Prematurity and severe maternal morbidity among Medicaid- and CHIP-covered live births in 2021

CONTENTS

Executive summary

What is this brief?

- **This data brief describes Medicaid and the Children's Health Insurance Program (CHIP) enrollees, ages 15 to 49, who had a live birth covered by Medicaid or CHIP in 2021 and experienced either a preterm birth or a severe maternal morbidity (SMM) condition in the year. Figures that show year-to-year trends include data from 2019 and 2020 for comparison to 2021.**
- **The Centers for Medicare & Medicaid Services (CMS) is releasing this data brief as part of ongoing agency efforts to measure disparities in health outcomes and access to care and to make focused, evidence-based investments to improve health equity for individuals covered by Medicaid and CHIP.**
- **The information in this brief, as well as updated counts that reflect data from later years, will be available on data.medicaid.gov.**

Key findings

- **From 2019 to 2021, the percentage of live births that were preterm increased from 10.5 to 10.8 percent and SMM rates increased from 209.6 to 252.7 per 10,000 Medicaid- and CHIP-covered live births among states included in the analysis. SMM conditions include some known complications caused by COVID-19, such as acute respiratory distress syndrome, so trends may be attributed in part to the impact of the pandemic.**
- **Non-Hispanic Black and non-Hispanic American Indian and Alaska Native (AI/AN) enrollees had the highest rates of both preterm birth and SMM compared to other racial and ethnic groups.**
- **Enrollees who were eligible for Medicaid based on disability had over one and a half times the percentage of preterm births and nearly double the rate of SMM than that of enrollees in other eligibility categories.**

The role of Medicaid and CHIP in maternal and infant health equity

- From 2019 to 2021, the maternal mortality rate of the general population increased from 20.1 to 32.9 deaths per 100,000 live births;[1] and from 2019 to 2020, the overall SMM rate (excluding blood transfusions)[2] increased from 79.7 to 88.2 per 10,000 live births in the United States, a larger increase than in pre-pandemic years.[3]
- In 2021, Medicaid and CHIP programs covered 41 percent of all births in the United States and up to 67 percent of births in some states.[4] Medicaid and CHIP cover a disproportionate share of births to individuals younger than 20 and individuals of color—79 percent of births to individuals younger than 20, 64 percent of births to non-Hispanic Black individuals, and 58 percent of births to Hispanic individuals.[5]
- Legislation from 1984 to today has expanded the scope of populations covered by Medicaid and CHIP and aimed to increase access to pregnancy-related services; however, high rates of adverse pregnancy outcomes and disparities for certain demographic groups persist.
- SMM consists of 21 serious labor- and delivery-related complications that can occur around the time of delivery. Preterm births are live births that occur before 37 weeks of gestation. SMM and preterm births have documented consequences for individuals and the health care system, including short- and long-term health complications for mothers and infants, heightened risk of hospital readmission, and increased health care expenditures.[6]

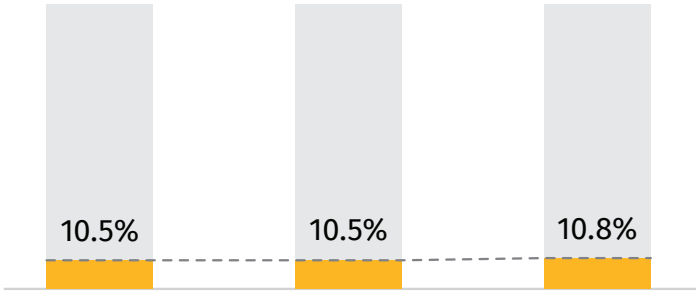
Key policy opportunities

- The American Rescue Plan Act of 2021 (ARP) offered state Medicaid and CHIP programs the option to extend postpartum coverage from 60 days to 12 months to prevent lapses in coverage for postpartum individuals; the Consolidated Appropriations Act, 2023 (CAA, 2023) made this option permanent, and as of October 2024, 46 states, the District of Columbia, and the U.S. Virgin Islands have extended coverage.[7]
- In December 2023, CMS announced the new Transforming Maternal Health (TMaH) model for states to partner with CMS to address gaps in maternal health access and outcomes for Medicaid and CHIP enrollees, such as by supporting access to midwives and doulas.[8]

[1] https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2021/maternal-mortality-rates-2021.pdf
[2] The SMM rates shown in this brief include blood transfusions.
[3] https://www.gao.gov/assets/gao-24-106271.pdf
[4] https://www.medicaid.gov/medicaid/benefits/downloads/2024-maternal-health-at-a-glance.pdf
[5] https://www.cdc.gov/nchs/data/databriefs/db468.pdf
[6] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8524749/
[7] https://www.medicaid.gov/medicaid/quality-of-care/downloads/map-states-that-have-extended-postpartum-coverage.png
[8] https://www.cms.gov/priorities/innovation/innovation-models/transforming-maternal-health-tmah-model

How does the percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, vary from 2019 to 2021?

Figure 1. Percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, 2019 to 2021



	2019	2020	2021
Total preterm births:	132.1K	130.9K	133.9K
Total live births:	1.3M	1.3M	1.2M

Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency. This figure excludes a consistent set of states with TAF data quality issues in any year (2019-2021) to allow for year-to-year comparison; all subsequent figures in this section exclude only those states with data quality issues in the 2021 TAF.

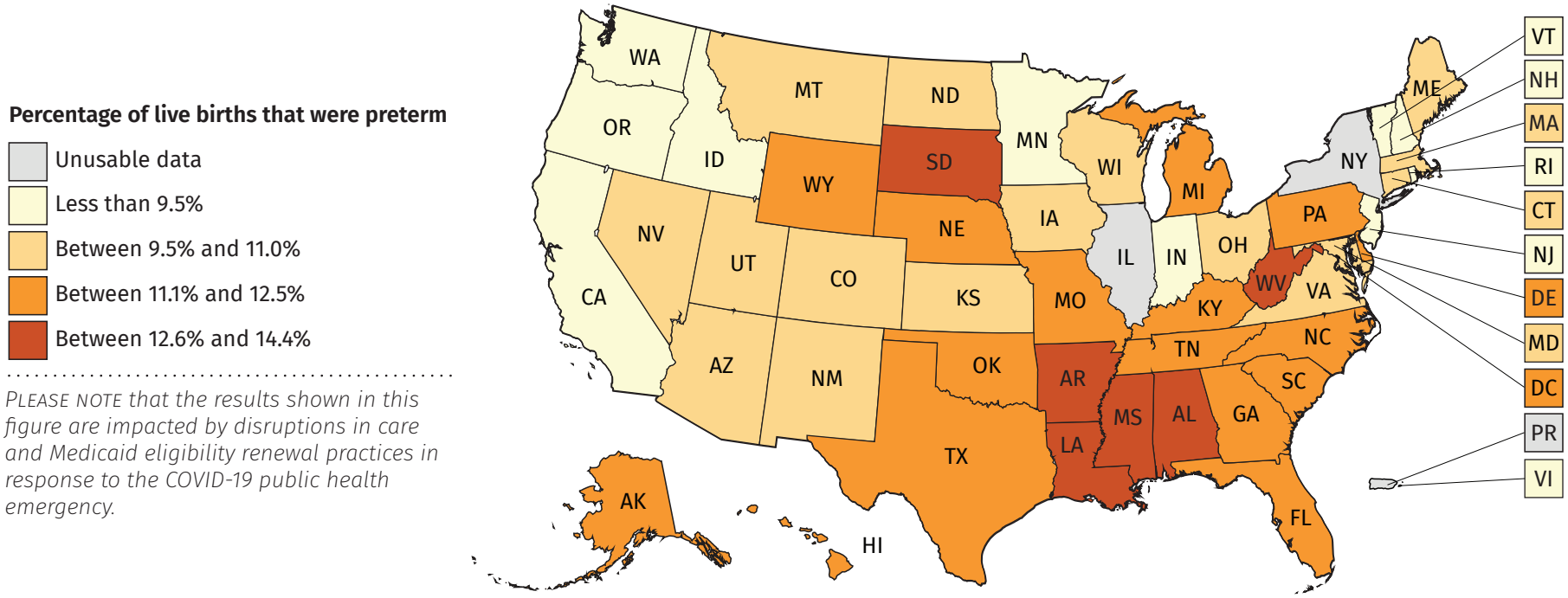
Preterm birth, or a live birth before 37 weeks of gestation, is an important marker of maternal and infant health as prematurity can lead to increased risk for infant mortality and long-term health complications for children. According to a 2024 CDC release of the National Vital Statistics Reports, gestational ages have become shorter and preterm and early-term (a gestational age of 37 to 38 weeks) birth rates have steadily increased from 2014 to 2022, with preterm birth rates rising by 12 percent during this period. **Among Medicaid and CHIP enrollees, the percentage of preterm births remained steady from 2019 to 2020 but increased from 10.5 percent to 10.8 percent in 2021**, due to a decrease in live births and a small increase in preterm births.

Sources: 2018 (Release 2), 2019 to 2021 (Release 1), and 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point from 2019 to 2021, had a live birth that was preterm in 2019 to 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, Maryland, New York, Puerto Rico, Texas, and Utah in all years due to incomplete or unreliable procedure code information in 2019–2021 TAF. It also excludes Rhode Island since the state's count of live births identified in 2019 TAF is lower than the count of live births reported in CDC WONDER. This figure may not accurately reflect national trends as it excludes a few states that comprise a large segment of the overall Medicaid and CHIP population, such as Illinois, New York, and Texas.

Which states had the highest percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49?

Figure 2. Percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, in 2021, by state



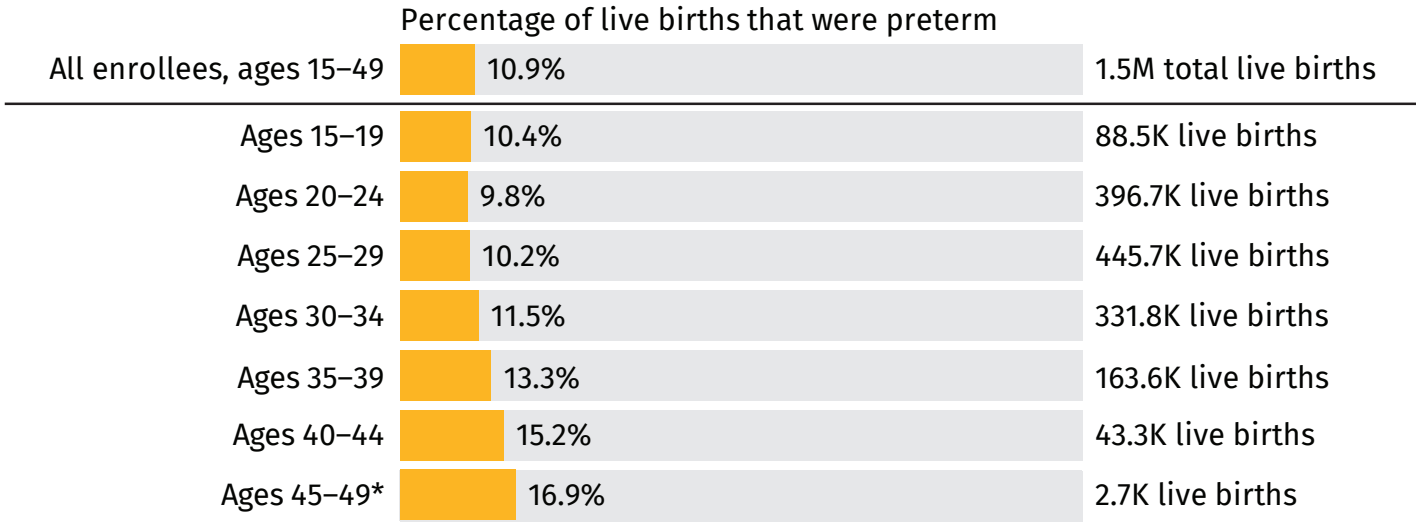
In 2021, 25 states and territories had preterm birth rates below the national average (10.9 percent). States with the highest rates of prematurity among enrollees ages 15 to 49 were mostly clustered in the southeastern United States. **Mississippi, Louisiana, West Virginia, South Dakota, Alabama, and Arkansas had the highest preterm birth rates in 2021**, up to 3 percentage points above the national average.

Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth that was preterm in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF.

How does the percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, vary by age group?

Figure 3. Percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, in 2021, by age group



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency. The percentage of preterm births is calculated out of all live births in a subgroup.

According to a 2023 CDC release of the National Vital Statistics Reports, there has been a continuous increase in the mean maternal age at birth in the United States, with a record high mean maternal age at first birth of 27.3 years in 2021. Advanced maternal age may elevate the risk for adverse maternal and infant health outcomes, such as preterm birth. In 2021, the rate of preterm birth generally increases with maternal age. **Preterm birth rates among enrollees ages 40 to 49 are 5 to 7 percentage points higher than rates among enrollees ages 20 to 29.**

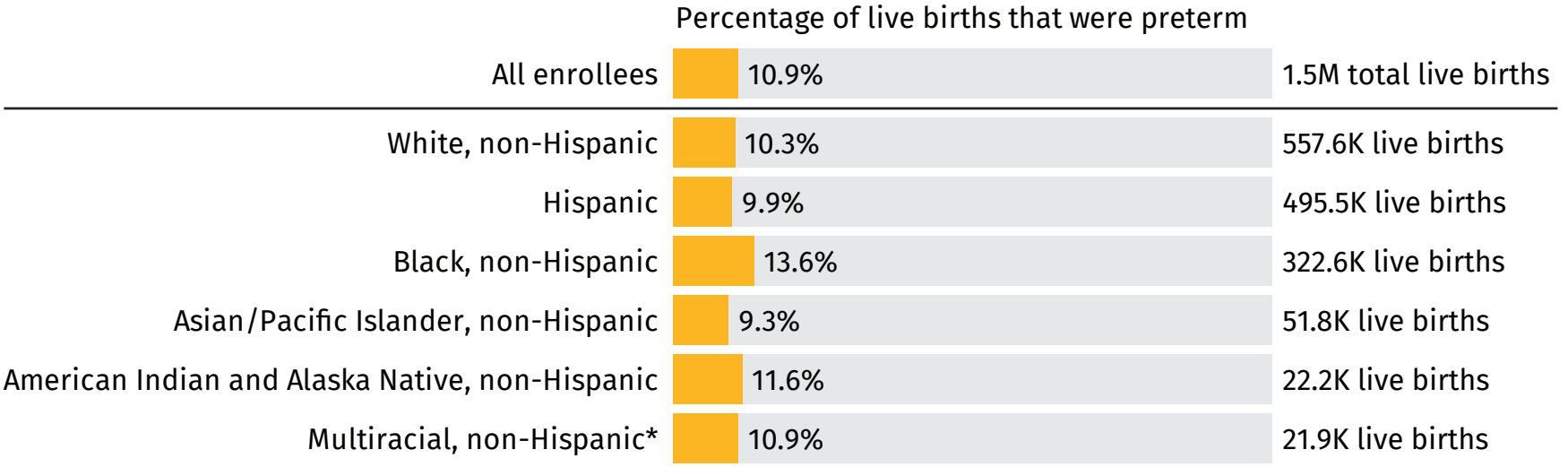
Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth that was preterm in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF.

* Results for the ages 45–49 group should be interpreted with caution as the counts of birth outcomes for enrollees in this age group are low. Around 75 percent of the enrollees in this group were ages 45 or 46 at delivery.

How does the percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, vary by race and ethnicity?

Figure 4. Percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, in 2021, by race and ethnicity



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency. The percentage of preterm births is calculated out of all live births in a subgroup.

Preterm birth rates varied across racial and ethnic groups for enrollees who had a live birth in 2021. **Non-Hispanic American Indian and Alaska Native (AI/AN) and non-Hispanic Black enrollees had the highest prematurity rates in 2021**, around 1 to 3 percentage points above the rate for all Medicaid and CHIP enrollees, respectively. Additionally, the count of live births and preterm births among AI/AN enrollees may represent an underestimate as enrollees who receive maternal and infant health services through Indian Health Service facilities may not have all covered and provided services billed to Medicaid or CHIP.

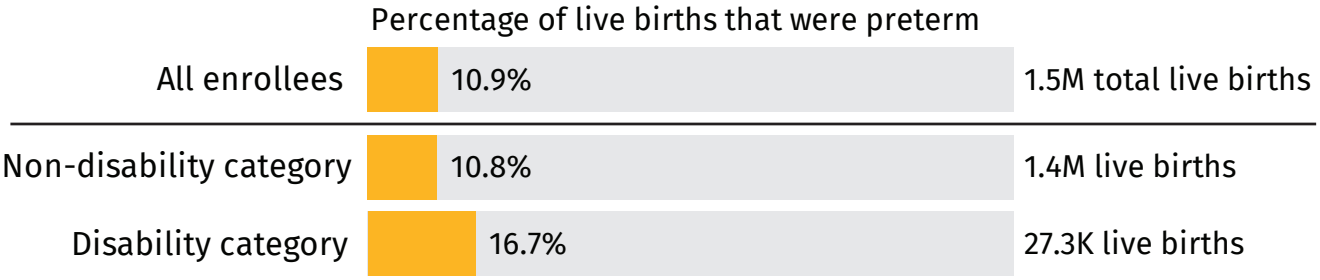
Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files; 2021 Race/Ethnicity Imputation (REI) Companion File.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth that was preterm in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF. It also excludes data from the U.S. Virgin Islands since data from this territory are not included in the 2021 REI Companion File.

* Less than half of states report any multiracial Medicaid or CHIP enrollees, and the accuracy of the indirect estimates for this group is low; results for this group should be interpreted with caution.

How does the percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, vary by disability-related eligibility pathway?

Figure 5. Percentage of Medicaid- and CHIP-covered live births that were preterm, among enrollees ages 15 to 49, in 2021, by disability-related eligibility pathway



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency. The percentage of preterm births is calculated out of all live births in a subgroup.

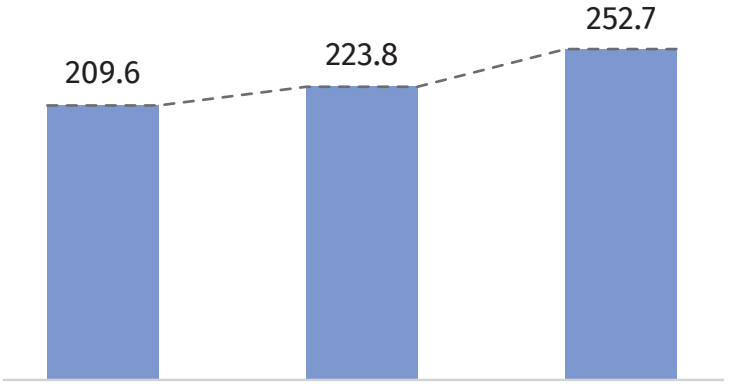
Approximately 11 percent of all Medicaid enrollees qualify for coverage based on disability. **The preterm birth rate for enrollees in the disability eligibility category was about 6 percentage points higher than the rate for those in a non-disability eligibility category**—such as through a pregnancy, Medicaid expansion, or CHIP category. Although enrollees in the disability category account for a smaller proportion of all births, their higher rates of adverse birth outcomes suggest they may face unique challenges that require specific attention from medical care providers in both the prenatal and postpartum periods. More information on enrollees who are eligible through a disability-related eligibility pathway and their characteristics is available in the data brief titled Medicaid enrollees who qualify for benefits based on disability in 2020.

Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth that was preterm in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF.

How does the rate of severe maternal morbidity per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, vary from 2019 to 2021?

Figure 6. Rate of severe maternal morbidity (SMM) per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, 2019 to 2021



	2019	2020	2021
Deliveries with an SMM:	26.5K	28.0K	31.3K
Total live births:	1.3M	1.3M	1.2M

Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency. This figure excludes a consistent set of states with TAF data quality issues in any year (2019-2021) to allow for year-to-year comparison; all subsequent figures in this section exclude only those states with data quality issues in the 2021 TAF.

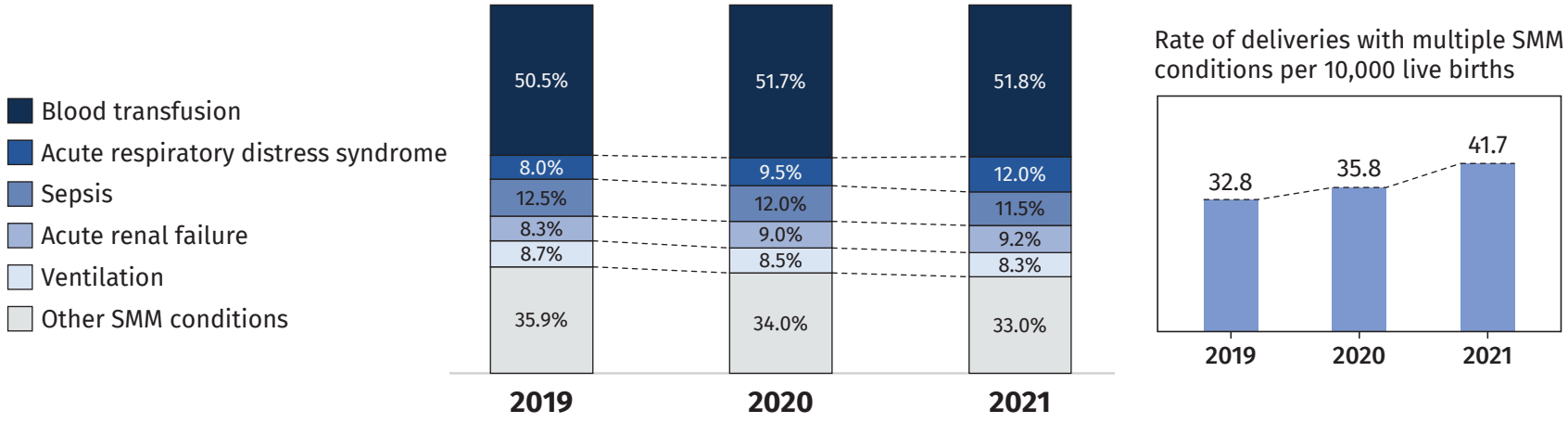
Severe maternal morbidity (SMM) can cause adverse, unexpected health outcomes with short- or long-term consequences for the mother, increased medical costs, and can lead to elevated risk for maternal mortality. **The total SMM rate among enrollees ages 15 to 49 increased from 209.6 to 252.7 per 10,000 live births from 2019 to 2021**.

Sources: 2018 (Release 2), 2019 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point from 2019 to 2021, had a live birth and a severe maternal morbidity outcome in 2019 to 2021, and were ages 15 to 49 at their delivery date. The figure excludes data from Illinois, Maryland, New York, Puerto Rico, Texas, and Utah in all years due to incomplete or unreliable procedure code information in 2019–2021 TAF. It also excludes Rhode Island since the state's count of live births identified in 2019 TAF is lower than the count of live births reported in CDC WONDER. This figure may not accurately reflect national trends as it excludes a few states that comprise a large segment of the overall Medicaid and CHIP population, such as Illinois, New York, and Texas.

How does the distribution of the top five most common severe maternal morbidity conditions, among enrollees ages 15 to 49, vary from 2019 to 2021?

Figure 7. Top five most common severe maternal morbidity (SMM) conditions associated with Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, 2019 to 2021



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency. This figure excludes a consistent set of states with TAF data quality issues in any year (2019-2021) to allow for year-to-year comparison; all subsequent figures in this section exclude only those states with data quality issues in the 2021 TAF. The percentages do not sum to 100% since more than one SMM condition may be associated with a delivery.

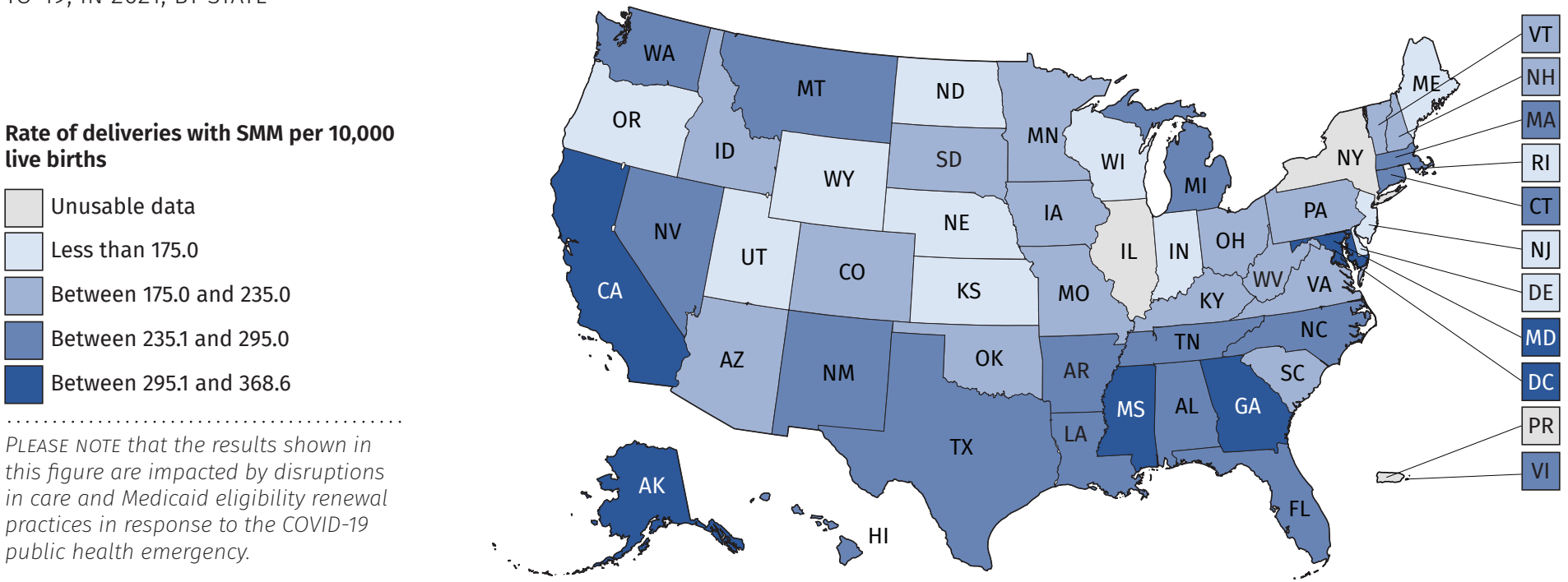
From 2019 to 2021, the rate of deliveries with more than one SMM condition increased by about 27 percent, indicating both an increase in the overall rate of SMM and the complexity of Medicaid- and CHIP-covered deliveries. The top five most common types of SMM conditions from 2019 to 2021 were **blood transfusion, acute respiratory distress syndrome (ARDS), sepsis, acute renal failure, and ventilation. From 2019 to 2021, the rate of ARDS increased by about 80 percent from 16.7 to 30.4** per 10,000 Medicaid- and CHIP-covered live births. SMM rates in 2020 and 2021 were likely impacted by increased complications from COVID-19, notably for ARDS which is one of the main respiratory diseases caused by COVID-19.

Sources: 2018 (Release 2), 2019 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point from 2019 to 2021, had a live birth and a severe maternal morbidity outcome in 2019 to 2021, and were ages 15 to 49 at their delivery date. The figure excludes data from Illinois, Maryland, New York, Puerto Rico, Texas, and Utah in all years due to incomplete or unreliable procedure code information in 2019–2021 TAF. It also excludes Rhode Island since the state's count of live births identified in 2019 TAF is lower than the count of live births reported in CDC WONDER. This figure may not accurately reflect national trends as it excludes a few states that comprise a large segment of the overall Medicaid and CHIP population, such as Illinois, New York, and Texas.

Which states had the highest rates of severe maternal morbidity per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49?

Figure 8. Rate of severe maternal morbidity (SMM) per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, in 2021, by state



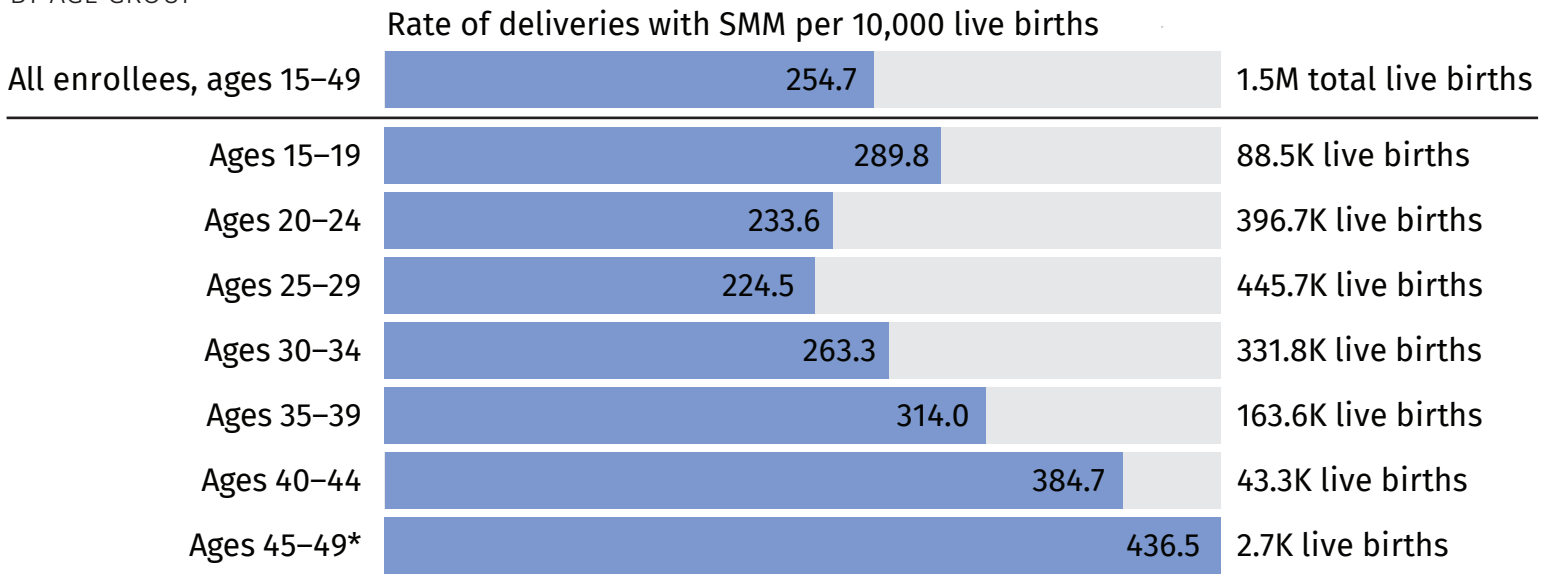
There was considerable geographic variation in the rate of SMM conditions across states in 2021. **The District of Columbia, California, Mississippi, Georgia, and Alaska had the highest rates of SMM in 2021**—with rates ranging from 22 percent (Alaska) to 45 percent (District of Columbia) higher than the national average rate. Thirty-two states had an SMM rate lower than the national average in 2021 (254.7 per 10,000 Medicaid- or CHIP-covered live births).

Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth and a severe maternal morbidity outcome in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF.

How does the rate of severe maternal morbidity per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, vary by age group?

Figure 9. Rate of severe maternal morbidity (SMM) per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, in 2021, by age group



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency.

Similar to rates of preterm birth, rates of SMM increase with older maternal age at delivery. **Enrollees ages 40 to 49 had the highest rates of SMM**, at roughly 150 to 210 points higher than enrollees ages 20 to 29. Examining the specific SMM condition rates, **enrollees ages 45 to 49 experienced sepsis at more than twice the rate** of the overall population (66.0 versus 29.4) and **acute respiratory distress syndrome at two and a half times the rate** of the overall population (77.0 versus 30.2). **Enrollees ages 15 to 19 experienced eclampsia at more than twice the rate** of the overall population (27.0 versus 12.2).

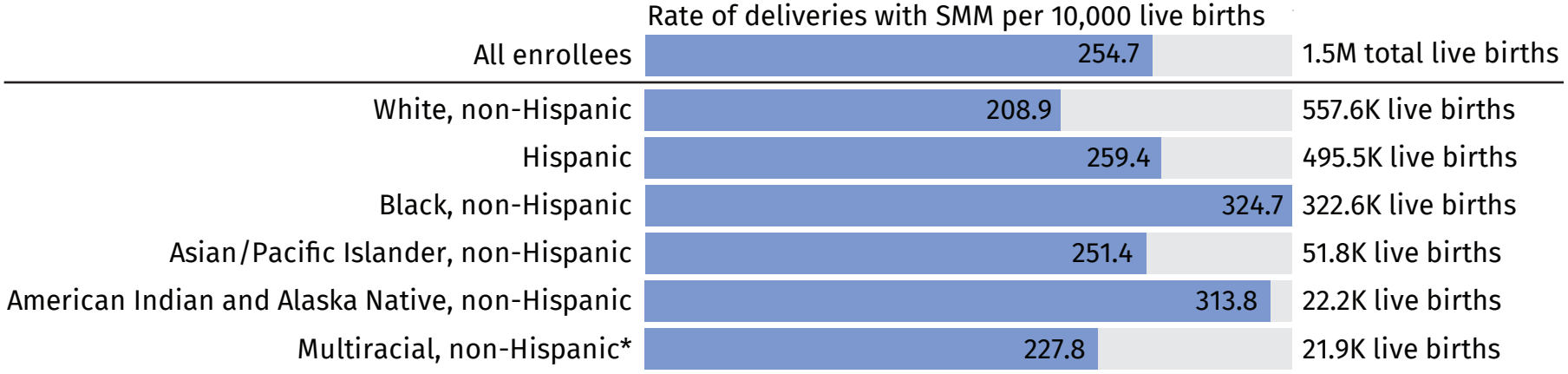
Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth and a severe maternal morbidity outcome in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF.

* Results for the ages 45–49 group should be interpreted with caution as the counts of birth outcomes for enrollees in this age group are low. Around 75 percent of the enrollees in this group were ages 45 or 46 at delivery.

How does the rate of severe maternal morbidity per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, vary by race and ethnicity?

Figure 10. Rate of severe maternal morbidity (SMM) per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, in 2021, by race and ethnicity



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency.

Rates of SMM were highest among non-Hispanic American Indian and Alaska Native (AI/AN) enrollees and non-Hispanic Black enrollees with a live birth—23 and 27 percent higher than the average rate for all enrollees, respectively. **Non-Hispanic Black enrollees experienced acute renal failure** (34.5 versus 22.0), **acute heart failure** (22.1 versus 13.0), and **eclampsia** (19.3 versus 12.2) **at greater than one and a half times** the rate for all enrollees, and **AI/AN enrollees experienced sepsis at nearly one and a half times** the rate for all enrollees (43.6 versus 29.4). Additionally, the count of live births and SMM among AI/AN enrollees may represent an underestimate as enrollees who receive maternal and infant health services through Indian Health Service facilities may not have all covered and provided services billed to Medicaid or CHIP.

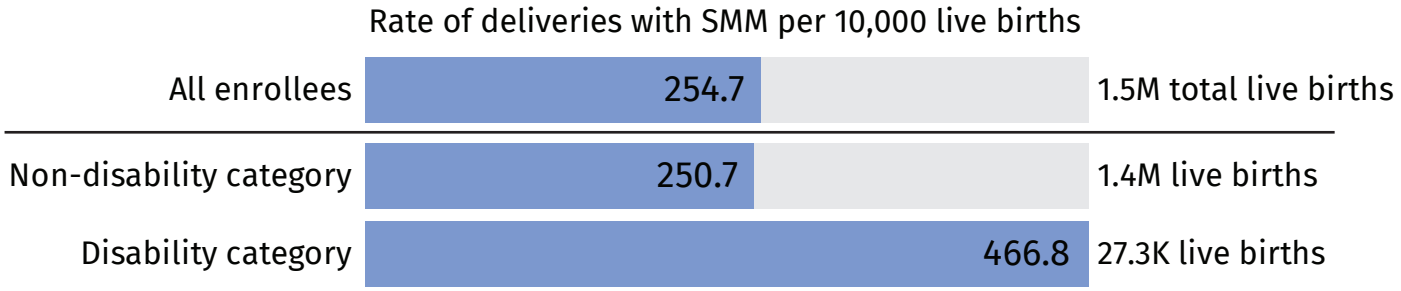
Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth and a severe maternal morbidity outcome in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF. It also excludes data from the U.S. Virgin Islands since this territory is not included in the 2021 REI Companion File.

* Less than half of states report any multiracial Medicaid or CHIP enrollees, and the accuracy of the indirect estimates for this group is low; results for this group should be interpreted with caution.

How does the rate of severe maternal morbidity per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, vary by disability-related eligibility pathway?

Figure 11. Rate of severe maternal morbidity (SMM) per 10,000 Medicaid- and CHIP-covered live births, among enrollees ages 15 to 49, in 2021, by disability-related eligibility pathway



Please note that the results shown in this figure are impacted by disruptions in care and Medicaid eligibility renewal practices in response to the COVID-19 public health emergency.

The rate of SMM per 10,000 live births for enrollees who qualify for Medicaid coverage based on disability was nearly double the SMM rate for enrollees in other eligibility categories, representing a key disparity in maternal health outcomes for this population. **Enrollees in the disability category experienced acute renal failure** (66.2 versus 22.0) and **acute heart failure** (35.8 versus 13.0) **at nearly three times the rate** for enrollees eligible for Medicaid or CHIP through other eligibility categories.

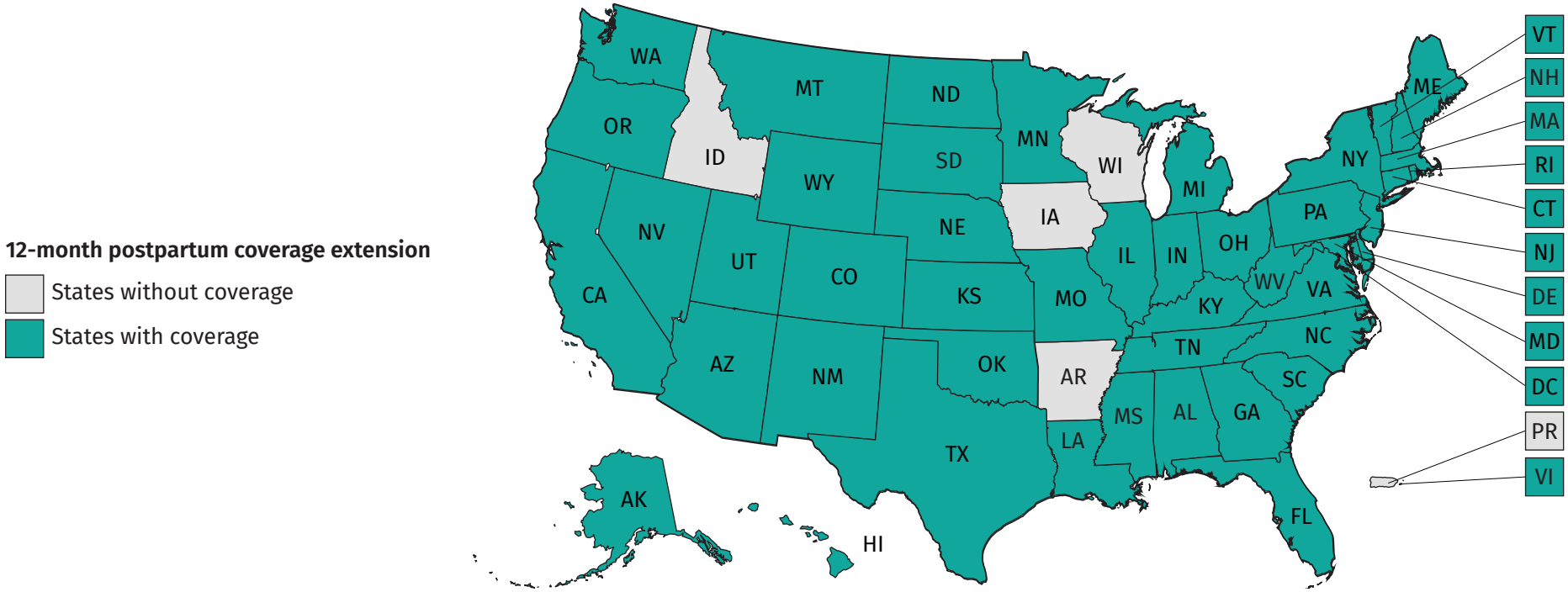
Although enrollees in the disability category account for a smaller proportion of all births, their higher rates of adverse birth outcomes suggest they face unique challenges that require specific attention from medical care providers in both the prenatal and postpartum periods. More information on enrollees who are eligible through a disability-related eligibility pathway and their characteristics is available in the data brief titled Medicaid enrollees who qualify for benefits based on disability in 2020.

Sources: 2020 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files.

Notes: This figure includes Medicaid and CHIP enrollees with full or limited benefits who were enrolled at any point in 2021, had a live birth and a severe maternal morbidity outcome in 2021, and were ages 15 to 49 at their delivery date. This figure excludes data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in TAF.

Which states have implemented policy options for expansion of Medicaid coverage in the postpartum period?

Figure 12. State implementation of 12-month postpartum coverage extension, as of October 2024

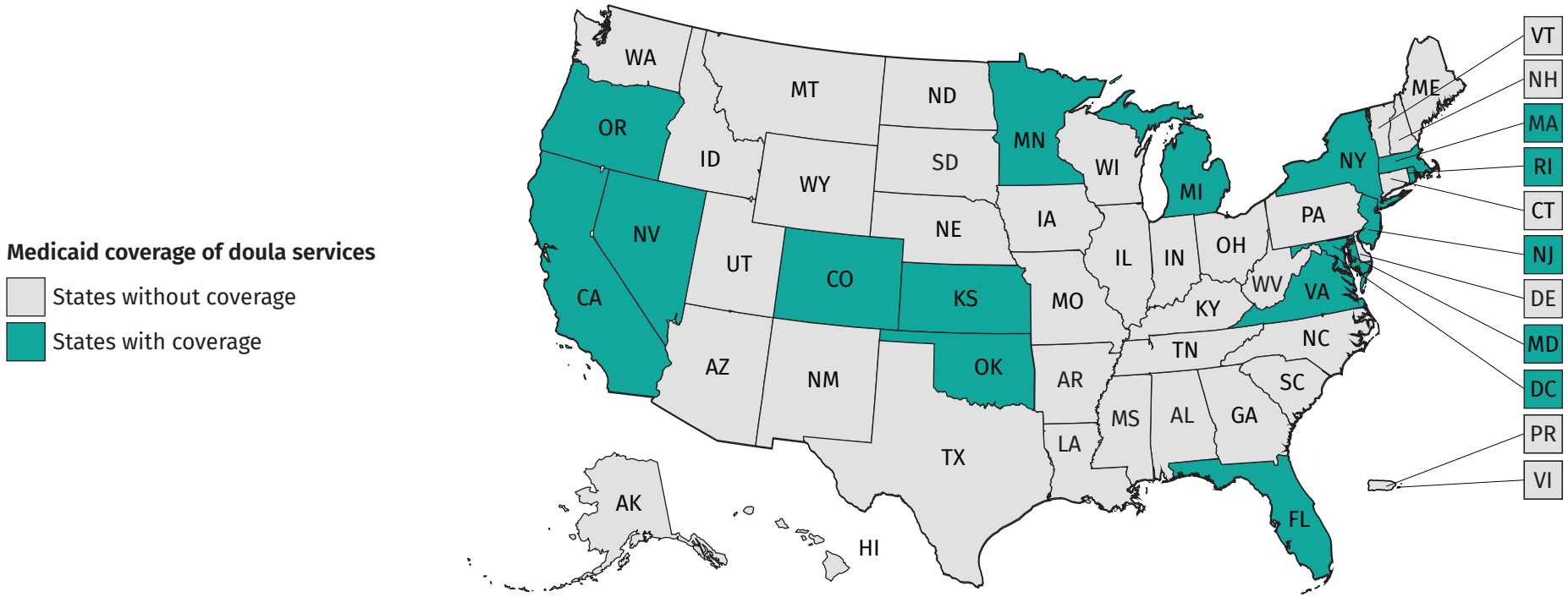


According to a 2022 CDC Newsroom release, over half of pregnancy-related deaths between 2017 and 2019 occurred between seven days and a year after delivery, with leading causes including mental health conditions and hemorrhage. Continuity of postpartum Medicaid coverage ensures critical access to care that greatly reduces the risk of untreated, deteriorating physical and mental health for postpartum enrollees. The American Rescue Plan Act of 2021 (ARP) and the Consolidated Appropriations Act, 2023 (CAA, 2023) allow states to extend postpartum coverage from 60 days to 12 months after delivery. **As of October 2024, 46 states, the District of Columbia, and the U.S. Virgin Islands have extended Medicaid postpartum coverage to 12 months**, and this number is expected to increase with ongoing state efforts in Idaho, Iowa, and Wisconsin. CMS has championed quality and timely postpartum care as a crucial element of reproductive health by launching the Improving Postpartum Care Learning Collaborative in 2021 and supporting the 12-month postpartum coverage extension in states participating in the new Transforming Maternal Health (TMaH) model.

Notes: This figure identifies states that have implemented a 12-month postpartum extension using information in KFF's Medicaid Postpartum Coverage Extension Tracker as of October 2024.

Which states have implemented policy options for Medicaid coverage of doula services?

Figure 13. State Medicaid coverage of doula services, as of October 2024



Doula services are provided by community-based, non-medically trained professionals who provide support to pregnant individuals during pregnancy, labor, and postpartum. Doulas provide a wide range of services including emotional, physical, and informational assistance with the goal of improving the birthing experience and outcomes for mothers and infants. **As of October 2024, 15 states and the District of Columbia offer Medicaid coverage and reimbursement for doula services**, and this number is expected to increase as additional states are implementing legislation to expand access to doula services. CMS is committed to partnering with states to diversify the maternity care workforce, and under the new Transforming Maternal (TMaH) Health model, CMS will issue Cooperative Agreements to up to 15 participating states to provide Medicaid coverage of doula services by the end of 2027.

Notes: This figure identifies states actively reimbursing Medicaid for doula services using information in the National Health Law Program's Doula Medicaid Project as of October 2024.

About this brief

What is the source of information?

This brief is based on data reported by states to CMS as part of the Transformed Medicaid Statistical Information System (T-MSIS). States report information each month via T-MSIS about their enrollees, Medicaid- and CHIP-covered services, payments to providers and managed care organizations, enrollees' diagnoses and health conditions, and information on providers and managed care plans. These data are converted into the T-MSIS Analytic Files (TAF), which are optimized for research purposes. More information about T-MSIS and TAF is available at Medicaid.gov.[1] Many states have high-quality and complete information on Medicaid and CHIP enrollment, scope of benefits, eligibility pathway, and age in the TAF; however, some states have data quality issues with reporting procedure code information on medical claims. More information on TAF data quality can be found in the DQ Atlas.[2]

To classify enrollees based on race and ethnicity as shown in Figures 4 and 10, CMS used the 2021 Race/Ethnicity Imputation (REI) Companion File, which includes state-reported information on enrollee race and ethnicity when it is reported and of good quality (79 percent of all enrollees, nationwide), and indirectly estimated race and ethnicity when the state-reported information is missing or unreliable (21 percent of all enrollees). CMS based its indirect estimates of race and ethnicity on an enhanced version of a well-validated method that is widely used for this purpose: Bayesian Improved Surname and Geocoding (BISG). BISG[3] draws on the racial and ethnic distribution associated with a person's surname and geographic location to estimate the person's probability of reporting being in each of six racial and ethnic groups.[4] The distribution of race and ethnicity for surnames from the Census Bureau is not available separately for race and ethnicity, so the categories are combined here.[5] CMS enhanced the standard BISG methodology for these data by supplementing with T-MSIS information about enrollees' first names and their American Indian or Alaska Native certification.

CMS used KFF's Medicaid Postpartum Coverage Extension Tracker to classify states that implemented a 12-month postpartum coverage extension in Figure 12. To classify states with Medicaid coverage of doula services in Figure 13, CMS used information from the National Health Law Program's Doula Medicaid Project, which tracks current state efforts in implementing Medicaid coverage for doula services. Both reflect current state policy efforts as of October 2024.

Who is included in this analysis?

The figures in this brief include Medicaid and CHIP enrollees, ages 15 to 49 as of their delivery date, who were enrolled in Medicaid or CHIP at any point in the calendar year and had a live birth. All figures exclude individuals ages 14 and younger and ages 50 and older to identify individuals of reproductive age.[6]

All figures exclude Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in the 2021 TAF. Figures 1, 6, and 7, which show trends in preterm births and SMM in 2019-2021, exclude a consistent set of states with TAF data quality concerns in any year to allow for comparisons across years. As such, Figures 1, 6, and 7 also exclude Maryland, Texas, and Utah due to incomplete or unreliable procedure code information in the 2019 or 2020 TAF, as well as Rhode Island since the count of live births identified in TAF in 2019 is lower than the count of live births reported in CDC WONDER. Figures 4 and 10 exclude the U.S. Virgin Islands because data from that territory are not included in the 2021 REI Companion File.

How is preterm birth defined?

Figures 1 to 5 include all live births that resulted in a preterm birth in the calendar year among Medicaid and CHIP enrollees ages 15 to 49 who received a Medicaid- or CHIP-covered service associated with the live birth. Preterm birth is defined as a live birth that occurs before the 37th week of gestation. CMS identifies live births in TAF using a claims-based algorithm to extract and consolidate pregnancy- and delivery outcome-related claims in the Inpatient Hospital (IP) and Other Services (OT) TAF using relevant International Classification of Diseases (ICD) diagnosis codes and procedure codes. The code set used to identify live births is publicly available at Medicaid.gov.

[1] https://www.medicaid.gov/medicaid/data-systems/macbis/transformed-medicaid-statistical-information-system-t-msis/index.html
[2] https://www.medicaid.gov/dq-atlas/welcome
[3] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6338295/
[4] The six racial and ethnic groups shown in this brief are: non-Hispanic White, Hispanic, non-Hispanic Black, non-Hispanic Asian/Pacific Islander, non-Hispanic American Indian and Alaska Native, and non-Hispanic multiracial. Fewer than half of states report any multiracial Medicaid or CHIP enrollees in TAF, and the accuracy of the indirect estimates for this group is low. Information about enrollees in the multiracial group in Figures 4 and 10 should be interpreted with caution.
[5] https://www.census.gov/data/developers/data-sets/surnames.html
[6] https://www.who.int/data/gho/indicator-metadata-registry/imr-details/women-of-reproductive-age-(15-49-years)-population-(thousands)

About this brief

How is severe maternal morbidity (SMM) defined?

Figures 6 to 11 include all live births with an SMM condition within six weeks before or after a delivery among Medicaid and CHIP enrollees ages 15 to 49 who received a Medicaid- or CHIP-covered service associated with the live birth. SMM is an umbrella term for a group of unexpected labor and delivery outcomes that have significant health consequences in the short- or long-term for the pregnant individual. Although there is no standard list of SMM conditions or procedures, the Centers for Disease Control and Prevention (CDC) defines SMM as 21 indicator conditions; the 21 SMM conditions and associated ICD diagnosis and procedure codes are publicly available at CDC.gov.

What are the analysis considerations?

The results shown in this brief do not reflect the prevalence of preterm birth and SMM for all individuals covered by Medicaid and CHIP and may be an underestimate of these conditions. TAF data cannot be used to identify pregnant or postpartum enrollees who did not receive pregnancy-related services during the measurement period, or enrollees who did not have a Medicaid- or CHIP-covered live birth. Services delivered in certain care settings, such as community clinics and Indian Health Service facilities, may not always be billed to Medicaid and CHIP and thus these services are not comprehensively reflected in this brief.

In addition, starting in April 2020 with the onset of the COVID-19 public health emergency (PHE), there were widespread declines in service use among Medicaid and CHIP enrollees, including for prenatal, delivery, and postpartum services.[7] Although most service rates eventually rebounded during the PHE, the gap in services delivered during the PHE versus pre-PHE years could affect the results shown in this brief. Moreover, in response to the PHE, Congress passed the Families First Coronavirus Response Act (FFCRA), which included a temporary federal funding increase for state Medicaid agencies that met certain conditions. In accepting the temporary federal funding increase, states could not disenroll most individuals who lost Medicaid or CHIP eligibility during the PHE. As a result, the number of pregnant individuals who received services covered by Medicaid and CHIP and the services received during this period might not align with the data from other, non-PHE years.

[7] https://www.medicaid.gov/resources-for-states/coronavirus-disease-2019-covid-19/medicaid-and-chip-resources/data-releases/index.html

Number of preterm births among Medicaid- and CHIP-covered live births among enrollees ages 15 to 49, by year, age, disability-related eligibility pathway, and race and ethnicity

The data in these tables will be available for download at data.medicaid.gov. Updated counts that reflect data from later years will be released as they become available at data.medicaid.gov.

Table 1 - By year, 2019 to 2021†

	2019	2020	2021
Preterm births	132.1K	130.9K	133.9K
Live births	1.3M	1.3M	1.2M

Table 2 - By age and disability-related eligibility pathway, 2021

	Ages 15–19	Ages 20–24	Ages 25–29	Ages 30–34	Ages 35–39	Ages 40–44	Ages 45–49*	Disability category	Non-disability category
Preterm births	9.2K	39.0K	45.4K	38.0K	21.8K	6.6K	0.5K	4.6K	155.9K
Live births	88.5K	396.7K	445.7K	331.8K	163.6K	43.3K	2.7K	27.3K	1.4M

Table 3 - By race and ethnicity, 2021

	White, non-Hispanic	Hispanic	Black, non-Hispanic	API, non-Hispanic	AI/AN, non-Hispanic	Multiracial, non-Hispanic**
Preterm births	57.7K	48.9K	44.0K	4.8K	2.6K	2.4K
Live births	557.6K	495.5K	322.6K	51.8K	22.2K	21.9K

API = Asian/Pacific Islander; AI/AN = American Indian and Alaska Native

Sources: 2018 (Release 2), 2019 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files; 2021 Race/Ethnicity Imputation Companion File.

Notes: All tables include live births for Medicaid and CHIP enrollees, ages 15 to 49, as of the delivery date. All tables exclude data from Illinois, New York, and Puerto Rico due to incomplete or unreliable procedure code information in 2021 TAF. Table 1 also excludes data from Maryland, Texas, and Utah due to incomplete or unreliable procedure code information in 2019 or 2020 TAF, as well as Rhode Island since the state's count of live births identified in 2019 TAF is lower than the count of live births reported in CDC WONDER. Table 3 also excludes the U.S. Virgin Islands because data from that territory are not included in the 2021 REI Companion File.

† Table 1 excludes a consistent set of states with TAF data quality issues in any year (2019-2021) to allow for year-to-year comparison; Tables 2 and 3 exclude only those states with data quality issues in the 2021 TAF.

* Results for the ages 45–49 group should be interpreted with caution as the counts of birth outcomes for enrollees in this age group are low. Around 75 percent of the enrollees in this group were ages 45 or 46 at delivery.

** Less than half of states report any multiracial Medicaid or CHIP enrollees, and the accuracy of the indirect estimates for this group is low; results for this group should be interpreted with caution.

Number of Medicaid- and CHIP-covered live births with a severe maternal morbidity condition among enrollees ages 15 to 49, by year, top five severe maternal morbidity conditions, age, disability-related eligibility pathway, and race and ethnicity

The data in these tables will be available for download at data.medicaid.gov. Updated counts that reflect data from later years will be released as they become available at data.medicaid.gov.

Table 1 - By year and top five severe maternal morbidity (SMM) conditions, 2019 to 2021†

	Deliveries with an SMM	Deliveries with >1 SMM	Live births	Blood transfusion	Acute respiratory distress syndrome	Sepsis	Acute renal failure	Ventilation	Other SMM conditions
2019	26.5K	4.1K	1.3M	13.4K	2.1K	3.3K	2.2K	2.3K	9.5K
2020	28.0K	4.5K	1.3M	14.5K	2.7K	3.4K	2.5K	2.4K	9.5K
2021	31.3K	5.2K	1.2M	16.2K	3.8K	3.6K	2.9K	2.6K	10.3K

Table 2 – By age and disability-related eligibility pathway, 2021

	Ages 15–19	Ages 20–24	Ages 25–29	Ages 30–34	Ages 35–39	Ages 40–44	Ages 45–49*	Disability category	Non-disability category
Deliveries with an SMM	2.6K	9.3K	10.0K	8.7K	5.1K	1.7K	0.1K	1.3K	36.2K
Live births	88.5k	396.7K	445.7K	331.8K	163.6K	43.3K	2.7K	27.3K	1.4M

Table 3 – By race and ethnicity, 2021

	White, non-Hispanic	Hispanic	Black, non-Hispanic	API, non-Hispanic	AI/AN, non-Hispanic	Multiracial, non-Hispanic**
Deliveries with an SMM	11.6K	12.9K	10.5K	1.3K	0.7K	0.5K
Live births	557.6K	495.5K	322.6K	51.8K	22.2K	21.9K

API = Asian/Pacific Islander;
AI/AN = American Indian and Alaska Native

Sources: 2018 (Release 2), 2019 to 2021 (Release 1), 2022 (Preliminary) T-MSIS Analytic Files (TAF) Annual Demographic and Eligibility, Inpatient Hospital, and Other Services Files; 2021 Race/Ethnicity Imputation Companion File.

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† Table 1 excludes a consistent set of states with TAF data quality issues in any year (2019-2021) to allow for year-to-year comparison; Tables 2 and 3 exclude only those states with data quality issues in the 2021 TAF.

* Results for the ages 45-49 group should be interpreted with caution as the counts of birth outcomes for enrollees in this age group are low. Around 75 percent of the enrollees in this group were ages 45 or 46 at delivery.

** Less than half of states report any multiracial Medicaid or CHIP enrollees, and the accuracy of the indirect estimates for this group is low; results for this group should be interpreted with caution.