Mental Health and Substance Use Disorder in Maternal Mortality, 2020 - 2022

Background

Maternal Mortality Review Committees (MMRCs) are multidisciplinary teams that review deaths occurring during pregnancy or within one year after the pregnancy ends.[1] Any death during this time—regardless of the cause—is considered a *pregnancy-associated death*.[2] MMRCs then assess whether the death was *pregnancy-related*, meaning it was caused by, began during, or was made worse by the pregnancy.[3] During the perinatal and postpartum periods, new physical or mental health conditions can develop, and existing conditions may become more severe, increasing the risk of serious complications or death.[4]

Fast Facts

- **71%** of Montana pregnancy-related deaths have an underlying cause of **mental health conditions**
- **More than half** of these deaths occurred more than **43 days post-pregnancy**
- The mental health conditions associated with these deaths are **depressive disorder, anxiety disorder/PTSD, and substance use disorder**
- **All** mental health pregnancy-related deaths were considered **preventable**

MMRC reviews play a crucial role in identifying the root causes behind pregnancy-related deaths. Rather than focusing only on the immediate medical diagnosis, the committees examine the full chain of events that led to each death. This helps reveal deeper contributing factors to maternal mortality that might otherwise be overlooked. [4,5] This process is especially important in cases involving mental health or substance use. These conditions can trigger a series of events that end in death—even when the official cause, such as overdose or suicide, may not seem directly connected to pregnancy. To ensure accuracy, the Montana MMRC uses standardized criteria to assess whether these deaths are pregnancy-related, making sure they are properly represented in the data.

The MMRC's thorough review process is considered the *gold standard* for tracking maternal mortality.[5] By examining deaths up to one year after pregnancy, MMRCs capture cases that would be missed by other reporting systems. For example, both the World Health Organization and the National Vital Statistics System only include deaths that happen within 42 days postpartum.[5,6] However, in Montana, more than half of pregnancy-related deaths occurred *after* that 42-day period—highlighting how MMRC data offers a more complete and accurate picture of maternal mortality.
The Montana MMRC also assesses whether each pregnancy-related death was preventable. Based on this analysis, the committee creates specific, actionable recommendations aimed at preventing similar deaths in the future. Each recommendation is tied directly to a case where prevention may have made a difference. These findings and recommendations are published in a separate report.

For more information contact Carolyn Royal at Carolyn.Royal@mt.gov or call (406) 444-2924

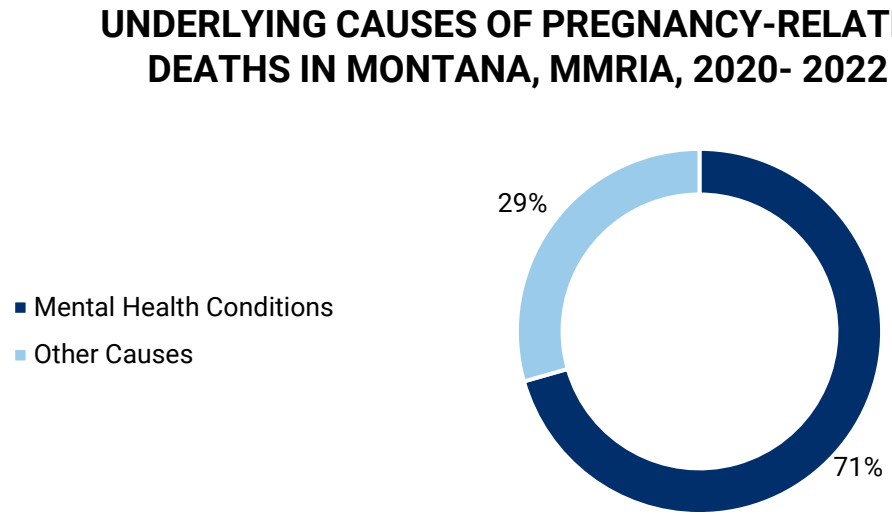
Maternal Mortality in Montana

Between 2020 and 2022, the number of pregnancy-related deaths remained steady.

As of 2025, the Montana MMRC has reviewed 37 pregnancy-associated cases between 2020 and 2022. Of these, the committee determined that 17 cases (46%) were pregnancy-related. The number of pregnancy-related deaths remained relatively steady over the three-year period: four deaths occurred in 2020, seven in 2021, and six in 2022.

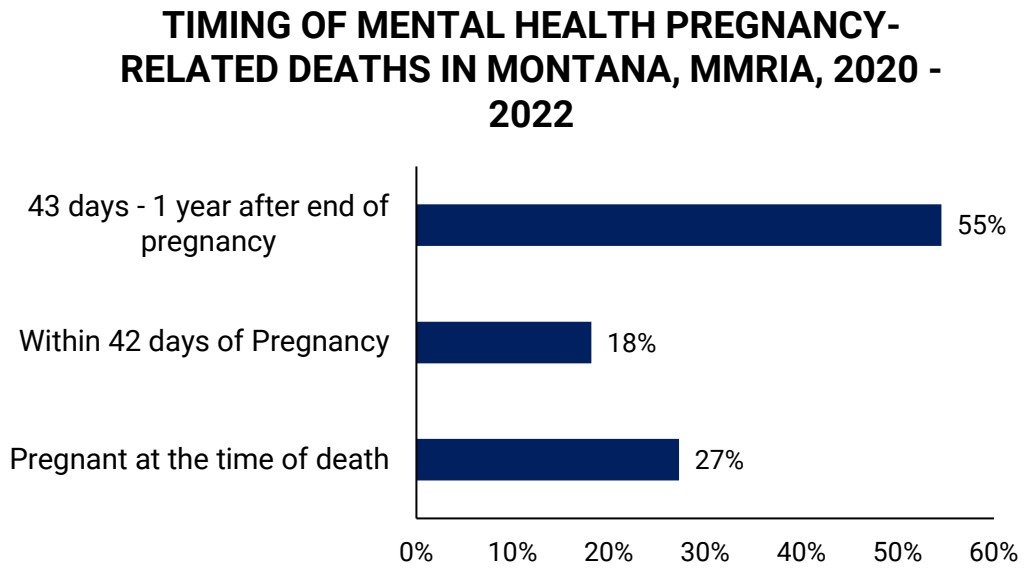
Since 2020, the MMRC has identified fewer than ten pregnancy-related maternal deaths per year. Due to these low numbers, demographic details are not included in this report to protect individuals' privacy. In total, 17 pregnancy-related deaths are analyzed in this report.

Approximately three-quarters of pregnancy-related deaths occurred due to mental health conditions



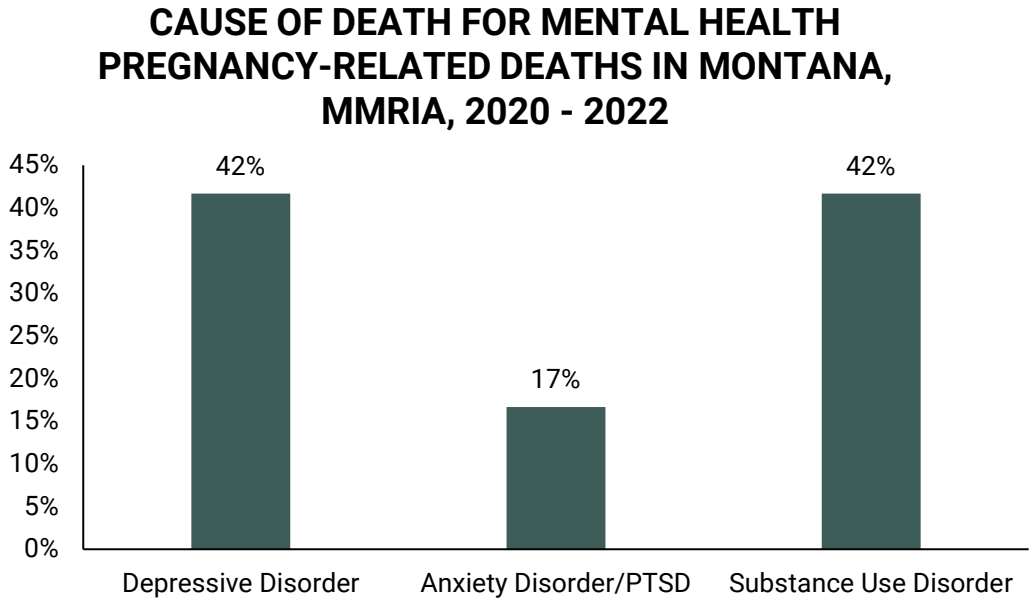
In Montana, most (71%) of pregnancy-related deaths involved an underlying mental health condition. This includes deaths related to postpartum depression, substance use disorder, and other related conditions. This stands in striking contrast to national data, where mental health conditions account for 23% of pregnancy-related deaths, followed by cardiovascular conditions and infections.[7] The higher proportion observed in Montana may reflect unique challenges faced by our communities, or it may result from an exaggerated statistical variation due to our low case count of only 17 pregnancy-related deaths.

More than half of pregnancy-related deaths due to underlying mental health causes occurred more than six weeks postpartum.



The majority (73%) of the 12 pregnancy-related mental health deaths occurred in the postpartum period, with more than half of those (55%) happening greater than six weeks postpartum. The remaining 27% of pregnancy-related deaths occurred during pregnancy.

The cause of death for mental health pregnancy-related deaths were depressive disorder, anxiety disorder/PTSD, and substance use disorder.



The three underlying causes of death for mental health pregnancy-related deaths were depressive disorders and substance use disorders, each accounting for 42% of cases, followed by anxiety disorders and PTSD at 17%. While these causes of death are rather broad, the data highlights depression and substance use disorder as primary contributors to pregnancy-related deaths in Montana.

Preventability and Contributing Factors in Maternal Mortality

The MMRC identified key factors contributing to mental health pregnancy-related deaths. The most commonly identified contributing factors to these deaths included care coordination, historical/intergenerational trauma, patient care, and social support.

The Montana MMRC determined that *all* reviewed mental health pregnancy-related deaths were preventable, with at least some or a good chance of changing the outcome. This finding clearly demonstrates that maternal deaths in Montana can be significantly reduced, or even eliminated, through the implementation of data-driven MMRC recommendations found in our Montana MMRC 2020 Recommendations Report.

References

1. Centers for Disease Control and Prevention. About Maternal Mortality Review Committees. Updated May 5, 2024. Accessed June 12, 2025. https://www.cdc.gov/maternal-mortality/php/mmrc/index.html
2. Centers for Disease Control and Prevention. Reference guide for pregnancy-associated death identification. Updated May 15, 2024. Accessed June 12, 2025. https://www.cdc.gov/maternal-mortality/php/mmrc/reference-guide.html
3. Centers for Disease Control and Prevention. Preventing pregnancy-related deaths. https://www.cdc.gov/maternal-mortality/preventing-pregnancy-related-deaths/index.html. Updated September 25, 2024. Accessed June 12, 2025.
4. Centers for Disease Control and Prevention. Circumstances contributing to pregnancy-related deaths: data from Maternal Mortality Review Committees in 38 U.S. States, 2020. Updated May 28, 2024. Accessed June 12, 2025. https://www.cdc.gov/maternal-mortality/php/report/index.html
5. Centers for Disease Control and Prevention. About the information from Maternal Mortality Review Committees. Unpublished document distributed by email. April 2024.
6. Cresswell, J. Maternal Deaths. World Health Organization. 2017, Accessed June 12, 2025. www.who.int/data/gho/indicator-metadata-registry/imr-details/4622
7. Centers for Disease Control and Prevention. Pregnancy-related deaths: data from Maternal Mortality Review Committees. Updated May 28, 2024. Accessed June 12, 2025. https://www.cdc.gov/maternal-mortality/php/data-research/index.html

Suggested Citation

Montana Department of Public Health and Human Services. Research and Evaluation Section; Maternal and Child Health Coordination Section. Mental health and substance use disorder in maternal mortality, 2020 - 2022. 2025.