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
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
MOTION
That the Members hereby approve the minutes of the Committee meeting held on February 15, 2024, as presented.
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
Call to Order

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Severe Maternal Morbidity in Massachusetts

**BACKGROUND**

- Inequities in Severe Maternal Morbidity
- Spending and Affordability Implications

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Office of Patient Protection (OPP) 2022 Annual Report

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

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.


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

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

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

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

Previous research on racial/ethnic inequities in health outcomes underscores the 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

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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

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 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 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.

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
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
WHY IT'S IMPORTANT

Massachusetts and nationally, was used to assess health care experiences and care access in data from the Pregnancy Risk Assessment Monitoring System (PRAMS) cost sharing by race/ethnicity and health outcome. Additionally, survey 16-Payer Claims Database (APCD) to analyze spending and stays in the All-Payer Claims Database (APCD) to analyze spending and steps to the All-Payer Claims Database (APCD) to analyze spending and.

WHAT WE ARE DOING

HPC Researchers linked CHIA’s Acute Hospital Case-Mix Labor-and-delivery

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

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.

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

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).
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

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Any preventative care use 12 months before pregnancy</th>
<th>Adequate prenatal care received</th>
<th>Attended postpartum checkup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black non-Hispanic</td>
<td>72%</td>
<td>88%</td>
<td>95%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>76%</td>
<td>87%</td>
<td>96%</td>
</tr>
<tr>
<td>Other non-Hispanic</td>
<td>83%</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>85%</td>
<td>92%</td>
<td>97%</td>
</tr>
</tbody>
</table>

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.

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.
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
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

- **Black non-Hispanic**
  - Without SMM: $24,619
  - With SMM: $52,721

- **Hispanic**
  - Without SMM: $22,921
  - With SMM: $42,342

- **Other non-Hispanic**
  - Without SMM: $22,544
  - With SMM: $48,342

- **White non-Hispanic**
  - Without SMM: $22,337
  - With SMM: $40,380

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

<table>
<thead>
<tr>
<th>Race</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black non-Hispanic</td>
<td>44%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>40%</td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>40%</td>
</tr>
<tr>
<td>Other non-Hispanic</td>
<td>*</td>
</tr>
</tbody>
</table>

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 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 & 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.
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.
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

ACOG Diagnostic Criteria for Preeclampsia in Pregnancy/Postpartum

**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

**Proteinuria**

- 300 mg or more per 24-hour urine collection
- Protein/creatinine ratio of 0.3 or more
- Dipstick reading of 2+ (used only if other quantitative methods not available)

**Note:** The total amount of proteinuria > 5g

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**Physiological Parameters**

<table>
<thead>
<tr>
<th>Hypertensive (Two or more)</th>
<th>Normotensive (One or none)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systolic BP: mm Hg (repeat in 15 min)</td>
<td>&lt; 90 or &gt; 160</td>
</tr>
<tr>
<td>Diastolic BP: mm Hg (repeat in 15 min)</td>
<td>100 - 119</td>
</tr>
<tr>
<td>Mean Arterial Pressure: mm Hg</td>
<td>&lt; 65 or &gt; 110</td>
</tr>
<tr>
<td>Heart Rate: beats per min</td>
<td>&lt; 60 or 110-120</td>
</tr>
<tr>
<td>Respiration Rate: breaths per min</td>
<td>&lt; 12 or 25-30</td>
</tr>
<tr>
<td>Oxygen Saturation: % in venous air</td>
<td>&lt; 95</td>
</tr>
<tr>
<td>Oxygen sat levels for 2 hours</td>
<td>95-100</td>
</tr>
</tbody>
</table>

**Severe Hypertension Triggers**

- Altered mental status
- Maternal agitation, confusion or unresponsiveness
- Neurologic: Unilateral or bilateral headache unresponsive to medication
- Visual Disturbances
- Bitemporal hemianopia
- Physical: Shortness of breath or epigastric pain

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

*Lowing 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 Pressure Section

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**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**

**Hypertensive in Pregnancy Protocol**

- Treat blood pressure with antihypertensive therapy within 1 hour
- AND
- Treat with Magnesium Sulfate ~ 4-6 g pm bolus, followed by maintenance dose: 1-2 gm per hour based on renal status

**Use 6 gm of MgSO4 > 35**

**IF C2 Set < 95 or RR > 24 CONSIDER PULMONARY EDEMA**
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.”

- **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”

- **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.”

1 Massachusetts Department of Public Health, *Review of Maternal Health Services*, Nov. 2023
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.”

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.

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\(^1\) AHRQ PSNet: Remote Patient Monitoring
\(^3\) [CDC Press Release: Hypertensive disorders in pregnancy affect 1 in 7 hospital deliveries](https://www.cdc.gov/media/releases/2022/p0227-hypertensive-disorders-pregnancy.html)
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.

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\(^1\) Massachusetts Department of Public Health, Review of Maternal Health Services, Nov. 2023
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

**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

**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

**ANTICIPATED MEASURES (WIP)**
- Identification>Enrollment>Completion
- BPAscertainment
- 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
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
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
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.
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

- 46% resolved in favor of consumers
- 54% Denied or Dismissed
- 4% Partially Approved
- 1% Resolved/Withdrawn

Source: 2022 Insurance carrier reports to the Office of Patient Protection, pursuant to 958 CMR 3.600
During 2022, OPP received 294 requests for external review, 191 of which were eligible.

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

Inquiries to the OPP Hotline in 2022

1,966
2023-2024 Updates

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

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

**OPEN ENROLLMENT WAIVERS**
OPP received 989 waivers in 2023.

**AMENDED OPP REGULATION**
OPP implemented the final regulation, effective April 28, 2023.

**MASSHEALTH RDETERMINATIONS**
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.

**CONTINUED COLLABORATION**
OPP continues to collaborate with the Division of Insurance, the Connector, and MassHealth.
OFFICE OF PATIENT PROTECTION

Mass.gov/HPC/OPP
(800) 436-7757
(617) 624-5046
HPC-OPP@mass.gov
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

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-linked
## Sample population characteristics

### Inpatient Discharge Database, 2019-2022

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

### All-Payer Claims Database, 2019-2022

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

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