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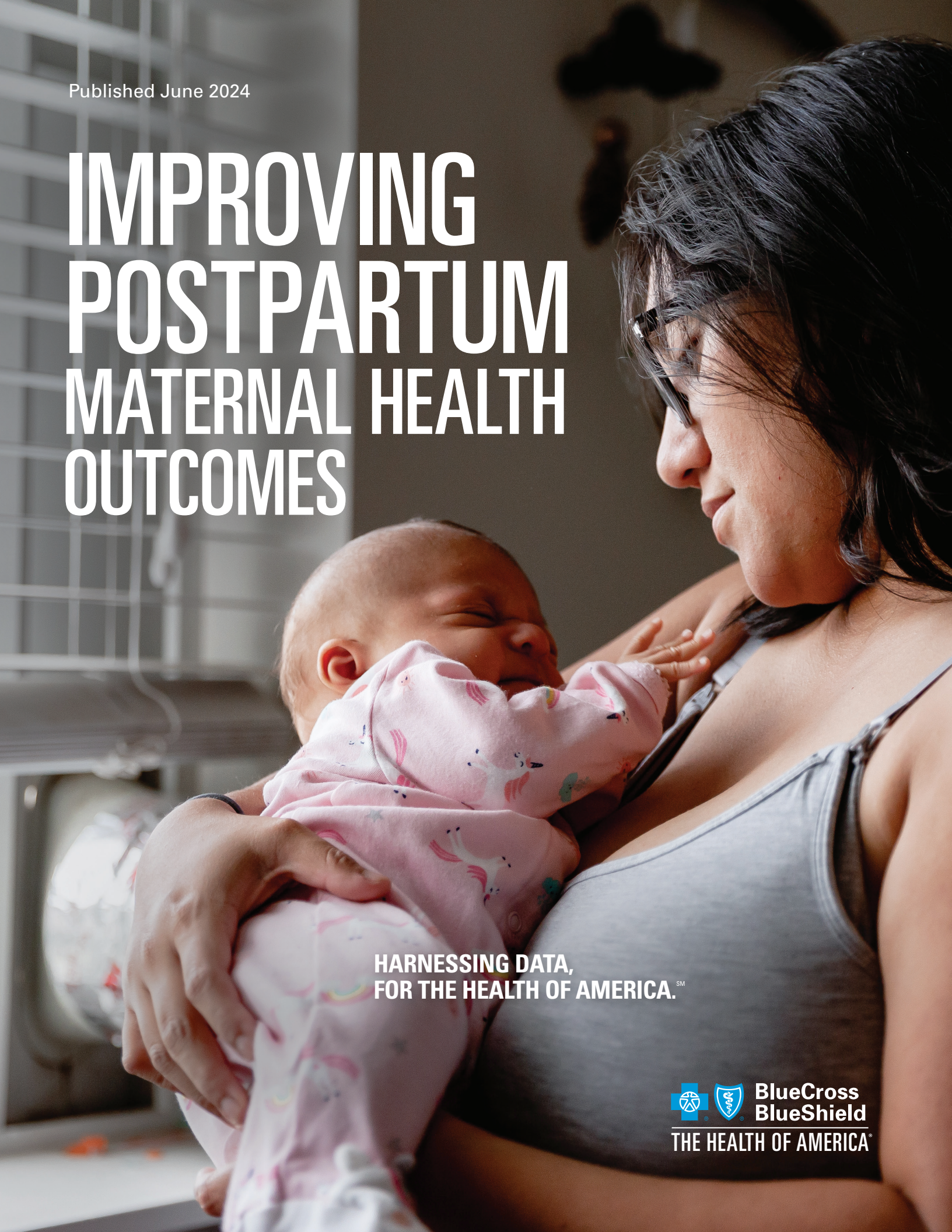
IMPROVING POSTPARTUM MATERNAL HEALTH OUTCOMES



HARNESSING DATA,
FOR THE HEALTH OF AMERICA.℠

BlueCross BlueShield
THE HEALTH OF AMERICA®

INTRODUCTION

The risks of childbirth do not end at delivery. Dangerous, unexpected birth complications or health-related events, categorized as severe maternal morbidity (SMM)[1] events, can take place during labor and delivery as well as during the postpartum period. These events can lead to long-lasting consequences, or even death. Our research shows that as many as one third of all SMM events occur during the postpartum period, defined here as the six weeks following discharge from the hospital. Black patients are at a much higher risk of experiencing a postpartum SMM event than their white and Latina counterparts, even after the delivery of their child.

Our research underscores the importance of providing **more focused medical care following labor and delivery and, furthermore, researching the root causes of unexpected birth complications to better predict and prevent SMM events**. In doing so, we can help address the racial and ethnic disparities that exist in SMM rates during the postpartum period and better protect all new parents.

The Data

This report examines the racial disparities that exist in the rate of SMM events during the six weeks following a patient's release from the hospital after giving birth. Our analysis draws on data from more than 700,000 Blue Cross Blue Shield (BCBS) commercially insured births from January 1, 2019 to December 31, 2022. Additionally, we assessed more than 1.5 million Medicaid births from the Centers for Medicare & Medicaid Services (CMS) which was provided by and analyzed by The National Opinion Research Center (NORC) at the University of Chicago. This data is from January 1, 2017 to December 31, 2021. The BCBS data and the NORC at the University of Chicago data are distinct, so it is not intended for a direct comparison. Still, the breadth of these two data sets gives us deep insight into health outcomes in the six weeks after discharge from the hospital. For more on the data, please see the **methodology** on **page 8.**

This report calculates the postpartum SMM rate inclusive of any SMM event that occurred in the 6-week post-delivery discharge period, regardless of whether a SMM event also occurred during delivery. The Appendix includes a graph that measures SMM in the postpartum period using only new onset (de novo) SMM events.

This data underscores the urgency to take action.

Our Recommendations

The Blue Cross Blue Shield Association has developed a new health equity policy platform, Creating a More Equitable System for the Health of America, as well as a policy brief, Taking Action to Improve Maternal Health Equity, that include a set of regulatory and legislative actions to add ress maternal health equity, including the crisis in racial and ethnic disparities in SMM.

KEY FINDINGS

The data shows substantial racial and ethnic disparities in postpartum outcomes for both commercially-insured and Medicaid-insured patients:

1. Black and Latina patients experience postpartum SMM events at a higher rate than white patients.

- Postpartum SMM rates are 87% higher among Black patients and 7% higher among Latina patients in the commercially-insured population.
- The NORC at the University of Chicago data shows postpartum SMM rates are 90% higher among Black patients and 6% higher among Latina patients in the Medicaid-insured population.

2. Black patients are hospitalized more often than white patients.

- Hospitalization rates are 71% higher for Black patients in the commercial population.
- The NORC at the University of Chicago data shows hospitalization rates are 77% higher for Black patients in the Medicaid population.

3. Just six events account for three quarters of SMM events in both the commercially-insured and Medicaid-insured populations.

- They are acute renal failure, acute respiratory distress syndrome, sepsis, acute heart failure, thrombotic embolism and eclampsia.
- For all six of these SMM events, prevalence rates are higher for Black patients than white patients in the commercial population.
- What's more, we find that racial disparities in postpartum SMM rates have persisted over the past five years.

(1) SMM events, as defined by the CDC, are a set of 20 unexpected, adverse outcomes of labor and delivery, up to six weeks postpartum, that can result in significant short- or long-term consequences to the patient's health. Some examples of SMM events include sepsis, acute renal failure and thrombotic embolisms. Further details about how the SMM rate was calculated can be found in the Methodology Section at the end of the report.

THE CHALLENGE

Racial Disparities in the Postpartum Period

Current guidance for postpartum care in the United States outlines a patient having at least two appointments with a care provider within six weeks post-delivery. However, our data suggests that standard follow-up care provided during the six weeks post-delivery discharge may not be occurring as needed, nor be sufficient, particularly for patients at higher risk of an SMM event.

A comparison of SMM rates during labor and delivery versus the postpartum period reveals that about one-third of all SMM events occur after the patient leaves the hospital.

Race, Ethnicity and Maternal Morbidity

Black and Latina patients experience higher rates of SMM events during labor and delivery than white patients. However, in the six weeks post-delivery discharge, **the relative difference in SMM rates between Black patients and white patients goes from 71% to 87%** in the commercial population. According to NORC at the University of Chicago data, it goes from 68% to 90% in the Medicaid population. By contrast, the relative difference in SMM rates between Latina and white patients declines slightly in the six weeks post-delivery discharge.

Commercial SMM Rates by Race and Ethnicity at Delivery and 6 Weeks Post-Delivery Discharge

	2022 SMM **at delivery** (per 10,000 deliveries)	Compared to white patients	2022 SMM in **6 Weeks post-delivery discharge** (per 10,000 deliveries)	Compared to white patients
Black	137	**71% higher**	73	**87% higher**
Latina	101	**26% higher**	42	**7% higher**
white	80		39	

Source: BCBS National Claims Data from January 1, 2019 to December 31, 2022

NORC at the University of Chicago Medicaid SMM Rates by Race and Ethnicity at Delivery and 6 Weeks Post-Delivery Discharge

	2021 SMM at **delivery** (per 10,000 deliveries)	Compared to white patients	2020 SMM in **6 weeks post-delivery discharge** (per 10,000 deliveries)	Compared to white patients
Black	114	**68% higher**	57	**90% higher**
Latina	81	**19% higher**	32	**6% higher**
white	68		30	

Source: National Opinion Research Center analysis of CMS data. Data is from January 1, 2017 to December 31, 2021.

The large disparity in SMM rates between Black patients and white and Latina patients during the six weeks post-delivery discharge has been a consistent trend dating back to at least 2018 (see Appendix).

Racial Disparities Increase with Age

Racial disparities in SMM rates during the six weeks post-delivery discharge increase with age. In both the BCBS commercial and NORC at the University of Chicago data on Medicaid populations, **SMM rates for Black patients ages 35 to 44 are more than twice as high** as their white counterparts. Compared to SMM rates among patients ages 15-24, the racial disparity in SMM rates among older Black patients are six times higher in the commercial population and more than one and a half times higher in the Medicaid population. The NORC at the University of Chicago data shows it is more than one and a half times higher in the Medicaid population. The BCBS data and the NORC at the University of Chicago data are distinct, so it is not intended for a direct comparison.

Commercial SMM Rates in 2022 by Race and Age at 6 Weeks Post-Delivery Discharge

2022	Black SMM at **6 Weeks post-delivery** (per 10,000 deliveries)	Latina SMM at **6 Weeks post-delivery** (per 10,000 deliveries)	white SMM at **6 Weeks post-delivery** (per 10,000 deliveries)	Black compared to white patients	Latina compared to white patients
Age 15-24	51	48	42	**21% higher**	14% higher
Age 25-34	66	37	35	**89% higher**	6% higher
Age 35-44	107	53	46	**133% higher**	15% higher

Source: BCBS National Claims Data

NORC at the University of Chicago Medicaid SMM Rates by Race and Age at 6 Weeks Post-Delivery Discharge

2020	Black SMM at **6 Weeks post-delivery** (per 10,000 deliveries)	Latina SMM at **6 Weeks post-delivery** (per 10,000 deliveries)	white SMM at **6 Weeks post-delivery** (per 10,000 deliveries)	Black compared to white patients	Latina compared to white patients
Age 15-24	42	28	25	**68% higher**	12% higher
Age 25-34	60	31	30	**100% higher**	3% higher
Age 35-44	91	45	44	**107% higher**	2% higher

Source: National Opinion Research Center analysis of CMS data

THE OUTCOMES

A More Detailed Look at Maternal Morbidity

The six most prevalent SMM events that occur during the six weeks post-delivery discharge account for 77% of SMM events in commercial populations. NORC at the University of Chicago data show these events account for 78% of SMM events in Medicaid populations. These SMM events are sepsis, acute heart failure, acute respiratory distress syndrome, acute renal failure, thrombotic embolism and eclampsia. Aside from sepsis, which Latina patients experience at the highest rate, **Black patients in both populations have consistently higher rates of the most common SMM events** than their Latina and white counterparts when assessing both BCBS data and NORC at the University of Chicago data.

Commercial: Most Prevalent SMM Events for 6 Weeks Post-Delivery Discharge in 2022, by Race and Ethnicity (per 10,000 deliveries)

SMM Event	white	Black	Latina
Sepsis	10.3	**12.3**	18.3
Pulmonary Edema/Acute Heart Failure	7.3	**21.3**	5.1
Acute Respiratory Distress Syndrome	4.1	**12.8**	4.5
Acute Renal Failure	5.4	**12.8**	5.1
Thrombotic Embolism	4.2	**7.5**	3.7
Eclampsia	4.3	**7.3**	3.1

**Total of 20 SMM indicator events as defined by the CDC, with transfusion excluded
**A complete list of rates for all 20 SMM events by race in commercial population can be found in Appendix A

Source: BCBS National Claims Data

NORC at the University of Chicago Medicaid: Most Prevalent SMM Events for 6 Weeks Post-Delivery Discharge in 2020, by Race and Ethnicity (per 10,000 deliveries)

SMM Event	white	Black	Latina
Sepsis	11.9	**14.1**	14.8
Pulmonary Edema/Acute Heart Failure	6.0	**13.4**	5.2
Acute Respiratory Distress Syndrome	5.4	**13.7**	3.3
Acute Renal Failure	4.2	**9.7**	4.6
Thrombotic Embolism	4.0	**6.3**	2.7
Eclampsia	2.2	**7.5**	2.2

**Total of 20 SMM indicator events as defined by the CDC, with transfusion excluded
**A complete list of rates for all 20 SMM events by race in Commercial population can be found in Appendix A

Source: National Opinion Research Center analysis of CMS data

SMM events can often lead to inpatient hospitalizations. In commercial populations, **inpatient hospitalizations are approximately 71% higher for Black patients** than for white and Latina patients.

According to NORC at the University of Chicago data, in Medicaid populations, inpatient hospitalization rates are 77% higher in Black patients than for white and Latina patients.

Utilization in 6 Weeks Post-Delivery Discharge (Events per 1,000 Deliveries)		
Commercial Deliveries (2022)	**Inpatient Hospitalization***	**Emergency Department**
white	17	60
Black	**29**	**83**
Latina	18	71
Medicaid Deliveries (2020)	**Inpatient Hospitalization***	**Emergency Department**
white	13	84
Black	**23**	**91**
Latina	13	84

*ED visits that resulted in an IP hospitalization are counted as IP hospitalizations

A CALL TO ACTION

Our Policy Platform

The maternal health crisis is perhaps the most profound example of health inequity. Racial disparities span education levels, socioeconomic status, age and geography. Many complications from labor and delivery are preventable.

To meaningfully address the maternal health crisis, we need to fully understand the root causes of unexpected birth complications women are facing across the country. Data from BCBS companies and CMS provides valuable insights into the racial disparities that exist in SMM rates. But to design the most effective roadmap for eliminating these disparities, stakeholders need a national data standard by which to measure the prevalence of risk factors so that we can collectively better predict and ultimately help prevent an SMM event. We believe the federal government has a critical role to play in this effort.

Improving Data on SMM Events

Congress should provide funding to the Centers for Disease Control and Prevention (CDC) for technical assistance to states to establish, coordinate and manage Severe Maternal Morbidity (SMM) Review Committees. The CDC already works with state-level Maternal Mortality Review Committees to understand the causes of maternal deaths. By expanding that effort to focus on SMMs, state SMM Review Committees could identify, review and characterize pregnancy-related morbidity and report the data to the CDC. They could then coordinate to identify focused interventions during every stage of a woman's pregnancy.

Expanding Perinatal Health Care

While we advocate for a national data standard to unlock opportunities to better predict and prevent SMM, we should scale efforts that we know are already working.

For example: we know high quality, affordable perinatal health care reduces SMM events. But minoritized communities continue to experience gaps in access to these types of services. Congress and CMS should establish incentives, such as an enhanced federal match for doula services, to encourage more states to add this important benefit to their Medicaid programs. Additionally, states should enable expanded access to midwifery care by supporting policies and practices that promote full-practice authority without being limited by regulatory and legislative restrictions.

Addressing Social Drivers of Health

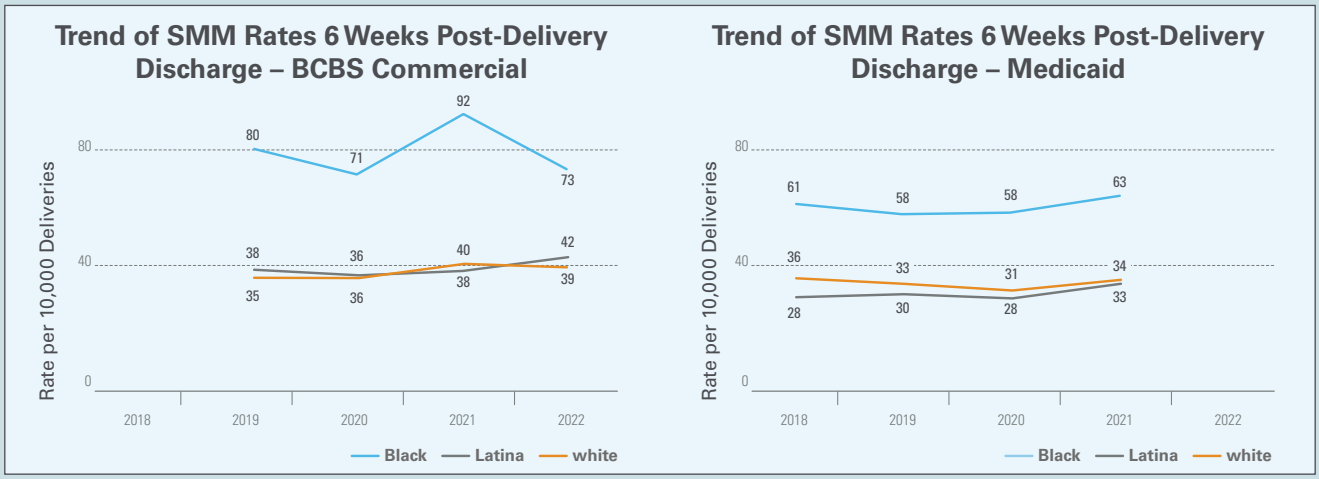
Maternal health equity cannot be advanced without directly addressing the social drivers of health that may impact a patient's overall health and wellness, such as housing insecurity, lack of access to reliable transportation or healthy, affordable food. These factors not only significantly affect a patient's overall health but can also hinder access to important health care services that can help prevent future SMM events.

Empowering payers to offer programs that fully address the social drivers impacting maternal health, especially in the six weeks post-delivery discharge, could help prevent poor health outcomes and potentially reduce the racial and ethnic disparities we see in SMM rates. That's why we encourage CMS to offer more flexibility to payers to invest in benefits that address social drivers of health. We have long advocated for policies that improve outcomes during the postpartum period, including extending Medicaid postpartum coverage from 60 days to 12 months. Forty-four states have adopted this change. We have also influenced the National Committee for Quality Assurance standard for measuring maternal health disparities through SMM events, which now includes events up to six weeks post-delivery discharge.

The Blues have a longstanding commitment to maternal health equity. That commitment includes partnering directly with providers to improve the way care is delivered and expanding access to doulas and nurse midwives. It also includes a focus on data standards to drive equitable outcomes; investing in local communities; and advocating for policies that create a better system of health for all. Although we have seen the benefits of our efforts, much work remains.

Data is more than just numbers—data represents real people. The findings in this report underscore the urgency for taking action to advance maternal health equity. We will continue to advocate for commonsense policy solutions to ensure every patient goes home healthy.

APPENDIX



METHODOLOGY

The claims-based measure of maternal morbidity used in this report leverages the Severe Maternal Morbidity (SMM) methodology established by the Centers for Disease Control and Prevention.[1] SMM events are identified in the claims using the ICD-10 code list developed by the Alliance for Innovation on Maternal Health (AIM).[2] For the commercial population, 2.9 million hospital deliveries were identified from January 1, 2019 to December 31, 2022 through BCBS claims. For the Medicaid population, 6.2 million hospital deliveries were identified from January 1, 2017 to December 31, 2021 by the National Opinion Research Center through claims from the Transformed Medicaid Statistical Information System (T-MSIS).[3]

The results developed from these two data sources have inherent differences which make direct comparisons inadvisable. The populations have different age distributions and different risk profiles, provider coding practices differ across the two patient populations and data handling procedures differ between commercial payers and states.

The rate of SMM is the presence of one or more of the CDC's defined 20 indicators present for a given delivery or up to six weeks post-delivery discharge scaled to a per 10,000 deliveries basis. (Because of the focus on the postpartum period transfusions were excluded from the analysis.)

An SMM event is identified for a patient experiencing one or more indicators during a delivery hospitalization and up to six weeks after delivery discharge. The proportion of SMM events occurring in the postpartum period is based on the count of events postpartum divided by the total count of events for both the delivery and postpartum time periods. Several of the 20 indicators considered are extremely rare during the postpartum period and not major contributors to the overall SMM rate. The incidence rate of each is presented in the Appendix.

This report calculates the postpartum SMM rate inclusive of any SMM event that occurred in the 6-week post-delivery discharge period, regardless of whether a SMM event also occurred during delivery. The clinical literature often proposes an alternative method of measuring SMM in the postpartum period, using only "de novo" (or new onset) SMM events. The de novo postpartum SMM rate only includes events that were first diagnosed in the 6-week post-delivery discharge period. This alternative approach does not change the underlying disparity story in this report. The de novo postpartum SMM rates, and corresponding disparities by race, are presented below.

Race and ethnicity identifiers for the commercial population were obtained using RAND's BIFSG race/ethnicity

METHODOLOGY *continued*

imputation methodology that uses geocodes and surnames as inputs.[4] Race and ethnicity identifiers for the Medicaid population via T-MSIS are typically self-reported by individuals and ultimately submitted by the states; however, states may not collect or submit complete data each year. Overall race and ethnic subgroups from Medicaid represent all patients who meet study inclusion criteria and have a listed race and/or ethnicity.

National-level results include race and ethnicity identifier information from all 50 states and the District of Columbia. Data quality from states varied in terms of completeness of claims and eligibility information; enrollees and claims data were assessed on a per-record basis for study inclusion.

The report was developed in partnership with Blue Health Intelligence® (BHI)® and The National Opinion Research Center (NORC) at the University of Chicago. BHI provided births and SMM rates for the commercial population and NORC at the University of Chicago provided both for the Medicaid population.

Commercial De Novo SMM Rates 6 Weeks Post-Delivery Discharge		
	2022 de novo SMM in **6 Weeks Post-Delivery Discharge** (per 10,000)	Compared to white patients
Black	66	**89% higher**
Latina	38	**9% higher**
white	35	

ENDNOTES

(1) Severe Maternal Morbidity in the United States, Centers for Disease Control and Prevention
(2) Alliance for Innovation on Maternal Health ICD-10 SMM Numeric Code List
(3) Delivery inclusions based on Diagnosis Related Group (DRG) codes for cesarean and vaginal deliveries. Medicaid postpartum SMM rates were calculated for patients continuously enrolled in Medicaid for 12 months following delivery except for the trend results in the Appendix where they were calculated for patients continuously enrolled for 6 weeks following delivery. Differences in screening criteria result in slight differences in rates.
(4) RAND Bayesian Improved Surname Geocoding: Advancing Equity through Data Science, RAND Corporation

Commercial: Overall Rates of the 20 SMM Events for 6 Weeks Post-Delivery Discharge in 2022	
SMM Event	2022 **6 Weeks Post-Discharge** Rate (per 10,000)
Sepsis	11.6
Pulmonary Edema/Acute Heart Failure	7.8
Acute Renal Failure	5.7
Thrombotic Embolism	4.5
Acute Respiratory Distress Syndrome	4.4
Eclampsia	4.2
Disseminated Intravascular Coagulation	3.6
Puerperal Cerebrovascular Disorders	2.7
Shock	1.8
Hysterectomy	1.1
Acute Myocardial Infarction	1.0
Ventilation	0.9
Aneurysm	0.2
Cardiac Arrest/Ventricular Fibrillation	0.2
Sickle Cell Disease with Crisis	0.2
Conversion of Cardiac Rhythm	0.2
Severe Anesthesia Complications	0.1
Amniotic Fluid Embolism	0.1
Temporary Tracheostomy	0.1
Heart Failure/Arrest During Surgery/Procedure	0.0

Source: BCBS National Claims Data

Medicaid: Overall Rates of the 20 SMM Events for 6 Weeks Post-Delivery Discharge in 2020	
SMM Event	2020 **6 Weeks Post-Discharge** Rate (per 10,000)
Sepsis	13.3
Acute Respiratory Distress Syndrome	7.6
Acute Heart Failure/Pulmonary Edema	6.8
Acute Renal Failure	5.8
Thrombotic Embolism	4.1
Eclampsia	3.6
Puerperal Cerebrovascular Disorders	2.7
Ventilation	2.6
Shock	1.9
Disseminated Intravascular Coagulation	1.7
Acute Myocardial Infarction	1.0
Sickle Cell Crisis	0.5
Hysterectomy	0.4
Cardiac Arrest/Ventricular Fibrillation	0.3
Conversion of Cardiac Rhythm	0.2
Temporary Tracheostomy	0.2
Aneurysm	0.1
Severe Anesthesia Complications	0.1
Heart Failure/Arrest During Surgery/Procedure	0.0
Amniotic Fluid Embolism	0.0

Source: National Opinion Research Center analysis of CMS data

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