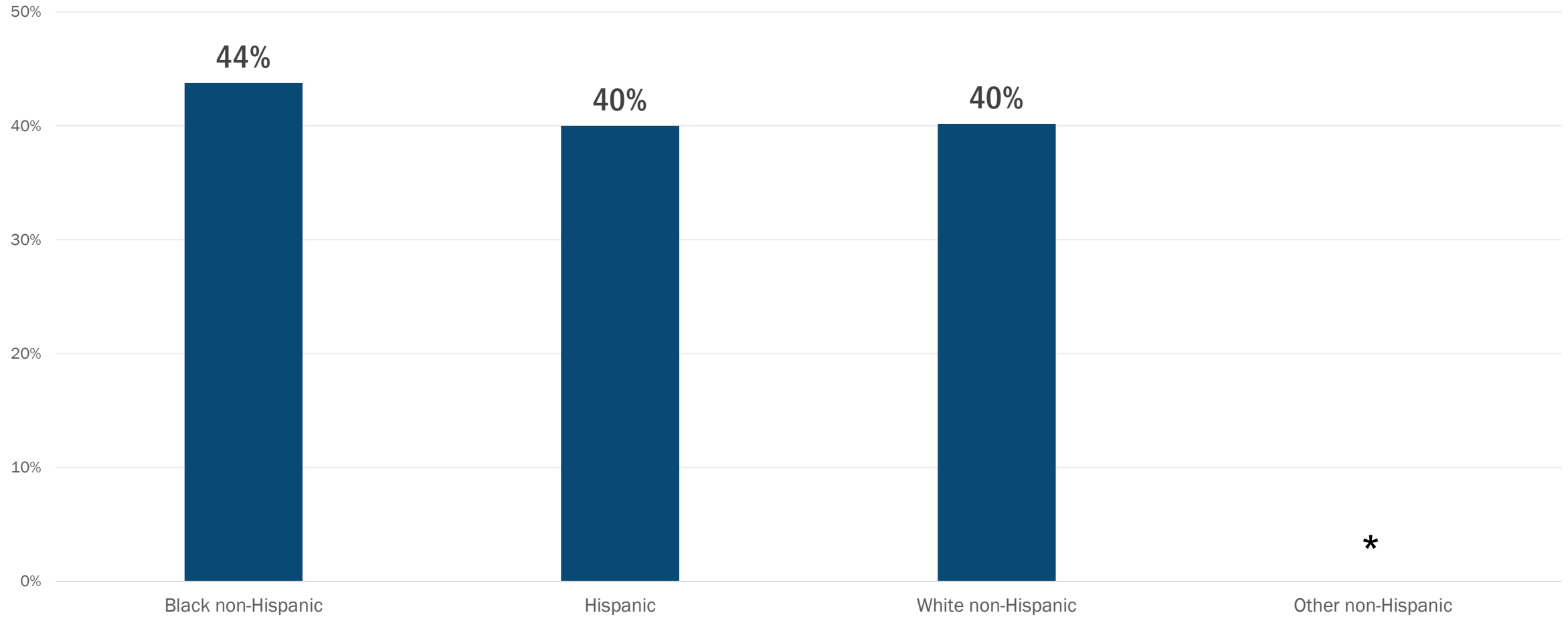
*Average total **commercial** cost sharing for a maternity episode with and without SMM during delivery or postpartum, by race/ethnicity, 2019-2022*



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.

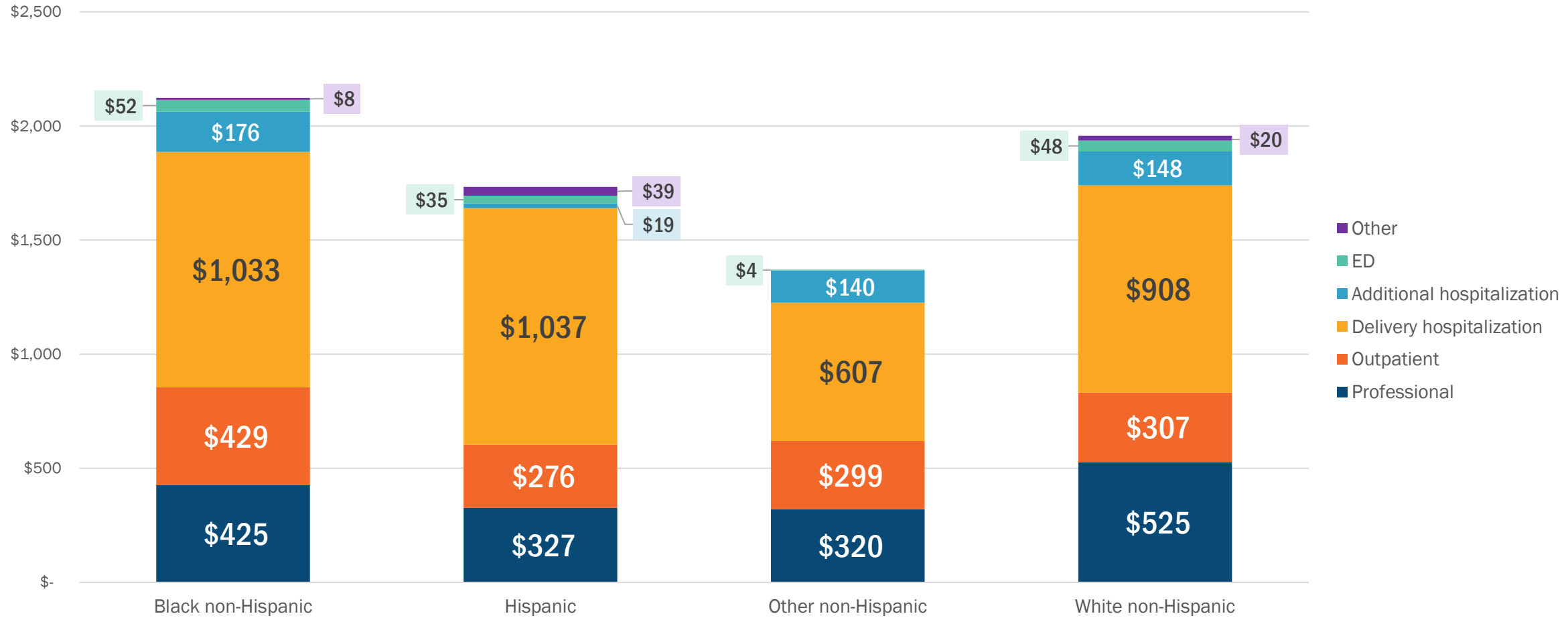
*Share of unique **commercial** patients with SMM who had an additional inpatient stay or ED visit during their maternity episode, 2019-2022*



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 persons. 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 experienced had a higher rate of SMM then 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 & 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.

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-clampsia and eclampsia, that started during pregnancy**. By intervening earlier on these conditions, Massachusetts may be able to improve health outcomes for this population.

Acknowledgments

- The HPC thanks the PRAMS Working Group, which includes the PRAMS Team, Division of Reproductive Health, CDC and the following PRAMS sites for their role in conducting PRAMS surveillance and allowing the use of their data: PRAMS Arkansas, PRAMS Colorado, PRAMS Florida, PRAMS Iowa, PRAMS Massachusetts, PRAMS Minnesota, PRAMS Missouri, PRAMS Mississippi, PRAMS North Dakota, PRAMS New Mexico, PRAMS New York, PRAMS Oregon, PRAMS Rhode Island, PRAMS South Dakota, PRAMS Tennessee, PRAMS Utah, and PRAMS Wisconsin.
- The HPC also thanks Massachusetts DPH, The Betsey Lehman Center, and The Perinatal Neonatal Quality Improvement Network of Massachusetts (PNQIN) for their input on this project.

Agenda

Call to Order

Approval of Minutes **(VOTE)**

Severe Maternal Morbidity in Massachusetts

REMOTE BLOOD PRESSURE MONITORING OPPORTUNITIES

Office of Patient Protection (OPP) 2022 Annual Report

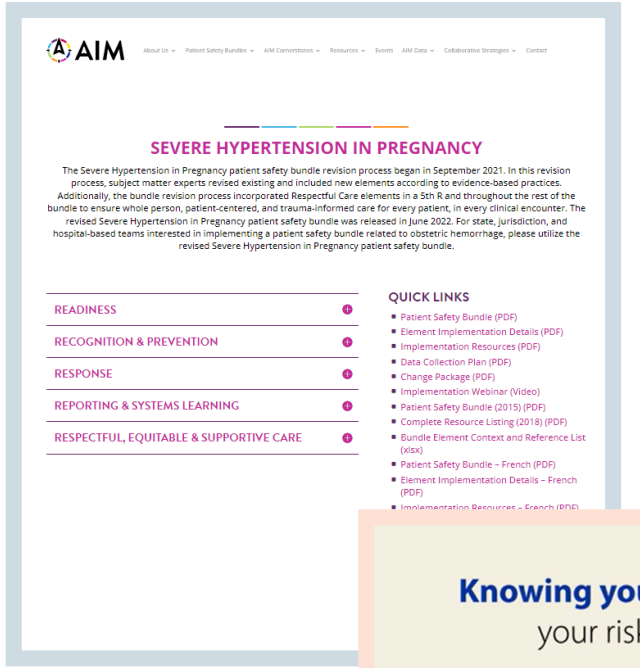
Adjourn

Complications of hypertensive disorders of pregnancy are a leading cause of SMM and readmissions.

From the DPH Review of Maternal Health Services (Nov 2023)

- Hypertensive disorders of pregnancy **complicate approximately 10% of all pregnancies**, and include chronic hypertension, gestational hypertension, and preeclampsia/eclampsia among patients with hypertensive disorders in the postpartum period.
- **Complications from hypertensive disorders of pregnancy are a leading cause of SMM and postpartum readmissions**; almost half of all people with preeclampsia in pregnancy remain hypertensive at one year postpartum.
- **More than half of maternal deaths occur during the postpartum period**, defined as up to a year after delivery.
- From 2014 to 2017, 35% of pregnancy-associated deaths with medical causes had documented hypertensive disorders, and **Black, non-Hispanic birthing people had the highest percentage of deaths due to a medical cause at 70.6% and the highest percent of documented hypertension on birth and death certificates at 47%**.

Hypertensive Disorders of Pregnancy are Often Treatable



CMQCC

ACOG Diagnostic Criteria for Preeclampsia in Pregnancy/Postpartum

Gestational Hypertension and Preeclampsia, ACOG Practice Bulletin #222, 2020

Blood Pressure	AND	Proteinuria
■ Systolic blood pressure of ≥ 140 mm Hg OR diastolic blood pressure of ≥ 90 mm Hg on two occasions at least 4 hours apart after 20 weeks of gestation in a woman with a previously normal blood pressure ***OR*** ■ Systolic blood pressure of 160 mm Hg or more or diastolic blood pressure of 110 mm Hg or more. (Confirmed within a short inter [15 minutes] to facilitate timely hypertensiv		■ 300 mg or more per 24-hour urine collection ***OR*** ■ Protein/creatinine ratio of 0.3 or more ***OR*** ■ Dipstick reading of 2+ (used only if other quantitative methods not available) *Note:* The **total** amount of proteinuria > 5g

CMQCC

Physiological Parameters	(Yellow) Triggers (Two or more)	(Red) Triggers (One or more)
Systolic BP, mm Hg (repeat in 15 min)	< 90 or > 155* – 159	≥ 160
Diastolic BP, mm Hg (repeat in 15 min)	105* - 109	≥ 110
Mean Arterial Pressure: mm Hg	< 65 or > 110	< 55 or > 120
Heart Rate: beats per min	< 50 or 110-120	> 120
Respiratory Rate: breaths per min	< 12 or 25-30	> 30
Oxygen Saturation: % on room air	< 95	< 93
Oliguria: ml/hr for ≥ 2 hours	35-49	< 35

Severe (Red) triggers	
Altered mental status	Maternal agitation, confusion or unresponsiveness
Neurologic	Unrelenting, severe headache unresponsive to medication
Visual Disturbances	Blurred or impaired vision
Physical	Shortness of breath or epigastric pain

If "Yellow" or "Red" BP Triggers, recheck BP within 15 minutes

*Lowering the threshold for treatment should be considered at systolic BP of 155 mm Hg or diastolic BP of 105 mm Hg.
See Borderline Severe-range Blood Pressures Section

Abnormal Maternal Assessment

↓

If sustained for **15** minutes
OR
If the nurse is clinically concerned with patient status
REQUEST PROVIDER EVALUATION

↓

Sustained BP ≥ 160 systolic OR ≥ 110 diastolic
Initiate Hypertension in Pregnancy Protocol:
Treat blood pressure with antihypertensive therapy within 1 hour
and
Treat with Magnesium Sulfate – 4-6** gm bolus, followed by maintenance dose 1-2 gm per hour based upon renal status
**Use 6 gm if BMI > 35

↓

IF O2 Sat < 93% or RR > 24
CONSIDER PULMONARY EDEMA

25

Sources: PNQIN: Massachusetts AIM Bundles; California Maternal Quality Care Collaborative; Centers for Disease Control

Remote Monitoring

Hypertensive disorders of pregnancy can quickly evolve into severe disease that can result in serious, even fatal, maternal and infant health outcomes.

The ability to screen for hypertensive disorders of pregnancy using blood pressure measurements is important to identify and effectively treat a potentially unpredictable and fatal condition.

Screening for Hypertensive Disorders of Pregnancy US Preventive Services Task Force Final Recommendation Statement

- **MA DPH recommendation re: Innovating through Telehealth and Remote Blood Pressure Monitoring.** "DPH will work with hospitals to implement remote blood pressure monitoring programs across all hospitals in MA. EOHHS will work with public and private interested parties to support health insurance coverage of remote monitoring services."[1]
- **USPCTF:** "Given the complex factors that contribute to health inequities, approaches to consider in mitigating disparities in hypertensive disorders of pregnancy include … (t)he use of telehealth and remote monitoring in prenatal and postpartum care"[2]
- **ACOG:** "… usefulness of an in-person [blood pressure] assessment should be weighed against the burden of traveling to and attending an office visit with a neonate. Additional mechanisms for assessing women's health needs after birth include home visits, phone support, text messages, remote blood pressure monitoring, and app-based support."[3]

[1] Massachusetts Department of Public Health Review of Maternal Health Services, Nov. 2023
[2] US Preventive Services Task Force Final Recommendation Statement, *JAMA.* 2023;330(11):1074-1082. doi:10.1001/jama.2023.16991
[3] ACOG Committee Opinion No. 736: Optimizing Postpartum Care

Barriers to Implementing Remote Monitoring for HDP: Providers

BILLING

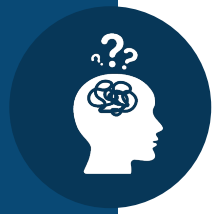
Billing codes for telemedicine visits exist, but codes for the kinds of interactions for remote monitoring are relatively newer.

PAYMENT

Reimbursement for RPM is less than what would be paid for in person care. Data on savings from readmissions is promising, but not conclusive and may vary by condition and implementation.

START UP COSTS

"The lack of coverage of services and lower reimbursement rates disincentivize organizations from expanding and implementing programs due to upfront costs." [1]



CHANGE IS HARD

Implementing new care models takes focus and commitment of time and resources in the face of competing priorities.

[1] AHRQ PSNet: Remote Patient Monitoring

Barriers to Implementing Remote Monitoring for HDP: Patients

ACCESS TO TECHNOLOGY AND DIGITAL LITERACY

Participation can be limited by lack of Internet access or inadequate cellular data. Lack of knowledge, skills, or confidence are also barriers … and are often found among people who already experience health inequities, including based on race/ethnicity, SES, or rural geography.[1]

INADEQUATE ATTENTION TO PATIENT VOICE IN PROGRAM DESIGN

"By understanding their patient populations and their needs, and by creating person-centered care that accounts for inequities and linguistic differences, organizations could more rapidly spread RPM."[2]

INTERPERSONAL AND SYSTEMIC RACISM AND BIAS

"Racial bias in the U.S. healthcare system can affect HDP care from screening and diagnosis to treatment. Psychosocial stress from experiencing racism has also been found to be associated with chronic hypertension."[3]

ONE SIZE DOES NOT FIT ALL

RPM may not be the right solution for everyone. Need to balance expectations against individual patient agency.

[1] AHRQ PSNet: Remote Patient Monitoring

[2] 12. Wardlow L, Leff B, Biese K, et al. Development of telehealth principles and guidelines for older adults: a modified Delphi approach. *J Am Geriatr Soc*. 2022. doi:10.1111/jgs.18123

[3] CDC Press Release: Hypertensive disorders in pregnancy affect 1 in 7 hospital deliveries

While not conclusive, emerging research and anecdotal evidence around patient experience is encouraging.

Postpartum women perceived the telehealth remote intervention was a safe, easy to use method that represented an acceptable burden of care and an overall satisfying method for postpartum blood pressure monitoring.[2]

Baystate reports an "overwhelming number of patients reporting positive experiences"[1]

Monitoring health while at home was convenient while taking care of a newborn.

The Care Team was amazing! [The team] saved my life and our baby's life. Thank you!

It was extremely convenient. The hospital I birthed at is an hour away from my home, so it made it easy to give them accurate BP measurements post-partum.

[1] Massachusetts Department of Public Health Review of Maternal Health Services, Nov. 2023

[2] Thomas NA, Drewry A, Racine Passmore S, Assad N, Hoppe KK. Patient perceptions, opinions and satisfaction of telehealth with remote blood pressure monitoring 2 postpartum. BMC Pregnancy Childbirth. 2021 Feb 19;21(1):153. doi: 10.1186/s12884-021-03632-9. PMID: 33607957; PMCID: PMC7896378.

Elements of a Remote BP Monitoring Investment Program

ELIGIBILITY AND FUNDING

- $1.5M Total
- Funded via DHTF (5)/PRTF(1) for $250K over two years
- Selection preference for hospitals serving greater number/proportion of Black and Hispanic birthing people and geography

ELEVATE HEALTH EQUITY

- Build on awardees past experience in addressing inequities in maternal health access, outcomes, or experience of care
- Collect and stratify data to identify and act on inequities
- Address barriers to participation including digital access/literacy, language, and health related social needs
- Apply lessons learned about structural racism, implicit bias and trauma informed care

CORE PROGRAM COMPONENTS

- Wireless remote BP monitoring with telehealth.
- Minimum: Capacity to support eligible patients from birth to 6 weeks post-partum, the period of greatest risk
- Patient education and support
- Engagement of patients and people with lived experience in program design and ongoing improvement
- Plan for connecting patients to available resources for other issues that might arise during the monitoring period, e.g. HRSN or BH resources.
- Measurement and data collection

ANTICIPATED MEASURES (WIP)

- Identification>Enrollment>Completion
- BP Ascertainment
- Readmissions/Admissions/ED visits
- Patient Experience

Collaboration with PNQIN

Perinatal Neonatal Quality Improvement Network (PNQIN)

Mission: PNQIN is an organization of providers and quality improvement (QI) experts that seeks to achieve measurable improvements in perinatal health outcomes and eliminate perinatal health inequities among Massachusetts families.

Vision: PNQIN is the state leader in perinatal Quality Improvement collaboration to ensure Massachusetts is a state where every birthing family receives safe, high quality, and equitable health care.

- PNQIN has led numerous initiatives and improvement projects aimed at improving outcomes and equity.
- Support hospitals with tools and resources and a “Central Team, PNQIN Clinical Advisors, the PNQIN Advisory Board, and our network of local, state, and national partner institutions and community organizations.”
- Worked closely with the HPC on the NAS Investment Program and has collaborated on SOR-funded INSPiRe project.

Collaboration in Remote BP Monitoring

- Provided insights from two HRSA-funded pilots at Baystate and BWH.
- Connected HPC to resources for stakeholder engagement and took a “snapshot” of provider interest in remote BP monitoring for HDP.
- Providing input on aspects of program design and measurement.
- Anticipate PNQIN’s providing TA at important junctures in program implementation (including during planning).

Anticipated Next Steps and Timeline

MAY/JUNE

- Finalize details of investment program design, including Legal review
- Share procurement documents with HPC Board
- Issue RFP

JULY/AUGUST

- Application review and selection process
- Review and selection committee makes award recommendations to Executive Director

SEPTEMBER

- Executive Director makes award recommendations to HPC Board
- Begin contracting process

Agenda

Call to Order

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Severe Maternal Morbidity in Massachusetts

Remote Blood Pressure Monitoring Opportunities

OFFICE OF PATIENT PROTECTION (OPP) 2022 ANNUAL REPORT

Adjourn

Office of Patient Protection (OPP) Responsibilities

OPEN ENROLLMENT WAIVERS

Administering waivers to allow purchase of non-group health insurance outside of open enrollment

HEALTH INSURANCE APPEALS

Regulating internal appeals and administering external reviews for members of fully-insured health plans

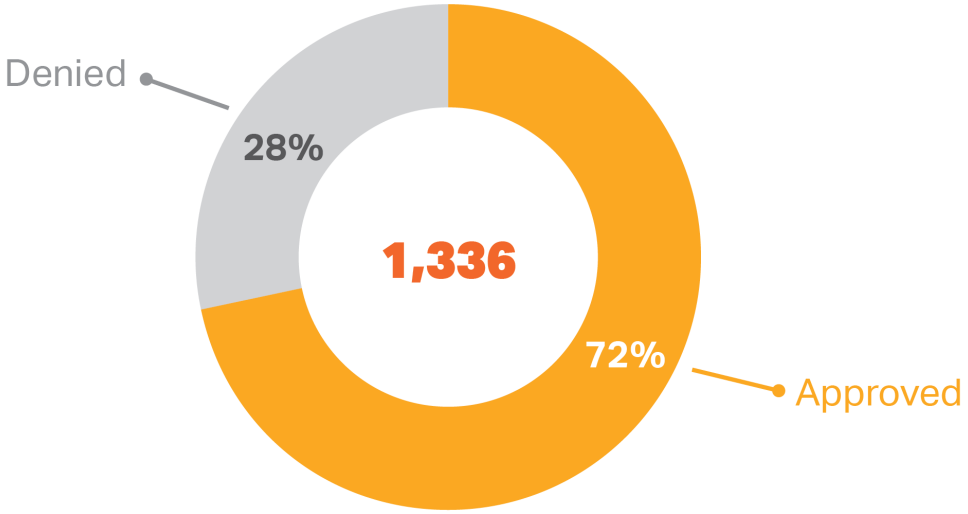
RISK-BEARING PROVIDER ORGANIZATION APPEALS

Regulating internal appeals and administering external reviews for patients of risk-bearing provider organizations

CONSUMER ASSISTANCE AND INFORMATION

Serving as a resource for consumers through our hotline, website, and outreach efforts

Open Enrollment Waiver Requests



Year	Total Waiver Applications
2011	276
2012	576
2013	416
2014	316
2015	562
2016	355
2017	389
2018	840
2019	1342
2020	375
2021	226
2022	1336

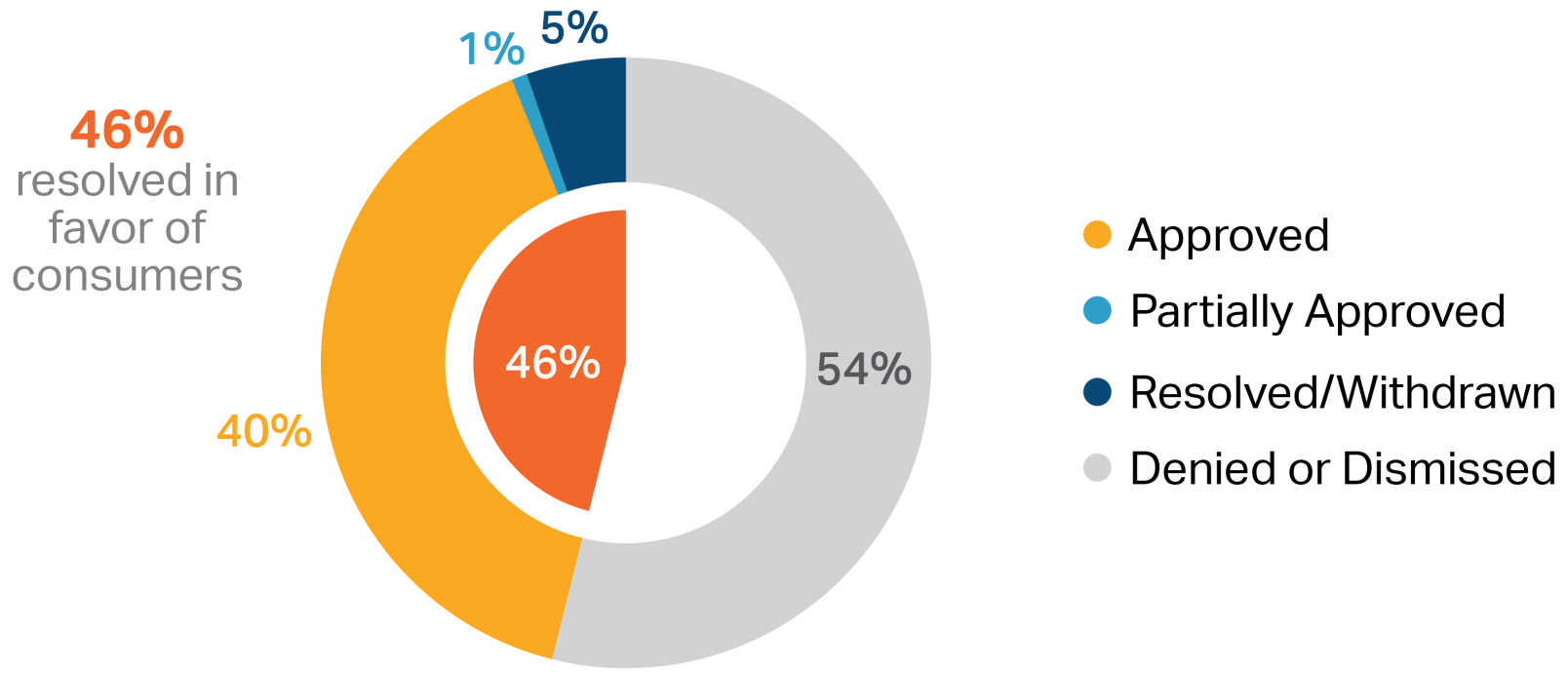
- OPP saw a significant increase in the number of waivers requested by consumers. This was due to protections imposed during the pandemic coming to an end in 2022.

Source: 2011-2022 Office of Patient Protection waiver data

Outcomes of Health Insurance Internal Appeals

- During 2022, health insurance companies received 13,419 internal appeals from members challenging a denial of coverage.

Percentage of health insurance internal appeals by disposition, 2022

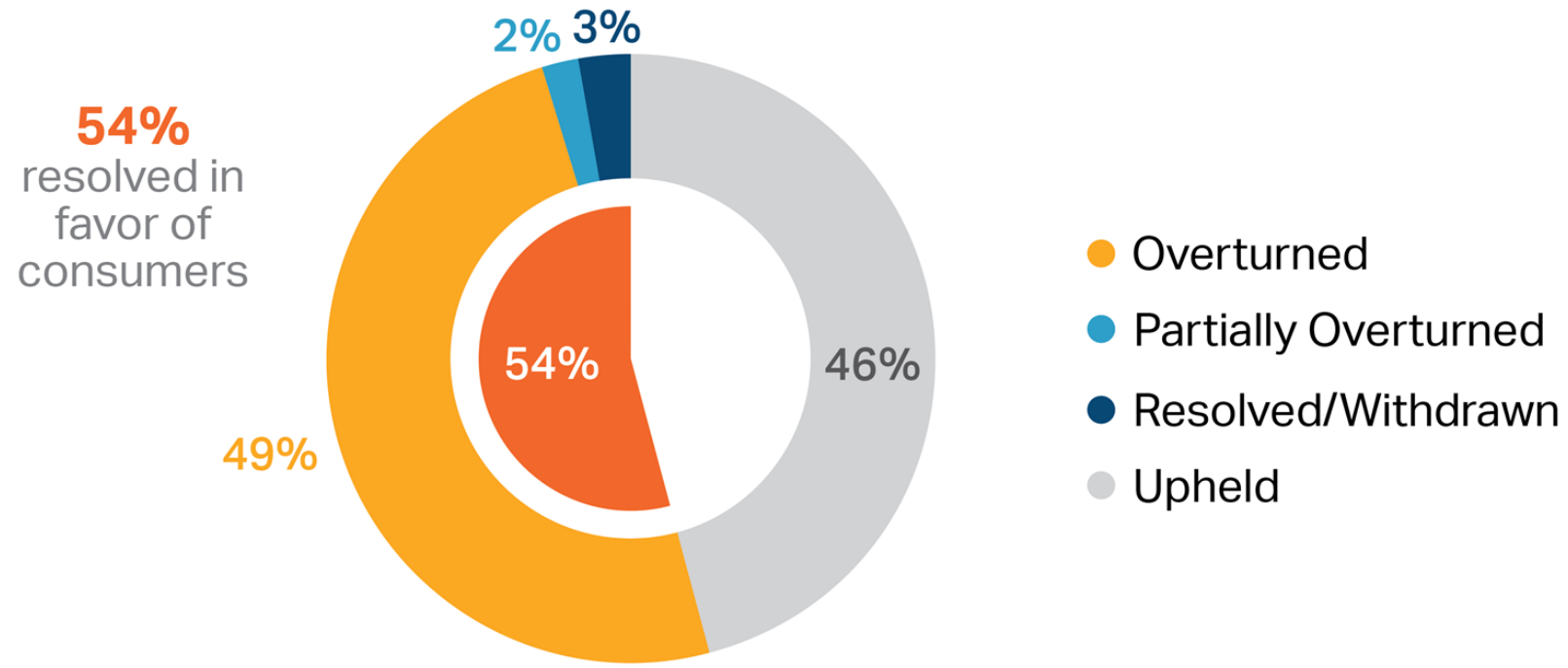


Source: 2022 Insurance carrier reports to the Office of Patient Protection, pursuant to 958 CMR 3.600

Outcomes of Health Insurance External Reviews

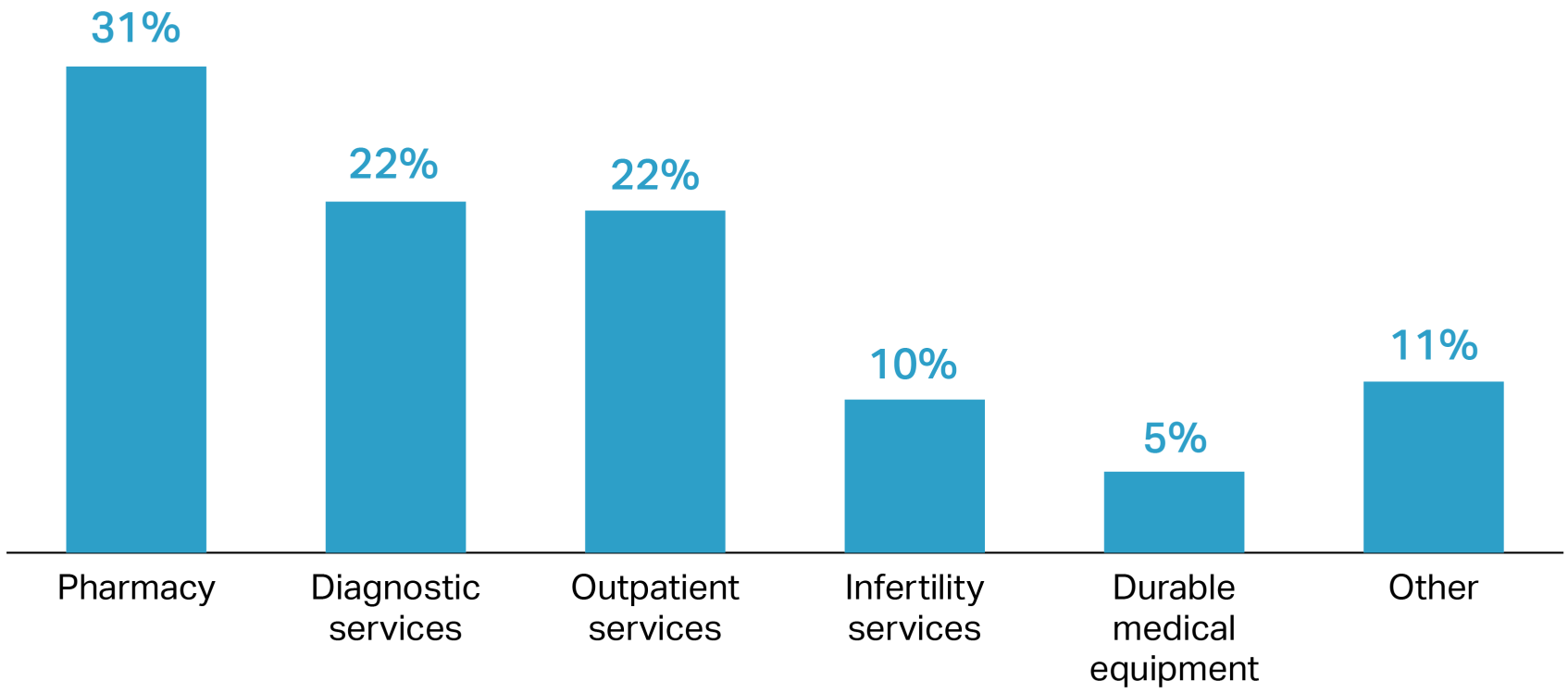
- During 2022, OPP received 294 requests for external review, 191 of which were eligible.

Percentage of health insurance external reviews by disposition, 2022



Source: 2022 Office of Patient Protection health insurance external review data

Health Insurance External Reviews by Type of Medical/Surgical Service Requested

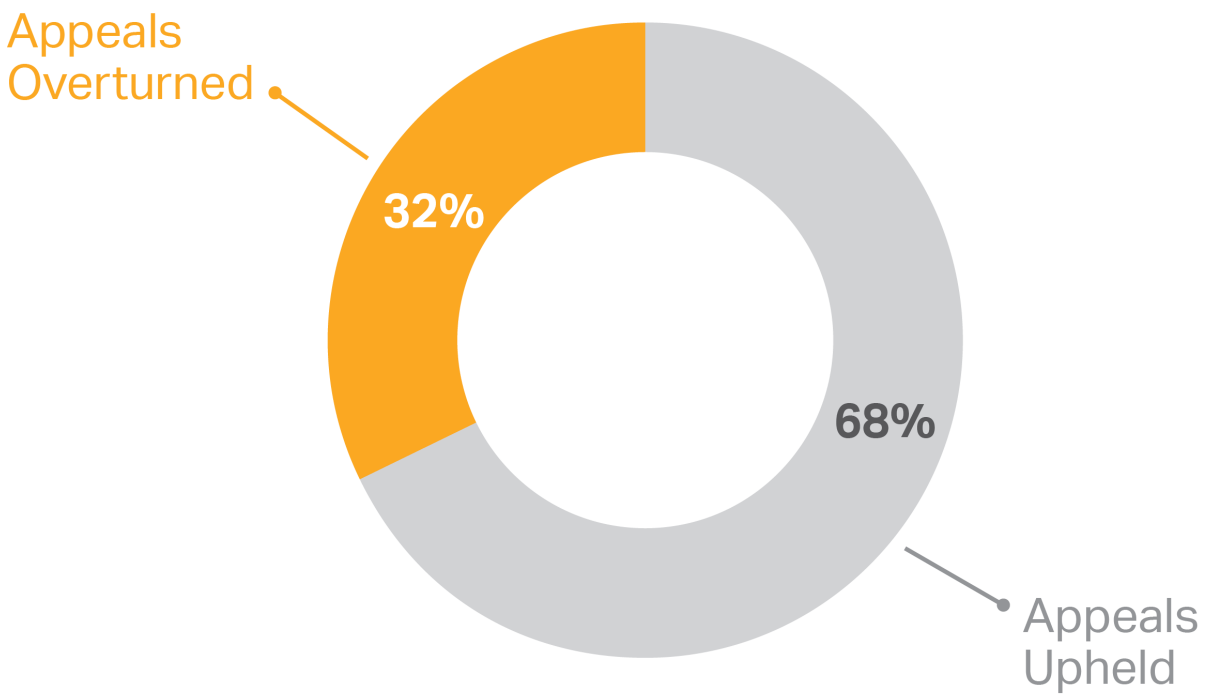


- External review requests for coverage of medication represented the highest percentage of requests pertaining to medical/surgical treatment in 2022.

Source: 2022 Office of Patient Protection health insurance external review data

Outcomes of Risk-bearing Provider Organization Internal Appeals

Percentage of RBPO internal appeals by disposition, 2022



- In 2022, patients requested 132 internal appeals challenging decisions by their provider organizations.
- 81% of internal appeals in 2022 pertained to referral restrictions and 16% pertained to restrictions on the type or intensity of service.

Source: 2022 RBPO/ACO reports to the Office of Patient Protection, pursuant to 958 CMR 11.23

Consumer Assistance and Information

1,966

Inquiries to the OPP Hotline in 2022

OPP CONSUMER

"Thank you and your office staff so much during this whole process! Our medical system seems broken, but you are making concrete progress in fixing it – at least from this citizen's perspective. I so appreciate your time."

2023-2024 Updates

HOTLINE

In 2023, OPP fielded over 1,500 calls through our hotline.

AMENDED OPP REGULATION

OPP implemented the final regulation, effective April 28, 2023.

EXTERNAL REVIEWS

OPP received 303 health insurance external review requests in 2023 and 6 RBPO external review requests.

MASSHEALTH REDETERMINATIONS

The Connector and the Division of Insurance extended the time to access insurance after a qualifying event, reducing the need for an open enrollment waiver from OPP in 2023 and 2024.

OPEN ENROLLMENT WAIVERS

OPP received 989 waivers in 2023.

CONTINUED COLLABORATION

OPP continues to collaborate with the Division of Insurance, the Connector, and MassHealth.

Contact OPP

OFFICE OF PATIENT PROTECTION

Mass.gov/HPC/OPP

(800) 436-7757

(617) 624-5046

HPC-OPP@mass.gov

Agenda

Call to Order

Approval of Minutes **(VOTE)**

Severe Maternal Morbidity in Massachusetts

Remote Blood Pressure Monitoring Opportunities

Office of Patient Protection (OPP) 2022 Annual Report

ADJOURN

2024 Public Meeting Calendar

HPC

– JANUARY –

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
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28	29	30	31			

– FEBRUARY –

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– MARCH –

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31						

– APRIL –

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– MAY –

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– JUNE –

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– JULY –

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– AUGUST –

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– SEPTEMBER –

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29	30					

– OCTOBER –

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27	28	29	30	31		

– NOVEMBER –

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24	25	26	27	28	29	30

– DECEMBER –

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

BOARD MEETINGS

Thursday, January 25
Thursday, April 11
Thursday, June 13
Thursday, July 18
Thursday, September 19
Thursday, December 12

COMMITTEE MEETINGS

Thursday, February 15
Thursday, May 9
Monday, July 15 (ANF)
Thursday, October 10

ADVISORY COUNCIL

Thursday, February 29
Thursday, June 27
Thursday, September 26
Thursday, December 5

SPECIAL EVENTS

Thursday, March 14 – Benchmark Hearing
Thursday, November 14 – Cost Trends Hearing

All meetings will be held virtually unless otherwise noted. This schedule is subject to change, and additional meetings and hearings may be added.

Schedule of Upcoming Meetings

BOARD

June 13

July 18

September 19

December 12

COMMITTEE

July 15 (ANF)

October 10

ADVISORY COUNCIL

June 27

September 26

December 5

SPECIAL EVENTS

November 14
Cost Trends Hearing

Mass.gov/HPC

HPC-info@mass.gov

@Mass_HPC

tinyurl.com/hpc-linkedin

Appendix

Sample population characteristics

Inpatient Discharge Database, 2019-2022

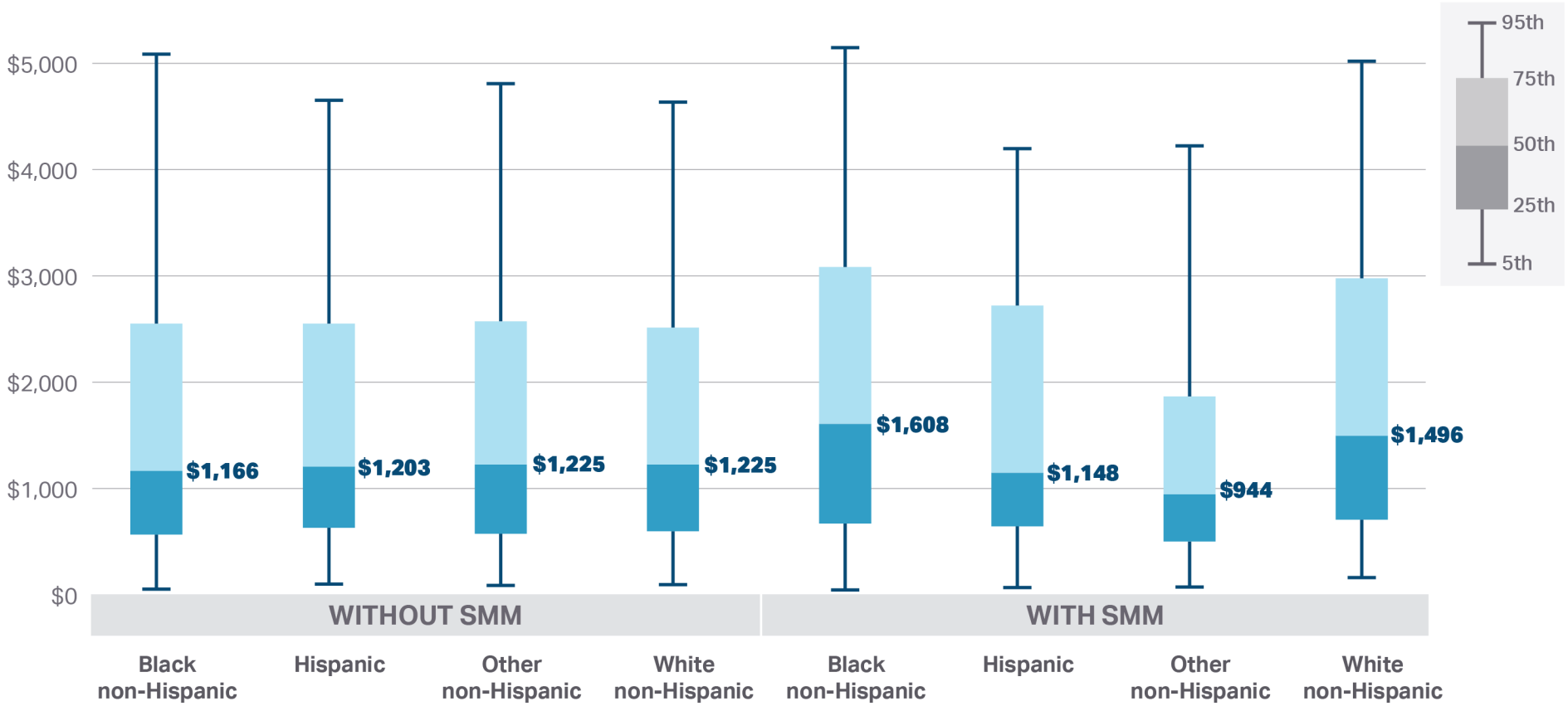
	Without SMM	With SMM
Age		
<30	33.8% (87,595)	28.6% (780)
30-34	38.1% (98,619)	35.5% (969)
35-39	23.0% (59,562)	26.2% (714)
40+	5.1% (13,238)	9.7% (264)
Race/Ethnicity		
Other non-Hispanic	8.9% (23,001)	9.7% (265)
Asian/NHPI non-Hispanic	7.8% (20,235)	8.2% (224)
Black non-Hispanic	9.7% (24,999)	18.4% (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