MAINE CENTER FOR DISEASE CONTROL AND PREVENTION

Pregnancy-Associated Deaths, 2021

In 2021, nine pregnancy-associated deaths occurred in Maine. All nine deaths were reviewed by the Maternal, Fetal, and Infant Mortality Review (MFIMR) panel in 2023-2024 to identify contributing circumstances and develop recommendations to prevent future occurrences. Further details on findings and recommendations will be included in the 2024 MFIMR annual report.

Timing of Deaths

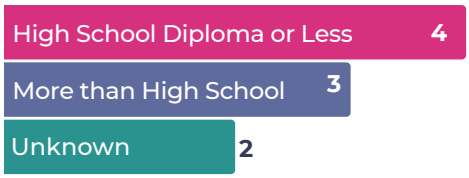
Death occurred **during pregnancy**	1
Death occurred **within 42 days** of delivery or termination	2
Death occurred **between 42-365** days of delivery or termination	6

Pregnancy-Relatedness*

Preventable* Deaths

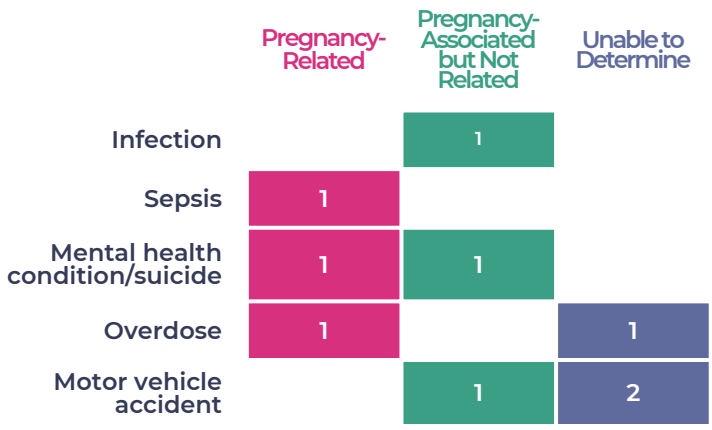
The MFIMR panel determined **9 of 9** deaths were **preventable**

Decedent's education**



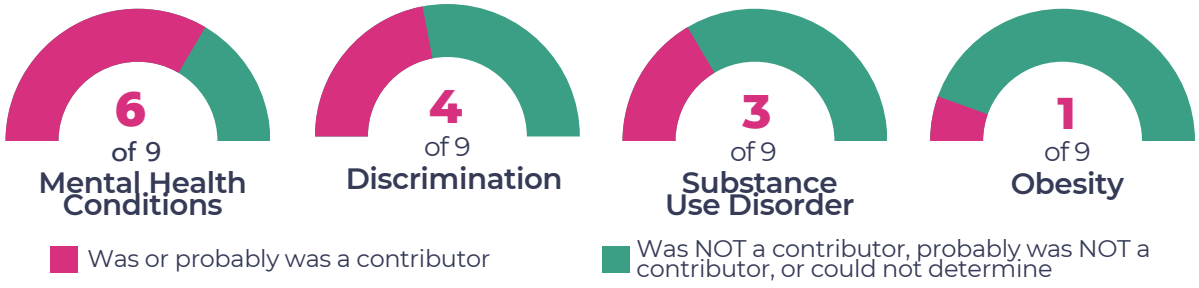
Decedent's race**

Primary underlying cause of death***



Contributing circumstances*

The MFIMR panel found the circumstances below were at least **probable contributors** to pregnancy-associated deaths in 2021. Deaths may have more than one contributing circumstance.



* See Background and Technical Notes (page 2) for definitions.

**Decedent race and education data for all deaths are obtained from Maine Death Certificates and/or Birth Certificates, MECDC Data, Research and Vital Statistics (DRVS).

***Underlying cause of death for *pregnancy-relgted deaths* is determined by the MFIMR panel based on all available information. The US CDC Pregnancy Mortality Surveillance System classification system is used to categorize pregnancy-related deaths. The underlying cause of death for pregnancy-associated but not related and deaths with undetermined pregnancy-relatedness is obtained from Maine Death Certificates only.

Background and Technical Notes

ABOUT MATERNAL MORTALITY REVIEW IN MAINE

Maine's MFIMR is convened and administered by the Maine Center for Disease Control and Prevention (MECDC), with support for the maternal mortality review process from the Maine Medical Association Center for Quality Improvement (MMA-CQI), and made possible by a grant from US Centers for Disease Control and Prevention's Enhancing Reviews and Surveillance to Eliminate Maternal Mortality program (ERASE-MM). Data in this report are drawn from Maine's Maternal Mortality Review and Information Application (MMRIA), and include information obtained from Maine vital records (birth certificates, death certificates, and fetal death certificates), medical and social service records, family interviews, and panel deliberations.

DEFINITIONS: **TYPE OF DEATH**

Maternal death: A maternal death is defined by the World Health Organization and the US CDC National Vital Statistics System as a death to a birthing person during or within 42 days of the end of pregnancy due to causes directly related to or aggravated by pregnancy, *excluding* accidental or incidental causes (e.g. deaths due to homicide, suicide, drug overdose, motor vehicle accidents, etc.) [1]

Pregnancy-associated death: A pregnancy-associated death is *any* death to a birthing person while pregnant or within one year of the end of pregnancy, regardless of the cause of death. The MFIMR panel began to routinely review all Maine resident occurrent pregnancy-associated deaths in 2023, beginning with 2021 deaths. [2]

Pregnancy-related death: A pregnancy-related death is defined by US CDC ERASE-MM as a death during pregnancy 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. Maine's MFIMR panel uses this definition to determine whether a pregnancy-associated death was also pregnancy-related. [2]

Preventable death: Maine's MFIMR panel applies the ERASE-MM definition of preventability when reviewing pregnancy-associated deaths: A death is considered preventable if the committee determines that there was at least some chance of the death being averted by one or more reasonable changes to patient, family, provider, facility, system and/or community factors. [2]

DEFINITIONS: **CONTRIBUTING CIRCUMSTANCES**

Maine's MFIMR panel is tasked with determining if discrimination, obesity, mental health, and/or substance use contributed to a death. The definitions of each circumstance are outlined below.

Discrimination: MFIMR determines whether discrimination contributed to the death using Hardeman's definition of discrimination: treating someone less or more favorably based on the group, class or category they belong to resulting from biases, prejudices, and stereotyping. Discrimination can manifest as differences in care, clinical communication and shared decision-making. [3]

Mental health conditions: MFIMR determines whether a mental health condition contributed to the death, and not just whether the person had a mental health condition. Mental health conditions are defined as present when the individual had a documented diagnosis of a psychiatric disorder. If a formal diagnosis is not available, subject matter experts (e.g., psychiatrist, psychologist, licensed counselor) may determine whether the criteria for a diagnosis of substance use disorder or another mental health condition are met based on the available information. [2]

Obesity: MFIMR determines whether obesity contributed to the death, not just whether the person was obese. The committee may determine that obesity contributed to the death when the condition directly compromised an individual's health or health care. BMI is calculated from weight and height (weight [kg]/ height [m^2]); a BMI of 30 or higher is considered obese.. [4]

Substance use disorder (SUD): MFIMR determines whether SUD contributed to the death, and not just whether the individual had SUD. SUD is characterized by recurrent use of substances causing clinically and functionally significant impairment, such as health problems or disability. The panel may determine that substance use disorder contributed to the death when the disorder directly compromised their health status. [2]

FOR MORE INFORMATION

Maine's MFIMR panel: https://www.maine.gov/dhhs/mecdc/population-health/mch/perinatal/maternal-infant/

US CDC ERASE-MM: https://www.cdc.gov/maternal-mortality/index.html

[1]US CDC, National Center for Health Statistics, *How NCHS Measures Maternal Deaths?* Retrieved from https://www.cdc.gov/nchs/maternal-mortality/faq.htm

[2]US CDC, Enhancing Reviews and Surveillance to Eliminate Maternal Mortality, Maternal Mortality Review Committee Decisions Form, version 24. Retrieved from https://www.cdc.gov/maternal-mortality/media/pdfs/2024/05/mmria-form-v24-fillable-508.pdf

[3] Hardeman RR, et al. Developing Tools to Report Racism in Maternal Health for the CDC Maternal Mortality Review Information Application (MMRIA): Findings from the MMRIA Racism & Discrimination Working Group. Matern Child Health J. 2022.

[4] US CDC, Division of Nutrition, Physical Activity, and Obesity, Obesity and Weight Status, Retrieved from https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/help/npao_dtm/definitions.html