

Attachment I: Background Information on Perinatal Health

Key indicators of perinatal health outcomes include but are not limited to maternal mortality, maternal health conditions such as severe maternal morbidity (SMM), substance use, and mental health, and insurance status. Many of Minnesota's perinatal health indicators are better than national averages, but this summary information masks deep disparities between the white majority population and Black, American Indian, Latine, Asian/Pacific Islander (PI), and other communities such as rural and new immigrants.

- Maternal mortality data shows that Black and American Indian birthing people have much higher rates of maternal death compared to white birthing people in the state (Maternal Mortality: Table 3).
- From 2011-2018 in Minnesota, the highest rates of overall SMM were among populations of color, including African born, American Indian, and U.S.-born Black populations (Maternal Health Conditions: Figure 1).
- The rates of select mental health conditions, like anxiety and depression, at time of delivery hospitalization, increased in Minnesota from 2020 to 2024 (Maternal Health Conditions: Figure 5). The 2020-2024 rates varied by Minnesota State Community Health Services Advisory Committee (SCHSAC) regions (Maternal Health Conditions: Figures 6-9).
- The percent of Latinos in Minnesota without health insurance decreased by 46.7% from 2021 to 2023, however they still had the highest percentage of people without insurance in both years (Insurance: Figure 1).

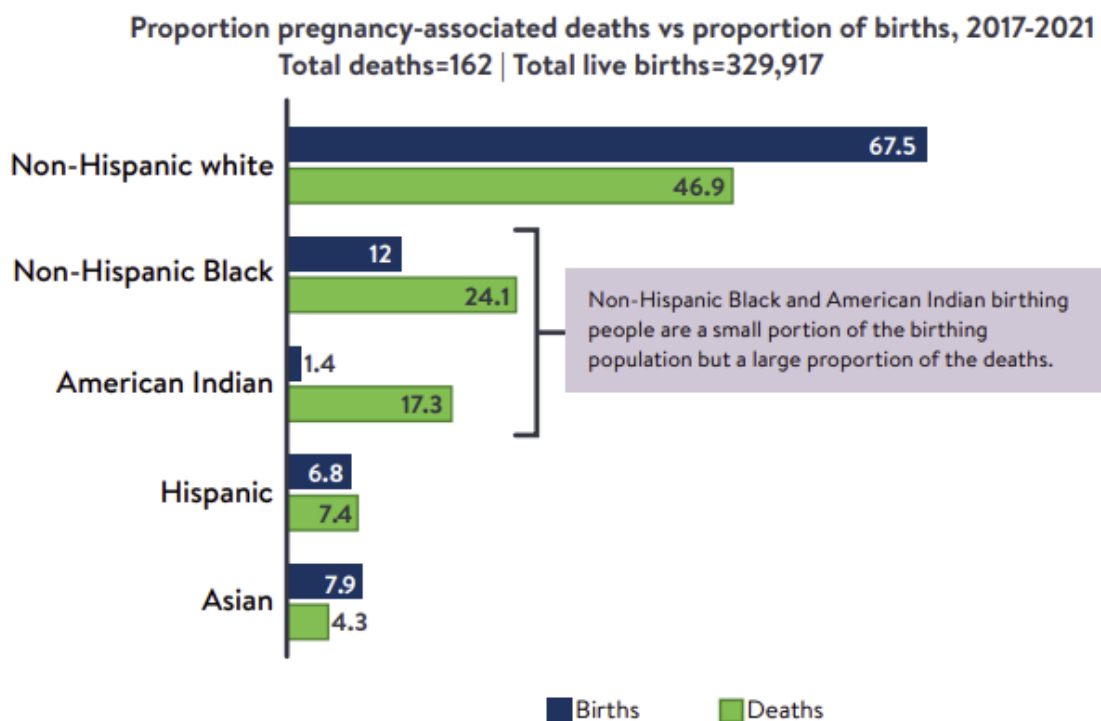
Sources: Minnesota Maternal Mortality Report 2017-2021; MDH Maternal and Child Health Section Minnesota linked birth record/hospital discharge data 2011-2018; Minnesota Hospital Discharge data, 2020-2024; Minnesota Health Access Surveys 2021-2023.

Below are figures and tables illustrating some of the data points described above.

Maternal Mortality

To remain consistent with nationwide terminology, MDH uses the Centers for Disease Control and Prevention (CDC) definition of maternal mortality. The first two maternal mortality figures and tables show data for pregnancy-associated deaths. These are deaths during or within one year of the end of pregnancy, irrespective of cause. Between 2017 and 2021 there were 162 pregnancy-associated deaths in Minnesota.

Figure 1: Non-Hispanic Black and American Indian birthing people were a small portion of the birthing population but a large proportion of pregnancy-associated deaths in Minnesota, 2017-2021.



Note: Total percentages of births may not total 100%, as unknown category is not displayed. Rates/percentages based on <20 deaths are statistically unstable; interpret with caution.

Source: Minnesota Maternal Mortality Report, 2017-2021

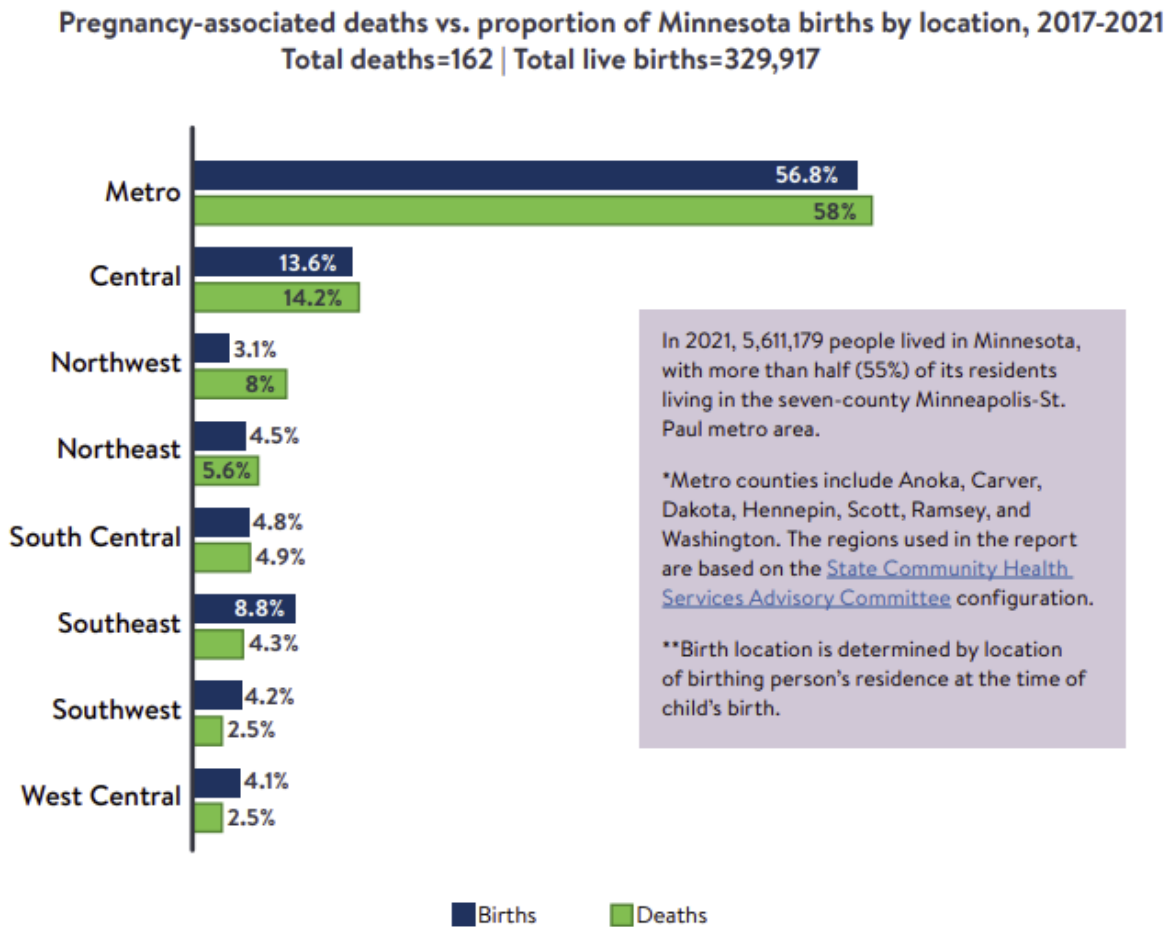
Table 1: The proportion of births and pregnancy-associated deaths by race/ethnicity of the birthing person in Minnesota, 2017-2021.

Race/ethnicity	Outcome	Count for race/ethnicity	Count for all of Minnesota	Proportion of outcome for race/ethnicity
Non-Hispanic white	Live births	222,737	329,917	67.5
Non-Hispanic white	Pregnancy-associated deaths	76	162	46.9
Non-Hispanic Black	Live births	39,681	329,917	12
Non-Hispanic Black	Pregnancy-associated deaths	39	162	24.1
American Indian	Live births	4,594	329,917	1.4
American Indian	Pregnancy-associated deaths	28	162	17.3
Hispanic	Live births	22,555	329,917	6.8
Hispanic	Pregnancy-associated deaths	12	162	7.4
Asian	Live births	25,904	329,917	7.9
Asian	Pregnancy-associated deaths	7	162	4.3

Note: Total percentages of births may not total 100%, as unknown category is not displayed. Rates/percentages based on <20 deaths are statistically unstable; interpret with caution.

Source: Minnesota Maternal Mortality Report, 2017-2021

Figure 2: The proportion of births and pregnancy-associated deaths in Minnesota varied by location and were not always equal, 2017-2021.



Note: Total percentages of births may not total 100%, as unknown category is not displayed. Rates/percentages based on <20 deaths are statistically unstable; interpret with caution.

Source: Minnesota Maternal Mortality Report, 2017-2021

Table 2: The proportion of births and pregnancy-associated deaths by the birthing person's location of residence in Minnesota at time of child's birth, 2017-2021.

Location of residence	Outcome	Count for location of residence	Count for all of Minnesota	Proportion of outcome for location of residence
Metro	Live births	187,356	329,917	56.8
Metro	Pregnancy-associated deaths	94	162	58
Central	Live births	45,028	329,917	13.6
Central	Pregnancy-associated deaths	23	162	14.2
Northwest	Live births	10,276	329,917	3.1
Northwest	Pregnancy-associated deaths	13	162	8
Northeast	Live births	14,930	329,917	4.5
Northeast	Pregnancy-associated deaths	9	162	5.6
South Central	Live births	15,865	329,917	4.8
South Central	Pregnancy-associated deaths	8	162	4.9
Southeast	Live births	29,114	329,917	8.8
Southeast	Pregnancy-associated deaths	7	162	4.3
Southwest	Live births	13,804	329,917	4.2
Southwest	Pregnancy-associated deaths	4	162	2.5
West Central	Live births	13,482	329,917	4.1
West Central	Pregnancy-associated deaths	4	162	2.5

Note: Total percentages of births may not total 100%, as unknown category is not displayed. Rates/percentages based on <20 deaths are statistically unstable; interpret with caution.

Source: Minnesota Maternal Mortality Report, 2017-2021

Tables 3 and 4 in this section show data for pregnancy-related deaths. These are deaths during or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiologic effects of pregnancy. There were 59 pregnancy-related deaths in Minnesota from 2017 to 2021.

Table 3: The maternal death rate for American Indians was more than 12 times higher than the state rate while the rate for Black parents was 2.3 times higher than the state rate in Minnesota, 2017-2021.

Race/ethnicity	Number of pregnancy-related deaths for race/ethnicity	Live births for race/ethnicity	Pregnancy-related mortality ratio (per 100,000 live births) for race/ethnicity
Non-Hispanic white	22	222,737	9.9
Non-Hispanic Black	16	39,681	40.3
American Indian	10	4,594	217.7
Hispanic	6	Unable to share	NA
Asian	5	Unable to share	NA
State of Minnesota	59	329,917	17.9

Note: Classification rules prioritize American Indian and then Non-Hispanic Black for mixed race entries; results are not disaggregated by U.S.- vs foreign-born. Number of live births for Hispanics and Asians are not shared because the pregnancy-related mortality ratio could not be calculated due to small number of deaths in each group. Rates/percentages based on <20 deaths are statistically unstable; interpret with caution.

Source: Minnesota Maternal Mortality Report, 2017-2021

Table 4: Mental health conditions were the top cause of pregnancy-related deaths in Minnesota for 2017-2021.

Cause of death	Number of pregnancy-related deaths	Percent (%)
Mental health conditions (including substance use disorder)	17	28.8
Injury	8	13.6
Infection	7	11.9
Hemorrhage (excludes aneurysms or cerebrovascular accidents)	5	8.5
Cardiomyopathy	4	6.8

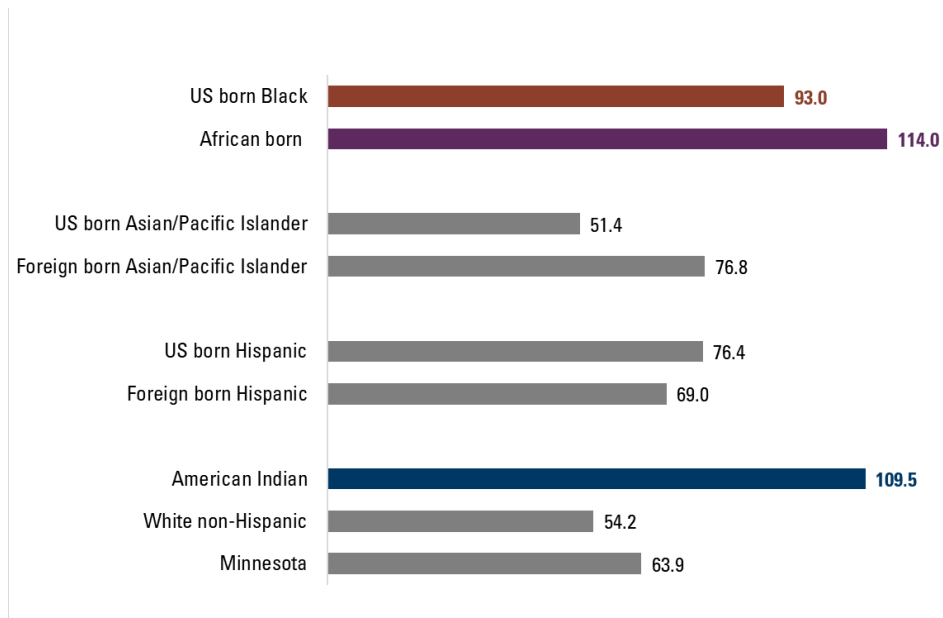
Note: Only top five causes are shown, and percentages will not sum to 100. Rates/percentages based on <20 deaths are statistically unstable; interpret with caution. Percentages based on 59 pregnancy-related deaths.

Source: Minnesota Maternal Mortality Report, 2017-2021

Maternal Health Conditions

Severe Maternal Morbidity

Figure 1: The highest rates of severe maternal morbidity (SMM), excluding transfusions, from 2011-2018 were among birthing people who were African born, American Indian, and U.S.-born Black.



Note: Rate is per 10,000 delivery hospitalizations.

Source: MDH Maternal and Child Health Section Minnesota linked birth record and hospital discharge data, 2011-2018

Table 1: Rates of severe maternal morbidity by race/ethnicity and foreign-born status in Minnesota, 2011-2018.

Race/ethnicity and foreign-born status	Rate of severe maternal morbidity per 10,000 delivery hospitalizations
U.S.-born Black	93.0
African-born	114.0
U.S.- born Asian/Pacific Islander	51.4
Foreign-born Asian/Pacific Islander	76.8
U.S.-born Hispanic	76.4
Foreign-born Hispanic	69.0
American Indian	109.5
White non-Hispanic	54.2
Minnesota	63.9

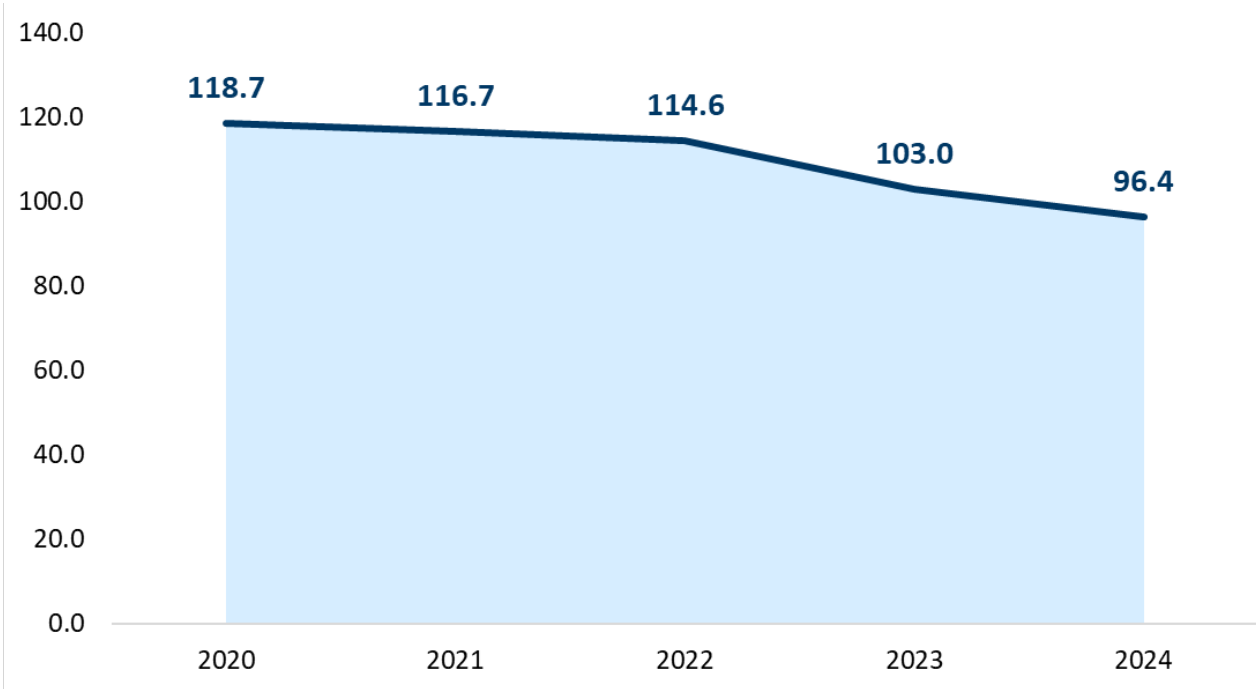
Note: Rate is per 10,000 delivery hospitalizations.

Source: Minnesota linked birth record and hospital discharge data, 2011-2018

Substance Use

For this data, substance use disorder includes opioids, cocaine, amphetamines/stimulants, and sedatives.

Figure 2: The rate of substance use disorder (SUD) at time of delivery hospitalization decreased by 18.8% in Minnesota, from 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

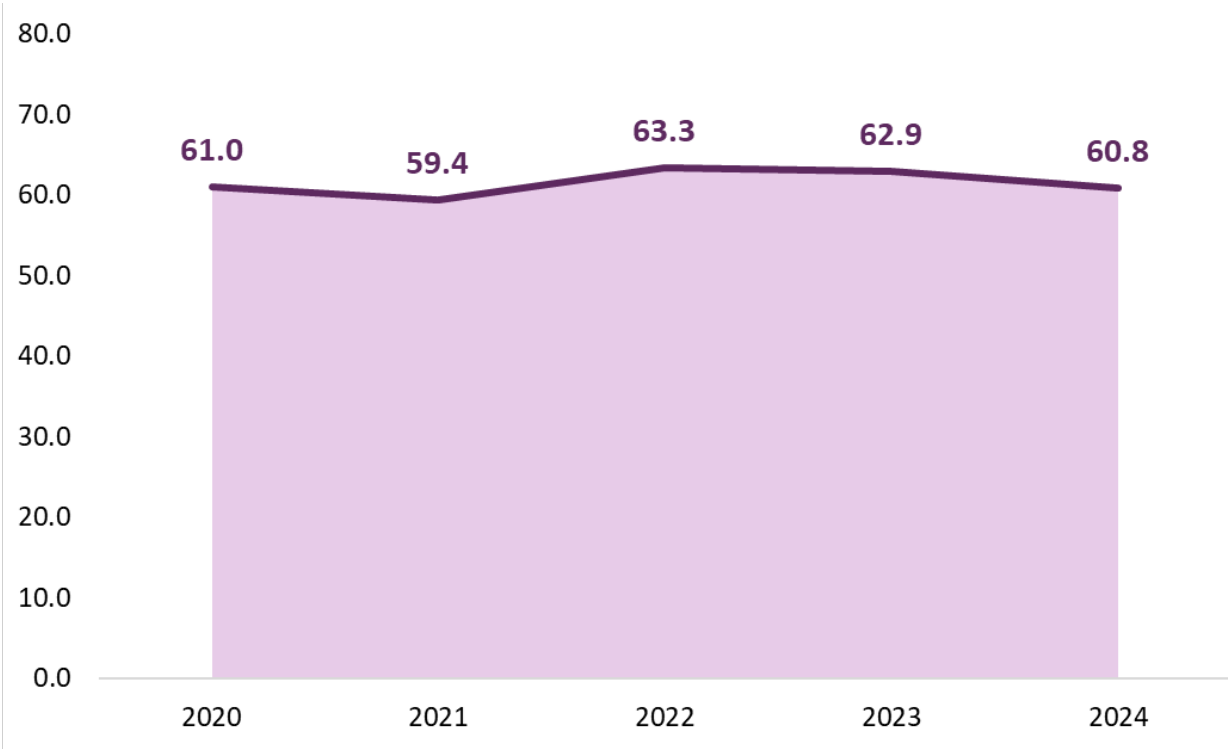
Source: Minnesota Hospital Discharge data, 2020-2024

Table 2: The rate of substance use disorder (SUD) per 10,000 delivery hospitalizations in Minnesota, by year, 2020-2024.

Year	Rate of substance use disorder per 10,000 delivery hospitalizations
2020	118.7
2021	116.7
2022	114.6
2023	103.0
2024	96.4

Source: Minnesota Hospital Discharge data, 2020-2024

Figure 3: The rate of opioid use disorder (OUD) at time of delivery hospitalization remained mostly stable in Minnesota from 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

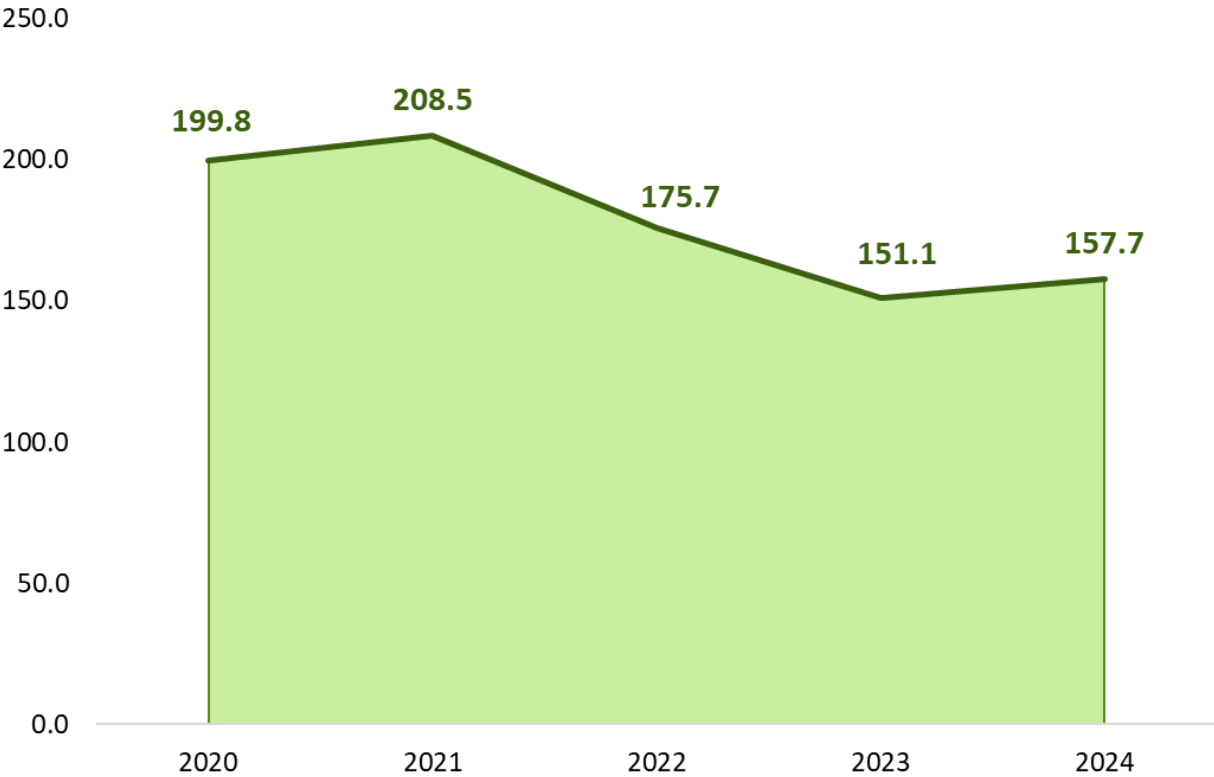
Source: Minnesota Hospital Discharge data, 2020-2024

Table 3: The rate of opioid use disorder (OUD) per 10,000 delivery hospitalizations in Minnesota, by year, 2020-2024.

Year	Rate of opioid use disorder per 10,000 delivery hospitalizations
2020	61.0
2021	59.4
2022	63.3
2023	62.9
2024	60.8

Source: Minnesota Hospital Discharge data, 2020-2024

Figure 4: The rate of cannabis use at time of delivery hospitalization decreased by 21.1% in Minnesota, from 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

Source: Minnesota Hospital Discharge data, 2020-2024

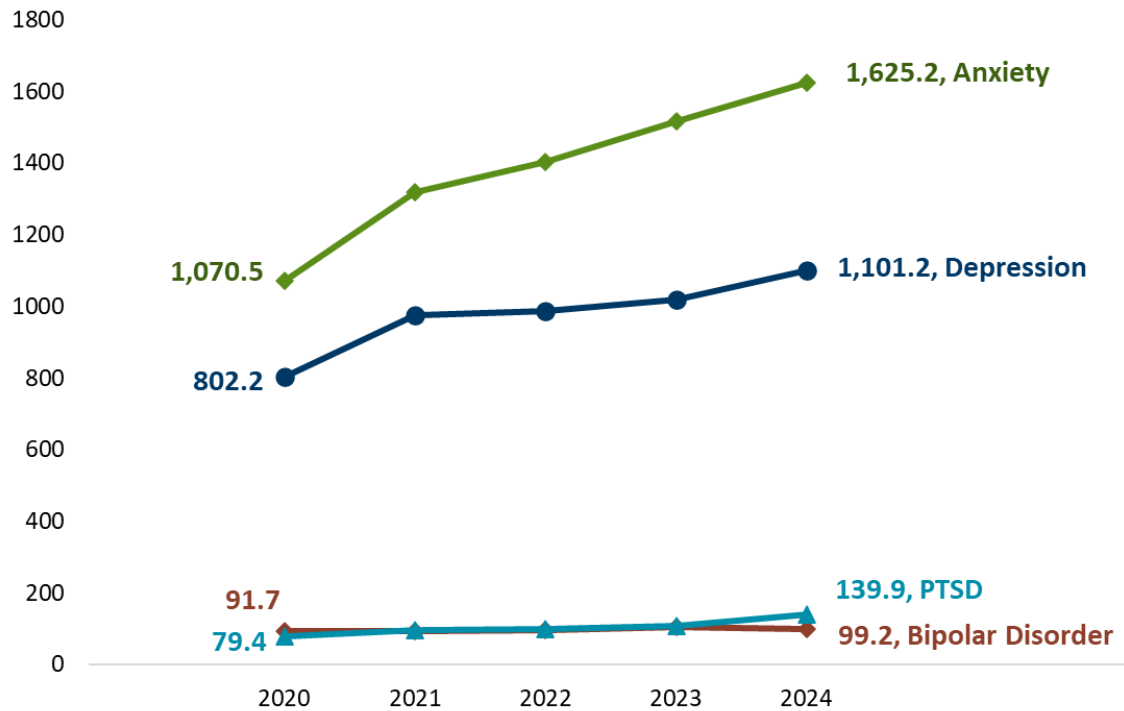
Table 4: The rate of cannabis use per 10,000 delivery hospitalizations in Minnesota, by year, 2020-2024.

Year	Rate of cannabis use per 10,000 delivery hospitalizations
2020	199.8
2021	208.5
2022	175.7
2023	151.1
2024	157.7

Source: Minnesota Hospital Discharge data, 2020-2024

Mental Health

Figure 5: The rates of anxiety, depression, and post-traumatic stress disorder (PTSD) at time of delivery hospitalization greatly increased in Minnesota from 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

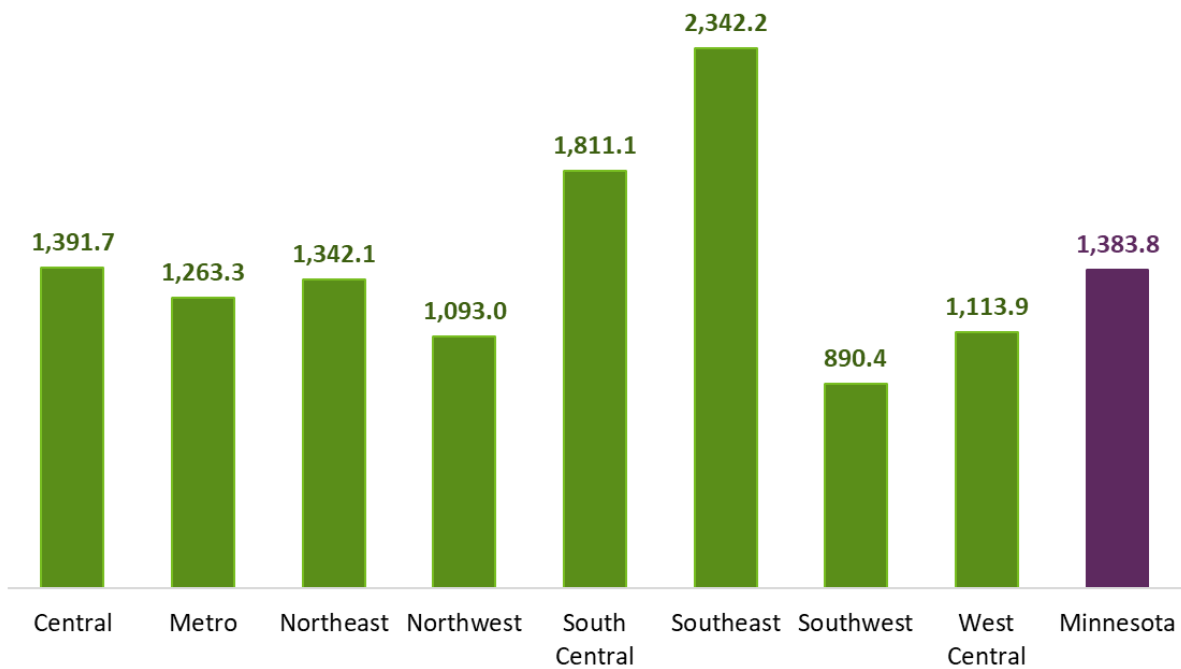
Source: Minnesota Hospital Discharge data, 2020-2024

Table 5: The rates of four mental health conditions per 10,000 delivery hospitalizations, by year in Minnesota, 2020-2024.

Mental Health Condition	2020	2021	2022	2023	2024	Percent change in rate from 2020 to 2024
Anxiety	1,070.5	1,317.9	1,402.0	1,516.7	1,625.2	+51.8%
Depression	802.2	975.8	987.2	1,017.5	1,101.2	+37.3%
Bipolar Disorder	91.7	93.8	95.2	103.3	99.2	+8.2%
Post-Traumatic Stress Disorder (PTSD)	79.4	95.7	100.2	107.6	139.9	+76.2%

Source: Minnesota Hospital Discharge data, 2020-2024

Figure 6: The rate of anxiety at time of delivery hospitalization varied by Minnesota SCHSAC region, 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

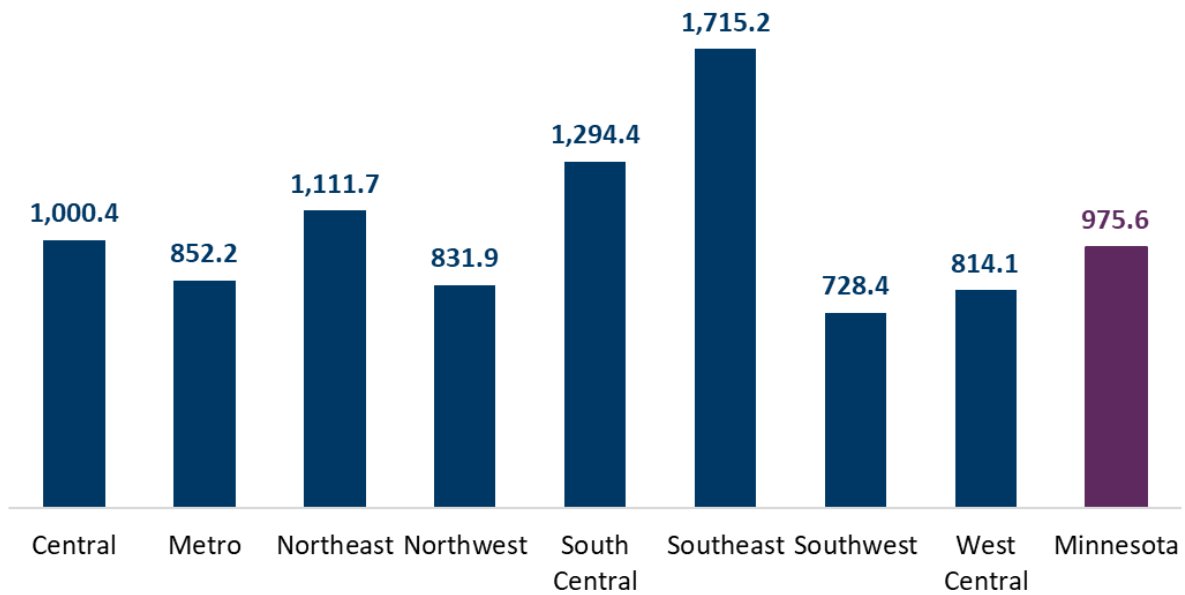
Source: Minnesota Hospital Discharge data, 2020-2024

Table 6: The rate of anxiety per 10,000 delivery hospitalizations, by Minnesota SCHSAC region, 2020-2024.

Minnesota SCHSAC Region	Rate of anxiety per 10,000 delivery hospitalizations, 2020-2024
Central	1,391.7
Metro	1,263.3
Northeast	1,342.1
Northwest	1,093.0
South Central	1,811.1
Southeast	2,342.2
Southwest	890.4
West Central	1,113.9
State of Minnesota	1,383.8

Source: Minnesota Hospital Discharge data, 2020-2024

Figure 7: The rate of depression at time of delivery hospitalization varied by Minnesota SCHSAC region, 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

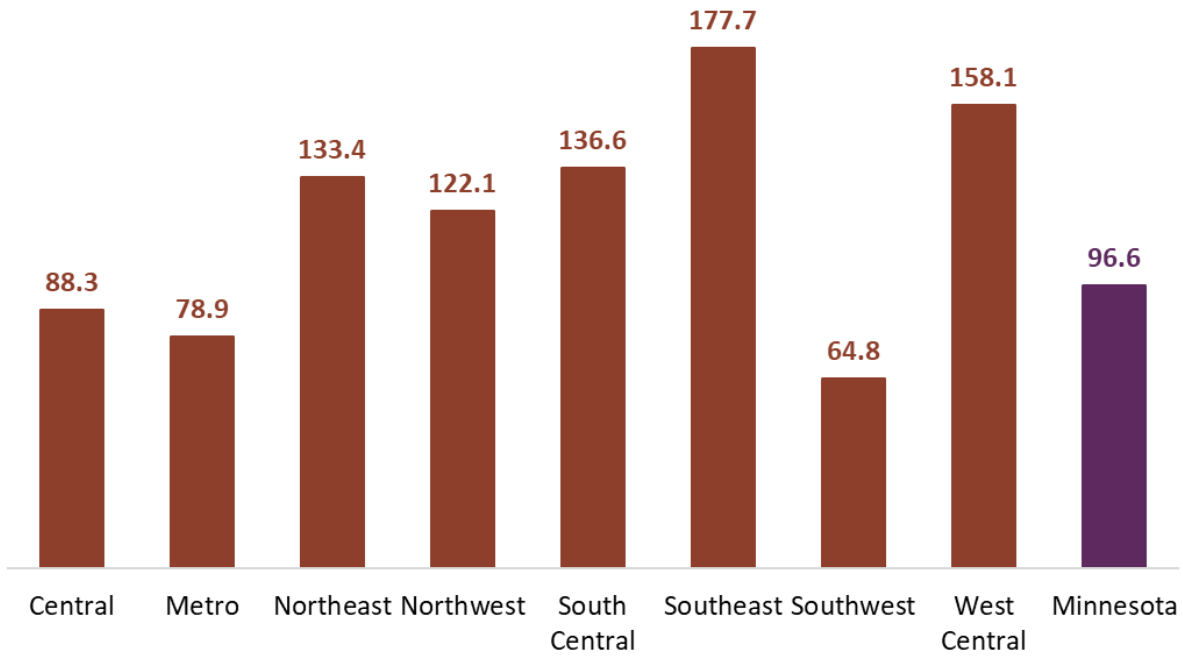
Source: Minnesota Hospital Discharge data, 2020-2024

Table 7: The rate of depression per 10,000 delivery hospitalizations, by Minnesota region, 2020-2024.

Minnesota SCHSAC Region	Rate of depression per 10,000 delivery hospitalizations, 2020-2024
Central	1,000.4
Metro	852.2
Northeast	1,111.7
Northwest	831.9
South Central	1,294.4
Southeast	1,715.2
Southwest	728.4
West Central	814.1
State of Minnesota	975.6

Source: Minnesota Hospital Discharge data, 2020-2024

Figure 8: The rate of bipolar disorder at time of delivery hospitalization varied by Minnesota SCHSAC region, 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

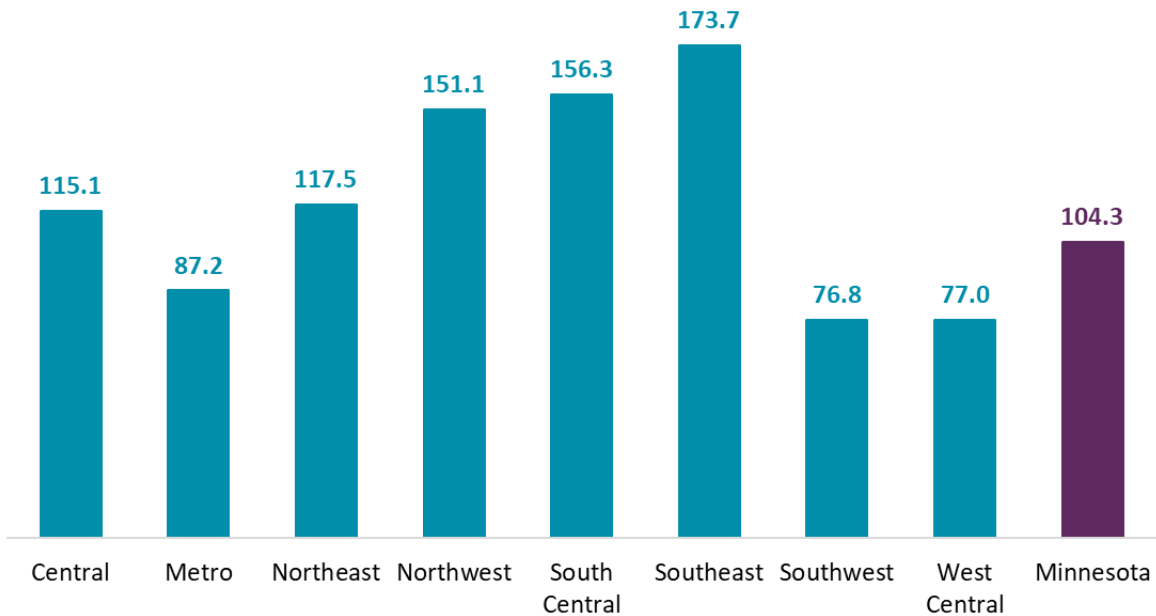
Source: Minnesota Hospital Discharge data, 2020-2024

Table 8: The rate of bipolar disorder per 10,000 delivery hospitalizations, by Minnesota region, 2020-2024.

Minnesota SCHSAC Region	Rate of bipolar disorder per 10,000 delivery hospitalizations, 2020-2024
Central	88.3
Metro	78.9
Northeast	133.4
Northwest	122.1
South Central	136.6
Southeast	177.7
Southwest	64.8
West Central	158.1
State of Minnesota	96.6

Source: Minnesota Hospital Discharge data, 2020-2024

Figure 9: The rate of post-traumatic stress disorder (PTSD) at time of delivery hospitalization varied by Minnesota SCHSAC region, 2020 to 2024.



Note: Rates are per 10,000 delivery hospitalizations.

Source: Minnesota Hospital Discharge data, 2020-2024

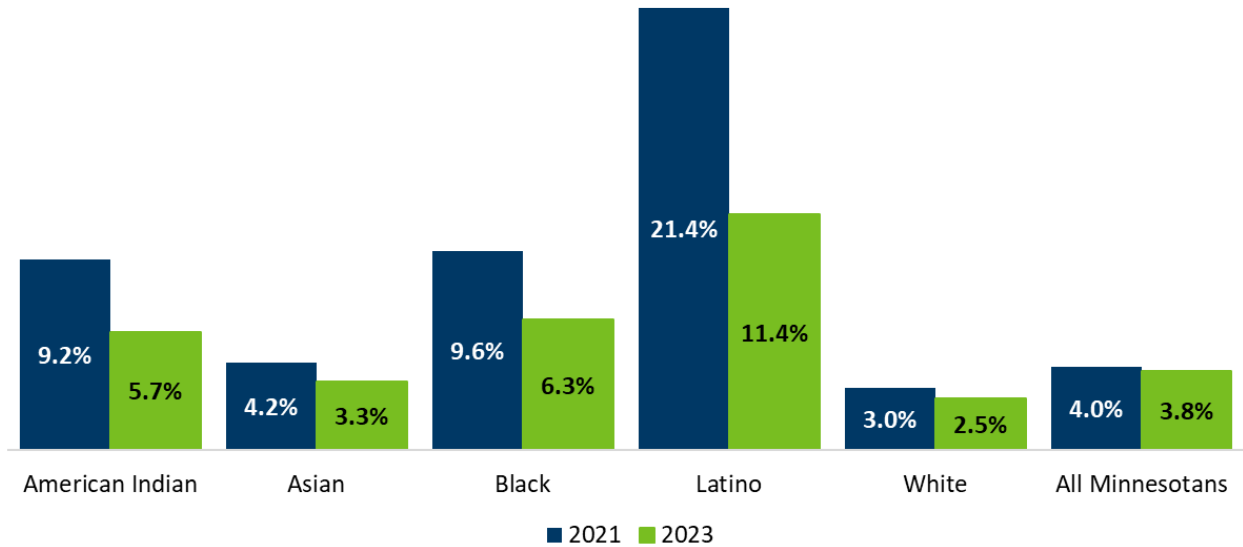
Table 9: The rate of post-traumatic stress disorder (PTSD) per 10,000 delivery hospitalizations, by Minnesota region, 2020-2024.

Minnesota SCHSAC Region	Rate of post-traumatic stress disorder (PTSD) per 10,000 delivery hospitalizations, 2020-2024
Central	115.1
Metro	87.2
Northeast	117.5
Northwest	151.1
South Central	156.3
Southeast	173.7
Southwest	76.8
West Central	77.0
State of Minnesota	104.3

Source: Minnesota Hospital Discharge data, 2020-2024

Insurance

Figure 1: Latinos had the highest rates of being uninsured in Minnesota, compared to all other race/ethnicity groups, in both 2021 and 2023, though a smaller percentage were uninsured in 2023.



Source: Minnesota Health Access Surveys, 2021 to 2023

Table 1: The percent of uninsured Minnesotans, by race/ethnicity group, in 2021 and 2023.

Race/ethnicity	Percent uninsured in 2021	Percent uninsured in 2023
American Indian	9.2	5.7
Asian	4.2	3.3
Black	9.6	6.3
Latino	21.4	11.4
White	3.0	2.5
All Minnesotans	4.0	3.8

Source: Minnesota Health Access Surveys, 2021 to 2023