Racial and Ethnic Inequities in Severe Maternal Morbidity by Insurance Status: Massachusetts 2014-2022

Massachusetts Department of Public Health

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Background

Severe maternal morbidity (SMM) is defined as unexpected complications of labor and delivery that result in significant short or long-term consequences to a birthing person's health. Nationally, in 2020, SMM occurred at a rate of 88.2 per 10,000 deliveries.[1] SMM rates have increased in Massachusetts from 2011 to 2022. In October 2024, the Massachusetts Department of Public Health (MDPH) released a report showing SMM rates ranging from 52.0 to 115.4 per 10,000 deliveries between 2011 and 2022, peaking in 2021.[2] The major SMM conditions accounting for the increase in SMM rates from 2014 through 2022 combined include acute renal failure, disseminated intravascular coagulation (DIC), hysterectomy, shock, and acute respiratory distress syndrome (ARDS). The report also found profound inequities in SMM rates by race and Hispanic ethnicity, with Black non-Hispanic birthing people having consistently higher rates over the 12-year period, ranging from 2.1 times higher in 2011 to 2.8 times higher in 2016. The rate has been declining since 2019 down to 2.2 times higher in 2022.

National data from 2016-2017 indicate that compared to non-Medicaid deliveries, Medicaid deliveries are associated with higher rates of SMM (166.6 vs. 112.7 per 10,000).[3] MassHealth, the state Medicaid provider in Massachusetts, is the insurance payer for nearly 40% of pregnant people.[4] This report describes trends and patterns of SMM rates by race and Hispanic ethnicity among MassHealth-covered deliveries from 2014 to 2022. In addition, to inform programmatic activities and policy development, we examined SMM rates among MassHealth-covered deliveries by priority populations, including those who are foreign-born, have a history of incarceration, have a history of mental health issues, have a disability, or have a history of opioid use disorder (OUD.)

Results

From 2014 through 2022, the overall SMM rate in Massachusetts was 91.8 per 10,000 deliveries, the SMM rate for MassHealth deliveries was 100.5 per 10,000 deliveries, and the rate for non-MassHealth deliveries was 85.4 per 10,000. The rate among MassHealth deliveries was statistically significantly higher than the rate for non-MassHealth deliveries.

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[1]Hirai, A. Severe Maternal Morbidity: Trends and Disparities. 2023 Mar 20. https://www.hrsa.gov/sites/default/files/hrsa/advisory-committees/infant-mortality/meetings/hirai-severe-maternal-morbidity.pdf

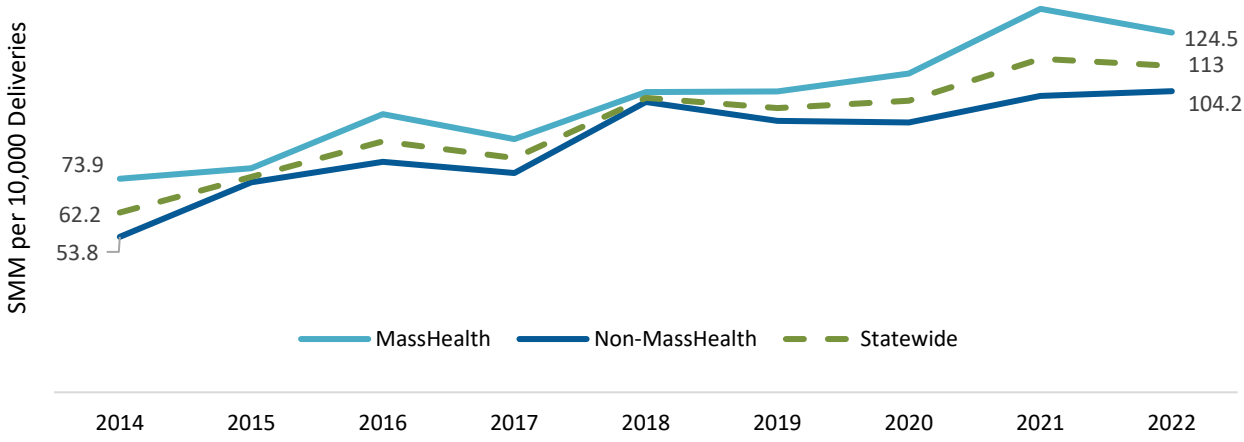
[2]Data brief - an assessment of severe maternal in Massachusetts: 2011-2022. 2024 MONTH. https://www.mass.gov/doc/an-assessment-of-severe-maternal-morbidity-in-massachusetts-2011-2022/download

[3]Brown CC, Adams CE, Moore JE. Race, Medicaid Coverage, and Equity in Maternal Morbidity. Women's Health Issues. 2021 May-Jun;31(3):245-253. doi: 10.1016/j.whi.2020.12.005. Epub 2021 Jan 21. PMID: 33487545; PMCID: PMC8154632.

[4]MassHealth Announces Coverage of Doula Services. 2023 Dec 08. https://www.mass.gov/news/masshealth-announces-coverage-of-doula-services.

From 2014 through 2022, SMM rates increased for both MassHealth and non-MassHealth deliveries at an average rate of 7.6% per year and 10.4% per year, respectively. The gap between rates of SMM for MassHealth and non-MassHealth deliveries persisted over time, reaching a peak in 2021, when the rate for MassHealth deliveries reached 132.7 per 10,000 deliveries, 1.3 times higher than the rate for non-MassHealth deliveries which reached 102.6 per 10,000 deliveries in 2021. While the rate for MassHealth deliveries declined in 2022 to 124.5 per 10,000 deliveries, the rate for non-MassHealth deliveries increased from 102.6 in 2021 to 104.2 per 10,000 in 2022 (Figure 1).

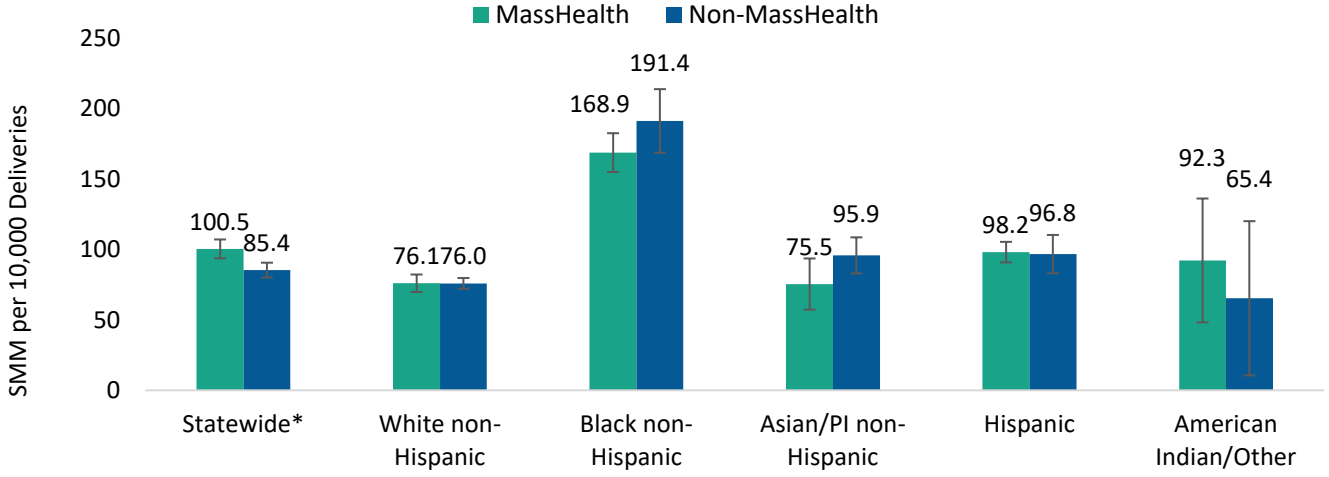
Figure 1. SMM Rates by MassHealth Status, 2014 - 2022



Note: Non-MassHealth includes all other deliveries that are not MassHealth.

Figure 2 shows SMM rates by race and Hispanic ethnicity for MassHealth and non-MassHealth deliveries from 2014 through 2022. While the difference in rates of SMM between MassHealth and non-MassHealth deliveries overall is statistically significant, when disaggregated by race and Hispanic ethnicity there is no statistically significant difference by MassHealth status.

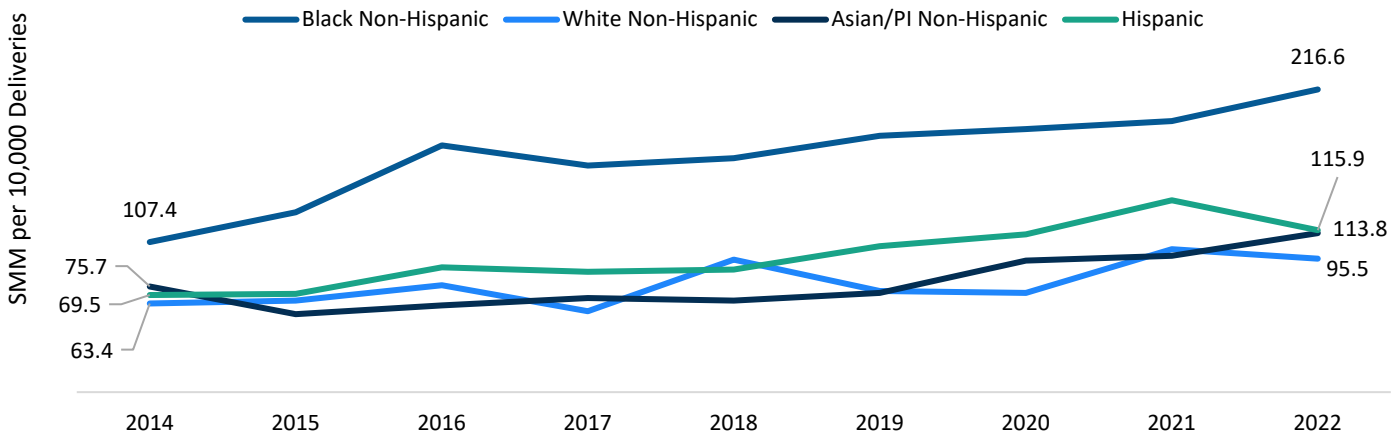
Figure 2. SMM Rates by Race/Hispanic Ethnicity and MassHealth Status, 2014 -2022



*Indicates statistically significant difference between MassHealth and non-MassHealth deliveries

Figure 3 shows SMM rates over time among MassHealth deliveries by race and Hispanic ethnicity by year from 2014 through 2022. Black non-Hispanic birthing people had the highest SMM rates among MassHealth deliveries each year. From 2014 through 2022, SMM rates for MassHealth deliveries among White non-Hispanic birthing people increased by 50.6% (from 63.4 per 10,000 births to 95.5 per 10,000 births). SMM rates for MassHealth deliveries among Black non-Hispanic birthing people increased by 102% (from 107.4 per 10,000 births to 216.6 per 10,000 births). The gap between rates of SMM among Black non-Hispanic birthing people compared to rates of SMM among White non-Hispanic birthing people has widened from 1.7 to 2.3 during this time, an increase of 35%. As prior research indicates, these persistent disparities arise from inequities in care and access, social and economic factors, and the enduring effects of structural racism[5].

Figure 3. SMM Rates Overtime by Race/Hispanic Ethnicity, MassHealth Deliveries, 2014 -2022



Note: American Indian/Other non-Hispanic rates are not shown due to small counts each year, per DPH suppression rules.

Figure 4 shows SMM rates over time among non-MassHealth deliveries by race and Hispanic ethnicity by year from 2014 through 2022. Black non-Hispanic birthing people had the highest SMM rates among non-MassHealth deliveries each year. From 2014 through 2022, SMM rates for MassHealth deliveries among White non-Hispanic birthing people increased by 75.4% (from 53.7 per 10,000 births to 94.2 per 10,000 births). SMM rates for MassHealth deliveries among Black non-Hispanic birthing people increased by 126.2% (from 84.7 per 10,000 births to 191.6 per 10,000 births). The gap between rates of SMM among Black non-Hispanic birthing people with non-MassHealth deliveries compared to rates of SMM among White non-Hispanic birthing people with non-MassHealth deliveries has widened from 1.6 to 2.1 during this time, an increase of 25% for non-MassHealth deliveries.

[5]Bailey, Z. D., Krieger, N., Agénor, M., Graves, J., Linos, N., & Bassett, M. T. (2017). Structural racism and health inequities in the USA: Evidence and interventions. The Lancet. 389(10077),1453–1463.

Figure 4. SMM Rates by Race and Hispanic Ethnicity, non-MassHealth Deliveries, 2014 - 2022

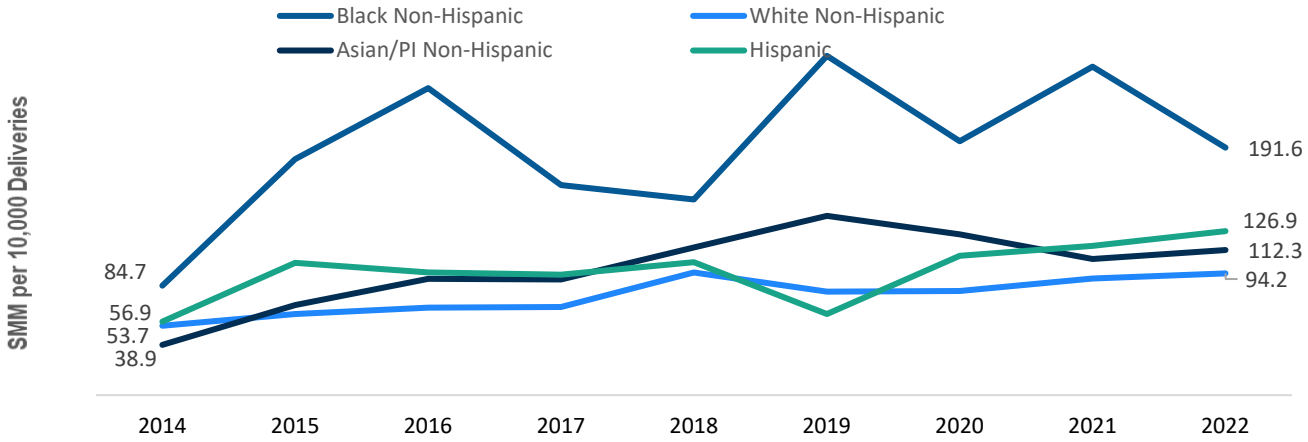


Table 1 examines SMM and MassHealth coverage by maternal characteristics. Among birthing people aged <30, 30-34, and 35-39 years, those with MassHealth-covered deliveries experienced higher rates of SMM compared to those with non-MassHealth in the same age groups. Only in those aged 40+ was there no statistical difference in SMM rates when comparing MassHealth deliveries to non-MassHealth deliveries. Among people who delivered by Cesarean, SMM rates were also higher for MassHealth deliveries compared to non-MassHealth (207.1 vs. 170.0 per 10,000 deliveries). Looking at Massachusetts' priority populations by MassHealth coverage, among people with a history of mental health conditions, those who had deliveries covered by MassHealth experienced a higher SMM rate than non-MassHealth deliveries (118.2 per 10,000 vs. 104.3 per 10,000).

Among people with any disability, those who have deliveries covered by MassHealth had higher SMM rates than non-MassHealth deliveries (122.7 per 10,000 vs. 96.8 per 10,000 deliveries). Similarly, the SMM rate was higher for those who had a history of opioid use disorder and were on MassHealth than non-MassHealth covered deliveries (137.1 per 10,000 vs. 95.1 per 10,000 deliveries). Those who selected English as their preferred language experienced SMM at a lower rate for both non-MassHealth and MassHealth deliveries compared to those who selected languages other than English as their preferred language. However, among those whose primary language is not English, the SMM rate is significantly lower for MassHealth-covered deliveries than non-MassHealth-covered deliveries (112.1 vs. 153.0 per 10,000 deliveries).

Table 1. SMM and MassHealth Coverage by Maternal Characteristics, Massachusetts: 2014-2022

Maternal Characteristics	SMM Rate (95%CI) MassHealth	SMM Rate (95%CI) Non-MassHealth
Overall	100.5 (96.0, 104.9)*	85.4 (81.9, 89.0)
Race		
White non-Hispanic	76.1 (70.0, 82.3)	76.0 (72.3, 79.8)
Black non-Hispanic	168.9 (155.1, 182.7)	191.4 (168.8, 214.0)
Asian/PI non-Hispanic	75.5 (60.0, 93.7)	95.9 (83.1, 108.7)
Hispanic	98.2 (91.0, 105.5)	96.8 (83.2, 110.4)

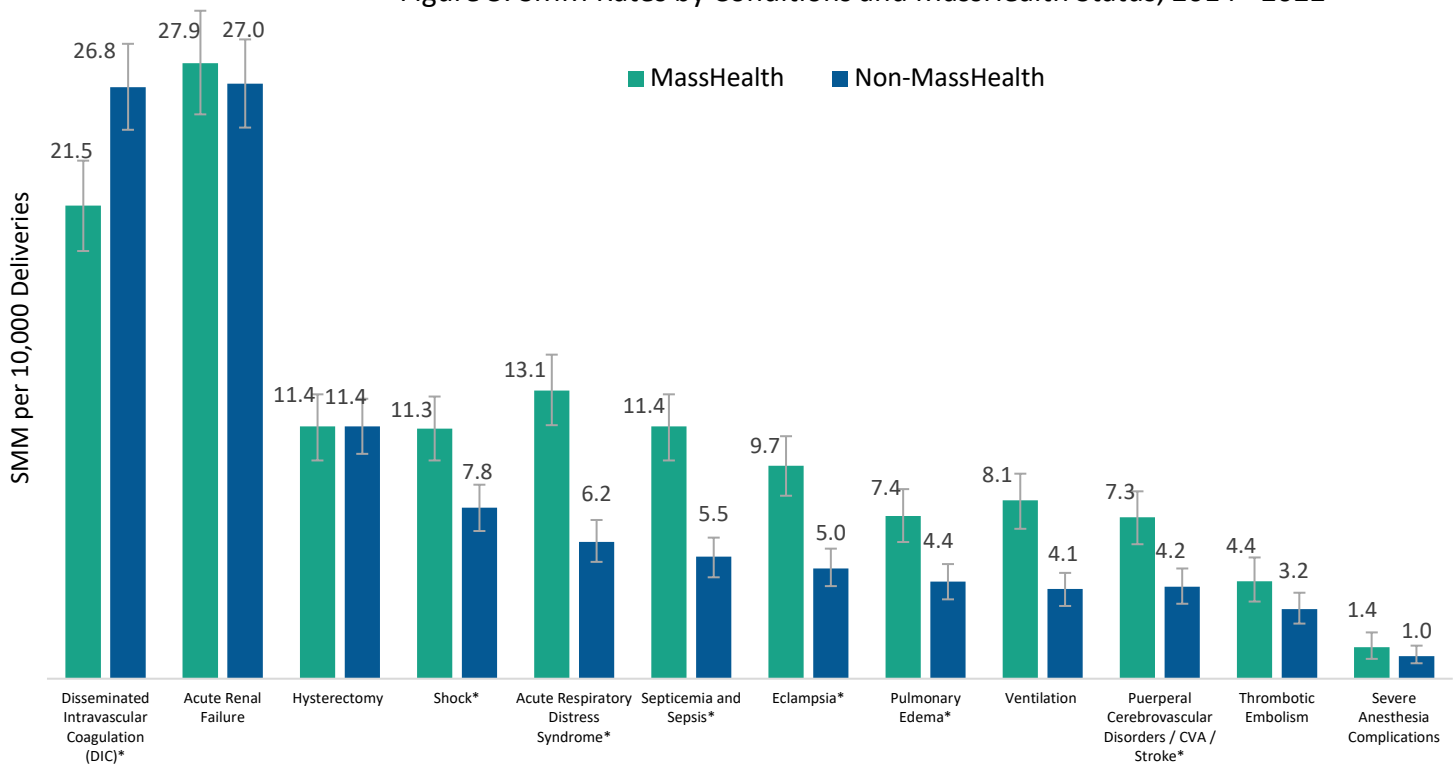
American Indian or Other	92.3 (59.7, 136.3)	65.4 (31.3, 120.2)
Age group		
<30	79.8 (74.6, 85.0)*	66.9 (60.2, 73.6)
30-34	104.9 (95.8, 114.0)*	72.0 (67.2, 76.8)
35-39	129.4 (115.4, 143.5)*	101.4 (94.1, 108.6)
40+	205.9 (171.6, 240.3)	163.2 (143.2, 183.2)
Education		
HS or < HS	93.4 (87.3, 99.4)	82.9 (69.8, 96.1)
Associate or bachelor's degree	102.2 (91.1, 113.3)*	76.4 (71.2, 81.6)
Postgraduate	99.8 (75.0, 130.3)	90.0 (84.1, 95.9)
Other	110.6 (102.4, 118.9)	101 (90.8, 111.2)
Diabetes (Gestational)		
Yes	115.5 (97.5, 133.5)	105.5 (90.3, 120.7)
No	99.3 (94.8, 103.9)*	84.0 (80.4, 87.6)
Diabetes		
Yes	241.3 (184.6, 310.0)	209.8 (150.6, 284.7)
No	98.6 (94.2, 103.0)*	84.5 (81.0, 88.0)
Hypertension		
Yes	276.2 (227.4, 325)	237.7 (197.3, 278.1)
No	96.4 (92.0, 100.8)*	82.2 (78.7, 85.7)
Delivery method		
C-Section	207.1 (196.0, 218.1)*	170.0 (161.5, 178.6)
Vaginal	47.1 (43.4, 50.9)	42.1 (39.1, 45.1)
Foreign born		
Yes	117.3 (109.2, 125.4)	111.5 (101.9, 121.2)
No	91.0 (85.7, 96.2)*	79.8 (76.1, 83.6)
Ever Incarcerated		
Yes	141.4 (115.9, 166.9)	NA
No	98.6 (94.1, 103.1)*	85.6 (82.0, 89.1)
Mental Health		
Yes	122.9 (112.2, 133.6)	104.3 (90.6, 118.0)
No	94.5 (89.7, 99.3)*	83.8 (80.2, 87.4)
Any disability		
Yes	112.7 (107.6, 117.8)*	96.8 (92.2, 101.4)
No	32.8 (26.7, 40.0)*	64.0 (58.9, 69.2)
OUD indicator		
Yes	137.1 (118.1, 156.1)	95.1 (61.5, 140.4)
No	97.5 (93.0, 102.1)*	85.3 (81.8, 88.9)
Language		
English	98.0 (93.2, 102.8)*	84.0 (80.5, 87.6)
Non-English	112.1 (101.0, 123.4)	153.0 (122.0, 190.0)

Note: All groupings are not mutually exclusive. NA= rates based on counts, 1-10 are suppressed.
*These rates are statistically significantly different from non-MassHealth deliveries for the same characteristic.

Figure 5 shows SMM rates by specific conditions and by MassHealth status from 2014 through 2022, combined. The major SMM conditions accounting for the increase in SMM rates from 2014 through 2022 combined include acute renal failure, disseminated intravascular coagulation (DIC), hysterectomy, shock, and

acute respiratory distress syndrome (ARDS). DIC is experienced at a higher rate among non-MassHealth deliveries compared to MassHealth deliveries (26.8 per 10,000 deliveries vs 21.5 per 10,000 deliveries), while acute renal failure and hysterectomy are experienced at nearly the same rate for both MassHealth and non-MassHealth deliveries. Shock is experienced at a higher rate among MassHealth deliveries compared to non-MassHealth deliveries (11.3 vs 7.8, respectively). Finally, ARDS shows a significant disparity between MassHealth and non-MassHealth deliveries, with a rate that is twice as high among MassHealth deliveries (13.1 per 10,000 deliveries vs 6.2 per 10,000 deliveries).

Figure 5. SMM Rates by Conditions and MassHealth Status, 2014 - 2022



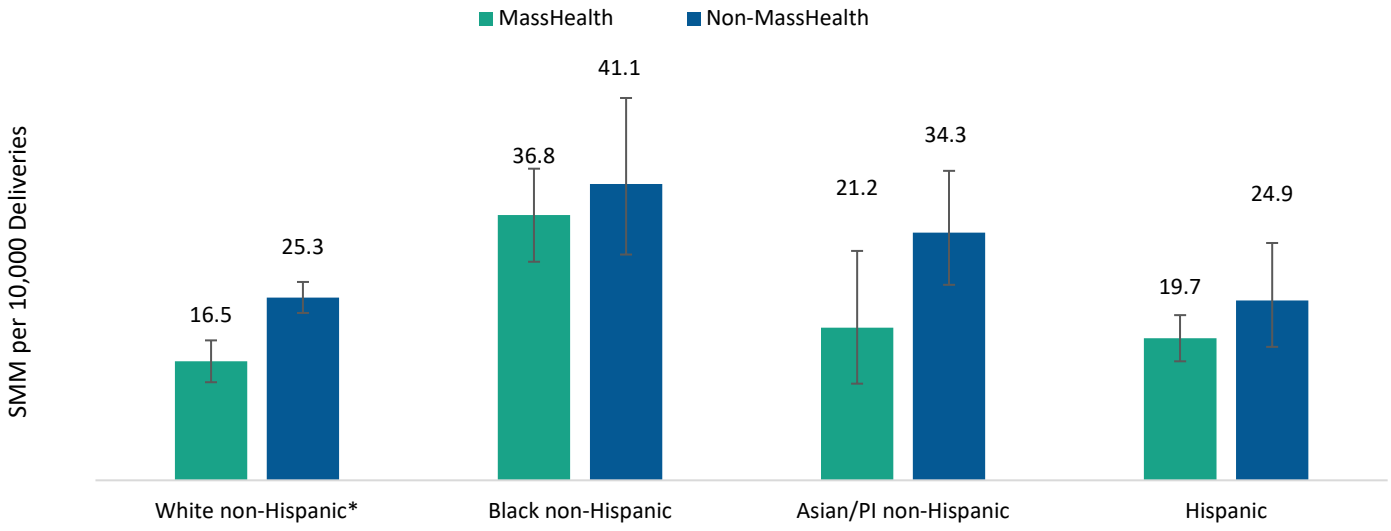
*Indicates statistically significant difference between MassHealth and non-MassHealth Deliveries

When examining each SMM condition for the combined years 2014-2022, there are stark inequities by both MassHealth status and race/Hispanic ethnicity. For example, among White non-Hispanic birthing people, the rate of eclampsia is significantly higher among MassHealth-covered deliveries compared to non-MassHealth deliveries (7.7 per 10,000 deliveries vs. 4.4 per 10,000 deliveries). However, although among Black non-Hispanic birthing people the rates for eclampsia are similar when comparing MassHealth-covered deliveries to non-MassHealth deliveries, they are both much higher when compared to the rates among White non-Hispanic birthing people. Among MassHealth deliveries, the rate among Black non-Hispanic birthing people is nearly twice as high at 13.8 per 10,000 deliveries vs. 7.7 among deliveries in White non-Hispanic birthing people. Among non-MassHealth deliveries, the inequity between Black non-Hispanic and White non-Hispanic birthing people for eclampsia is three-fold (13.2 vs 4.4).

Figure 6 presents DIC rates by race, Hispanic ethnicity and MassHealth status. DIC rates among Black non-Hispanic birthing people with MassHealth deliveries are more than twice the rate among White non-Hispanic

birthing people with MassHealth deliveries (36.8 vs. 16.5 respectively), while among non-MassHealth deliveries, the rate for Black non-Hispanic birthing people was 60% higher than among White non-Hispanic birthing people (41.1 vs. 25.3 respectively). Across all the race and Hispanic ethnicity groups, DIC rates were lower among MassHealth-covered deliveries than non-MassHealth deliveries. Among deliveries to White non-Hispanic birthing people, the DIC rate among MassHealth deliveries is significantly lower than non-MassHealth deliveries.

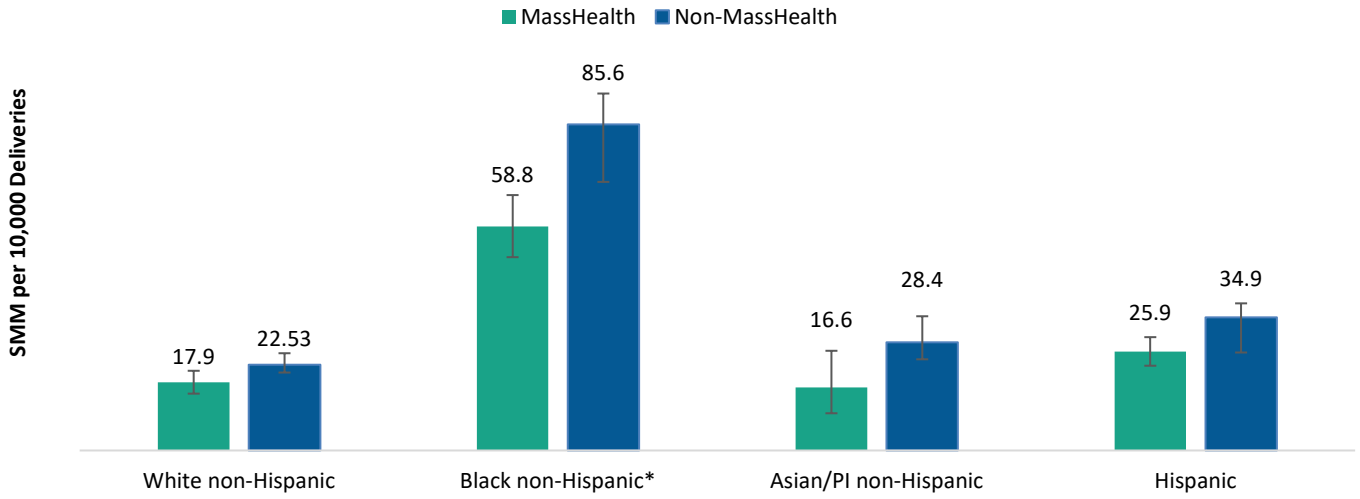
Figure 6. Rates of disseminated intravascular coagulation (DIC) DIC by Race/Hispanic Ethnicity and MassHealth Status, 2014 - 2022



Note: American Indian/Other non-Hispanic rates are not shown due to small counts each year, per DPH suppression rules.
*Indicates statistically significant difference between MassHealth and non-MassHealth deliveries.

Figure 7 shows rates of acute renal failure. Among Black non-Hispanic birthing people, rates of acute renal failure were more than three times higher than among White non-Hispanic birthing people, regardless of MassHealth Status. For those with non-MassHealth deliveries, the rate for acute renal failure among Black non-Hispanic birthing people was nearly four times the rate for White non-Hispanic birthing people (85.6 vs. 22.5 respectively), while for Black non-Hispanic birthing people with MassHealth deliveries, the rate for acute renal failure was more than three times the rate for White non-Hispanic birthing people (36.8 vs. 16.5 respectively). Among Black non-Hispanic birthing people, MassHealth deliveries had significantly lower rates of acute renal failure compared to non-MassHealth deliveries (58.5 vs. 85.6 respectively).

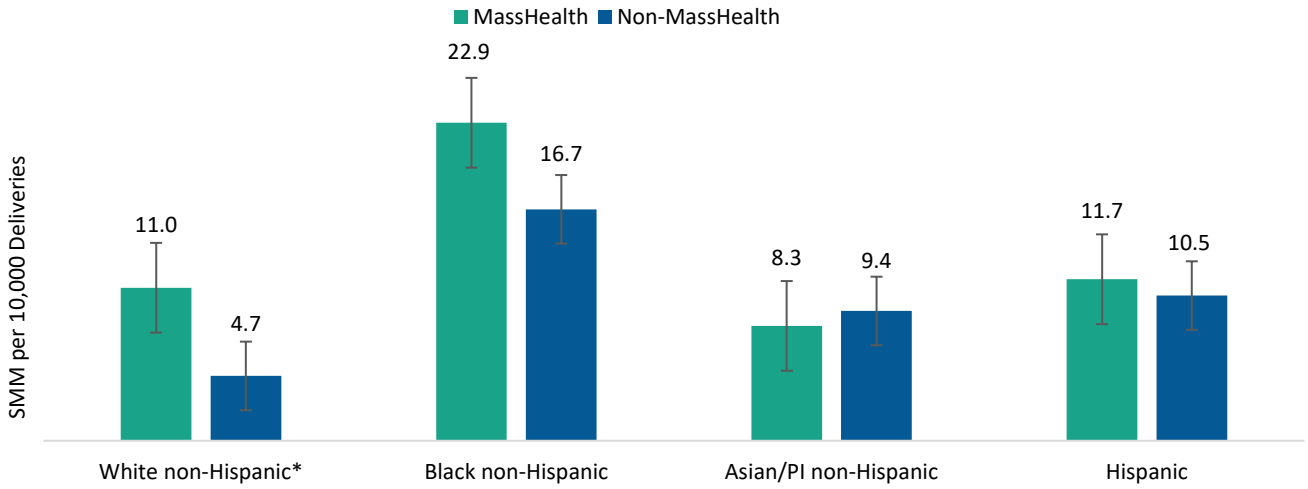
Figure 7. Rates of Acute Renal Failure by Race & Ethnicity and MassHealth Status, 2014 - 2022



Note: American Indian/Other non-Hispanic rates are not shown due to small counts each year, per DPH suppression rules.
*Indicates statistically significant difference between MassHealth and non-MassHealth deliveries.

Figure 8 shows rates of acute respiratory distress syndrome (ARDS) by race and Hispanic ethnicity and MassHealth status from 2014 through 2022. Black non-Hispanic birthing people had the highest rates of ARDS, with rates more than twice the rate among White non-Hispanic birthing people. While the overall rate was highest for Black non-Hispanic birthing people with MassHealth deliveries, at 22.9 per 10,000 deliveries, compared to 11.0 for White non-Hispanic birthing people with MassHealth deliveries, the rate among Black non-Hispanic birthing people with non-MassHealth deliveries was more than three times the rate of ARDS among White non-Hispanic non-MassHealth deliveries (16.7 vs. 4.7 respectively). Differences between rates comparing Black non-Hispanic birthing people with White non-Hispanic birthing people were significant for both MassHealth and non-MassHealth deliveries.

FIgure 8. Rate of Acute Respiratory Distress Syndrome by Race & Hispanic Ethnicity and MassHealth Status, 2014 - 2022



Note: American Indian/Other non-Hispanic rates are not shown due to small counts each year, per DPH suppression rules.
*Indicates statistically significant difference between MassHealth and non-MassHealth deliveries.

Conclusions

In Massachusetts from 2014 through 2022, there was an increase in SMM for all birthing people, regardless of race, ethnicity, or MassHealth status. Overall, SMM rates were higher among MassHealth deliveries compared with non-MassHealth deliveries. Social determinants of health, the non-medical factors that influence health outcomes, include economic stability, educational attainment, and neighborhood and built environment including access to transportation and availability of healthy foods. These factors also drive the disparities in outcomes by insurance status. As MassHealth is directly associated with income, and economic stability is highly correlated with health through wealth, employment, food security and housing stability, MassHealth participants are more likely to be impacted by social determinants of health through limited financial resources. When stratified by race and Hispanic ethnicity, we see that among Black non-Hispanic birthing people, SMM rates for both MassHealth and non-MassHealth deliveries were significantly higher, compared to their White non-Hispanic counterparts. Specific SMM conditions are disproportionately impacting Black non-Hispanic birthing people. Lastly, Massachusetts' priority populations (those who are foreign born, are non-English speakers, have a disability, or have a history of incarceration, mental health issues, or OUD) experience SMM at a greater rate. Among those with a history of incarceration and disability status, rates were statistically significantly higher among MassHealth deliveries compared to non-MassHealth deliveries.

The SMM conditions that contributed the most to the increase of SMM during 2014-2022 are disseminated intravascular coagulation (DIC), acute renal failure, hysterectomy, shock, and acute respiratory distress syndrome (ARDS). State perinatal quality initiatives should continue to promote the use of obstetric safety bundles, with the goal of achieving population-level effects, by advancing evidence-based clinical practice through data-driven quality improvement (QI) initiatives and collaborative learning. Hospitals with a higher

concentration of Black non-Hispanic birthing people should be prioritized for QI initiatives, especially those targeting implicit bias/antiracism education and interventions.

Ongoing efforts

Massachusetts passed a comprehensive maternal health bill in August 2024 which includes a transformative set of measures designed to enhance equitable maternal care and to reduce SMM. Measures include establishing a state licensure pathway for certified professional midwives (CPMs) and international board-certified lactation consultants (IBCLCs), a statewide universal postpartum home visiting program, a grant program to support initiatives addressing maternal mental health and substance use disorders, regulatory updates for freestanding birth centers, and requirements for postpartum depression screening and treatment, among other sweeping efforts. In addition to certain requirements for private payers in Massachusetts, the new law also requires MassHealth to cover CPMs and home births, universal postpartum home visiting, donor human milk for certain hospitalized infants, postpartum depression screenings through 12 months postpartum, and noninvasive prenatal screenings for all pregnant individuals.

MassHealth has implemented and continues to develop policies to improve the health outcomes of diverse MassHealth pregnant and birthing members and their infants by providing equitable access to high quality health care services and supports. Examples of key policies include:

- Comprehensive coverage during pregnancy and through 12 months postpartum, inclusive of all pregnancy outcomes, including but not limited to behavioral health, sexual and reproductive health, transportation, dental, and remote patient monitoring services;
- Comprehensive coverage for eligible undocumented individuals during pregnancy and through 12 months postpartum, at state cost;
- Coverage of doula services for members during pregnancy, delivery, and through 12 months postpartum, inclusive of all pregnancy outcomes (as of December 2023);
- Accountable Care Organization (ACO) enhanced care coordination and housing and nutrition supports for high-risk perinatal members;
- ACO quality and equity incentives that promote equitable prenatal and postpartum care with a focus on SMM;
- Hospital quality and equity incentives that promote equitable obstetric and newborn care with a focus on SMM;
- Postpartum depression screening requirements for primary care providers and pediatricians;
- Substantial rate increases for freestanding birth centers; and
- Proposed reimbursement parity for certified nurse-midwives (CNMs) and physicians anticipated to go into effect in early 2025.

MassHealth has representation on the Massachusetts Maternal Mortality Review Committee (MMMRC), which comprehensively reviews deaths that occur during pregnancy or within the first year after the pregnancy ends. The MMMRC makes policy and practice recommendations to prevent future maternal

mortality. MassHealth also continues to work closely with the Perinatal-Neonatal Quality Improvement Network (PNQIN), the state perinatal quality collaborative. PNQIN supported two hospitals in the state (Brigham and Women's Hospital and Baystate Medical Center) through funding from HRSA to launch remote postpartum blood pressure monitoring for birthing people with hypertensive disorders of pregnancy. These programs were a model which helped inform MassHealth's new reimbursement of remote blood pressure monitoring. PNQIN will also be a main source of communication to birthing facilities, obstetricians, and pediatricians around awareness of MassHealth reimbursement for postpartum depression screening for 12 months. This is especially timely since PNQIN has just launched their Alliance for Innovation of Maternal Health (AIM) perinatal mental health conditions bundle which convenes obstetric, neonatal, and mental health providers in monthly webinars and data collection. MassHealth is also represented in the Levels of Maternal Care Implementation Committee which PNQIN helps convene and made the recommendation to include levels of maternal care in the Massachusetts perinatal regulations which primarily focus on the newborn. Lastly, staff from the MassHealth perinatal and maternal health policy team are a part of PNQIN's Advisory Board and have presented at PNQIN annual summits.

Methods

We used the Massachusetts Department of Public Health's Public Health Data Warehouse data (PHD) to conduct a retrospective analysis of SMM among people who delivered from 2014 through 2022. These data were made available through special legislation, M.G.L c. 111 s. 237 of 2017. The identification of SMM is based on the algorithm developed by the Health Resources and Services Administration (HRSA), the Centers for Disease Control and Prevention (CDC), the Agency for Healthcare Research and Quality (AHRQ), and the Alliance for Innovation on Maternal Health (AIM) (Version 07-01-2021). The outcome measure was SMM during the delivery hospitalization, based on the algorithm developed by CDC. This definition relies on 21 conditions or procedures including transfusion (SMM 21) or excluding transfusion (SMM20) found through ICD-9 and ICD-10 and procedure codes. We restricted our analysis to SMM20 to focus on specific SMM conditions, thus excluding transfusion. We found SMM cases by linking live births and fetal deaths to hospital discharge records. All the diagnoses and procedures for the delivery hospitalization are included for the identifications for SMM20 conditions. The unit of analysis is delivery which the infant date of birth is indexed with mother's delivery hospitalization.

MassHealth deliveries were identified using the MassHealth claim line flag in the All-Payer Claims Database Medical claims (APCD); as such, MassHealth may not be the primary medical insurer of the patient. Data are only presented from 2014 through 2022 because APCD data is only available in the PHD starting in 2014. Care should be taken in comparing non-MassHealth data before and after 2016; in 2016 the Supreme Court determined in Gobeille v. Liberty Mutual that self-funded insurance plans were no longer required to report to state APCDs. This led to approximately 1.75 million self-insured beneficiaries (that is, 75% of the self-insured) no longer being submitted to the MA APCD in 2017; as of 2020 only about 18% of the original self-insured beneficiaries remaining reported to the APCD. We calculated rates and 95% confidence intervals (CI) per 10,000 deliveries. We used the Byar's approximation of the exact Poisson distribution to calculate the 95% confidence intervals.

Detailed definitions:

Mental health diagnosis is a composite based on diagnosis codes, Department of Mental Health admission, or those who had severe mental illness flags in either the Bureau of Substance Addiction Services (BSAS) or the Department of Corrections (DOC). The DOC's definition of Severe Mental Illness (SMI) expanded in 2019 to include anxiety and depression, based on the criminal justice reform act passed by the legislature in 2018.

The composite includes any of the following:

1. Diagnosis includes any mental illness such as dementia, schizophrenic disorders, mood disorders, delusional disorders, pervasive developmental disorders, anxiety, dissociative and somatoform disorders, personality disorders, physiological malfunction arising from mental factors, acute reaction to stress, adjustment reaction, specific nonpsychotic mental disorders due to brain damage, depressive disorder not elsewhere classified, disturbance of conduct not elsewhere classified, disturbance of emotions specific to childhood and adolescence, psychic factors associated with diseases classified elsewhere.
2. Severe Mental Illness (SMI) flags reported on Bureau of Substance Addiction Services (BSAS) or Department of Correction (DOC).
3. Received services by DMH.

Disability definitions:

- Developmental disabilities are a group of conditions, beginning before age 22 (but often at birth/in early childhood), which delay or alter the typical course of development in the areas of bodily function, learning, language, sensation, or behavior.
- Hearing disability: The category of hearing disability includes anyone with a total or partial inability to perceive and/or process sounds at the same volume or frequency as someone with typical hearing. This includes people whose hearing is augmented by various technologies, including hearing aids and cochlear implants. This variable does not distinguish between people who primarily use ASL (or another signed language or manual communication system) and those who primarily use spoken or written English.
- Intellectual disability: Intellectual disability is a subcategory of developmental disability, characterized by significant difficulty understanding new or complex information and learning and applying new skills. People with intellectual disabilities may require more than the typical amount of support with self-care and daily activities. Intellectual disabilities begin before adulthood and affect a person throughout the life course.
- Mobility disability: A mobility disability is one that affects movement, particularly ambulation (though many mobility disabilities also affect other types of bodily movement). The presence of a mobility disability does not denote complete inability to move, or even to walk; a mobility disability may, for example, affect a person's breathing or balance in such a way as to make walking difficult, without affecting the legs at all.
- Vision disability: Vision disability includes eyesight which cannot be corrected to a “normal” level. This may present as an impairment in visual acuity (where the eye does not perceive objects with typical clarity at standard distances), or in visual field (where the eye cannot see as wide an area as usual

without moving the eyes or turning the head). This category does not include minor differences in visual sense (e.g., minor myopia or presbyopia) that are easily corrected with eyeglasses or contact lenses.

SMM-20 Discharge diagnoses or procedural codes used:

1. Acute myocardial infarction
2. Aneurysm
3. Acute renal failure
4. Acute respiratory distress syndrome
5. Amniotic fluid embolism
6. Cardiac arrest/ventricular fibrillation
7. Conversion of cardiac rhythm
8. Disseminated intravascular coagulation
9. Eclampsia
10. Heart failure/arrest during surgery or procedure
11. Puerperal cerebrovascular disorders
12. Pulmonary edema/acute heart failure
13. Severe anesthesia complications
14. Sepsis
15. Shock
16. Sickle cell disease with crisis
17. Air and thrombotic embolism
18. Hysterectomy
19. Temporary tracheostomy
20. Ventilation