

Maternal Mortality and Health Disparities

Executive Summary

The Center for Disease Control and Prevention defines maternal mortality as a pregnancy-related death of a woman while pregnant or within one-year postpartum for any cause related to or aggravated by the pregnancy.¹ Maternal mortality rates are widely used as a proxy for health care system quality. In recent years, the maternal mortality rate in Missouri has been higher than the national rate and is considered to be one of the worst in the United States. There are evident disparities in the risk of maternal mortality by ethnicity and race, maternal age, access to care, and socio-economic status. Policies and practices can reduce maternal mortality, health disparities, and improve maternity care for all women in Missouri.

Highlights

- Missouri's maternal mortality rate is **40.7 per 100,000 live births** – ranked 44th in the nation.
- African American/Black Missourians are at **three times greater risk** for maternal mortality than White Missourians.

Limitations

- **Only one recent report has evaluated maternal mortality in Missouri, specifically. Therefore, it is challenging to identify failures, problems with quality care, and other social determinants of health without more data.**

Research Background

Maternal Mortality Rates

Recently, Missouri has been evaluated as one of the worst states for women's health - ranked 50th in 2018 and 45th in 2020.^{2,3} A specific marker of quality women's healthcare is maternal mortality. Maternal mortality is an ongoing national public health issue, however, **the maternal mortality rate in Missouri is significantly higher than the national rate and ranked 44th in the nation (figure 1).**⁴ Alarming, maternal

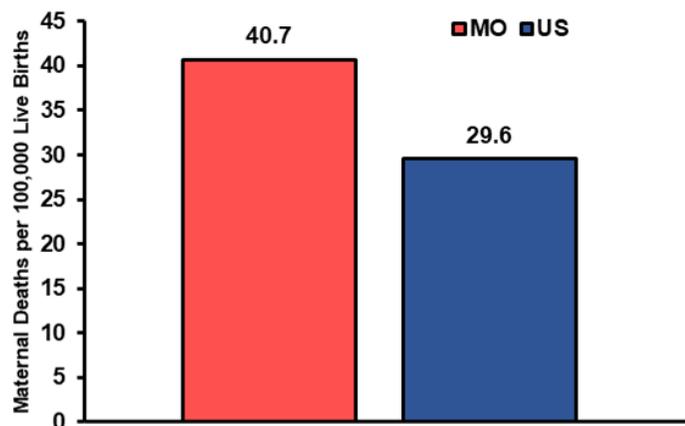


Figure 1. Maternal mortality rates for Missouri and US in 2019. Adopted from Academy Health Rankings.⁴

mortality in Missouri is greater in ethnic minorities and exceeds national rates (figure 2).⁴ Specifically, the maternal mortality rate of African Americans/ Black Missourians is 91.9 deaths per 100,00 live births compared to 32.9 deaths per 100,000 live births for White Missourians.

Risk factors for increased maternal mortality

Physical

Research indicates that the leading cause of death for women during pregnancy and <42 days postpartum is preeclampsia / eclampsia and hemorrhages.⁵ The most common cause of death from 43 days to one year postpartum is cardiomyopathy, followed by embolism.⁵ The presence of chronic health conditions such as

diabetes and heart disease increase the risk of complications during pregnancy and the risk remains heightened postpartum.⁶ Relative to Missouri, the prevalence of chronic health conditions affecting women is greater in ethnic minorities.⁷ Other risk factors for increased maternal mortality include delivery method, maternal age and having five or more births. Cesarean deliveries (c-sections) are associated with hemorrhage, thromboembolism, infection and subsequently, increased maternal mortality.⁸ In Missouri, 30% of live births in 2018 were by c-section with nearly one-third of c-section deliveries by African American/Black mothers.^{5,9}

Social

Social determinants of health are the environmental conditions in which people are born, live, and age such that it affects a multitude of health risks and quality-of-life outcomes. Resources that enhance quality of life can have significant influence on population health outcomes; these include the availability of resources to meet daily needs, access to education and health care services, social norms, and attitudes (i.e., discrimination and racism).¹⁰ Minoritized women are more likely to live in underserved communities and experience discrimination. Specifically, inequities in food security and housing, reduced health literacy, lack of health insurance, and distrust of the health care system may decrease access to prenatal and postpartum care increasing the risk of maternal mortality.¹¹ Additionally, delayed initiation of prenatal care is associated with increased maternal mortality rates. According to the Missouri Pregnancy-Associated Mortality Review (PAMR) Board 2020 report, 27% of first-time Missouri mothers did not begin prenatal care in the first trimester and these rates were significantly higher in African American women (40%) which may highlight disparities in accessibility and insurance. ⁵ Timely prenatal care affords medical professionals an opportunity for early diagnosis and possible intervention to mitigate risk factors that increase mortality.

Missouri Pregnancy-Associated Mortality Review (PAMR) Board

The PAMR Board was established in 2011 and released the first annual maternal mortality report using the most recently available data from 2017.⁵ The report features demographics of mothers with pregnancy-associated deaths including race, age, body mass index, smoking status,

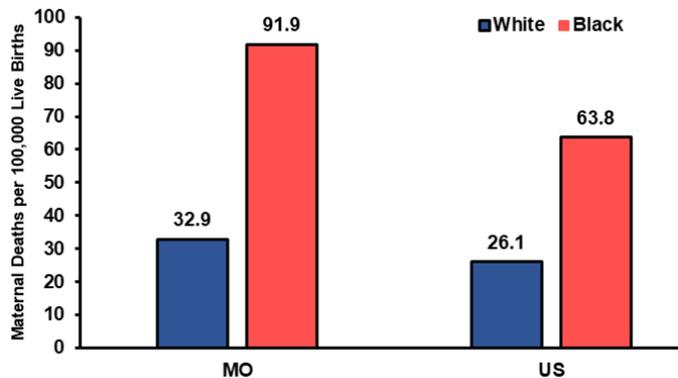


Figure 2. Maternal mortality rates by race for Missouri and the United States. Adopted from Academy Health Rankings.⁴

education, and health insurance. The report does not include failures or problems with quality of care provided to pregnant women or new mothers, however, it does suggest that 80% of maternal deaths were preventable.⁵ Pre-filed for the upcoming 2021 legislative session, HB 47 “adds a new duty to the MO PAMR Board to consider the roll of race, ethnicity, language, poverty, literacy, and other social determinants of health, including racism at the interpersonal and system levels when conducting multidisciplinary reviews of severe maternal morbidity, mortality, and other clinically important metrics.”

Strategies for Reducing Maternal Mortality

California has one of the lowest maternal mortality rates in the country and has been able to maintain low rates due to the Maternal Quality Care Collaborative (CMQCC) which was developed with a mission to reduce preventable morbidity, mortality, and racial disparities in maternity care. CMQCC uses research, quality improvement toolkits, state-wide education and outreach initiatives, and data to improve health outcomes for mothers and infants.¹² Each tool kit was developed with a specialized task force for health care professionals and is readily available for factors relating to pregnancy and postpartum care: heart disease, early elective delivery, substance exposure, hemorrhage, preeclampsia, sepsis, reductions in primary c-sections, and venous thromboembolism. Since the development of CMQCC, maternal mortality in California has declined by approximately 55% between 2006 and 2013, while the US and Missouri maternal mortality rates continued to increase (figure 3).¹² Additionally, California’s maternal mortality and morbidity associated with hemorrhage and preeclampsia, were reduced by 21% between 2014-2016.¹² The success of CMQCC led to the launch of the Alliance for Innovation in Maternal Health by the federal Maternal and Child Health Bureau in 2015 and has engaged States to begin implementing similar quality improvement toolkits. Though it is early to see an effect on maternal mortality, Illinois has shown considerable improvements in diagnosis and intervention for treating preeclampsia from 42% to 79%.¹³

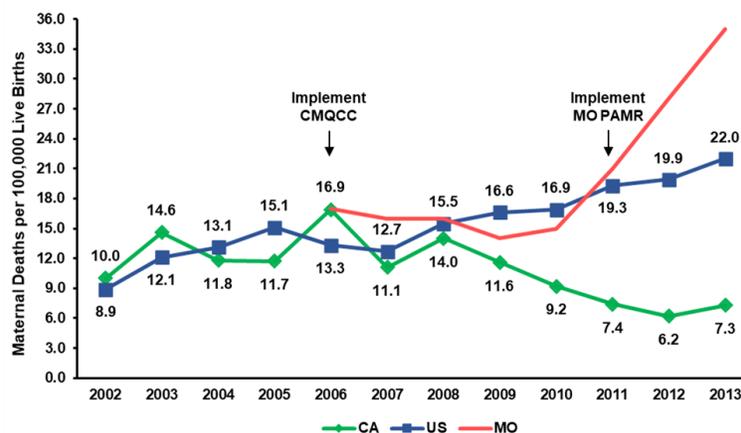


Figure 3. Maternal mortality rates for California were reduced with the CMQCC implementation. For comparison, the red line is an estimate of Missouri’s mortality rate during the same time period (based off 3-year running averages). Missouri PAMR was implemented in 2011. The spike in the Missouri maternal mortality rate after implementation of the PAMR Board may be associated with a change in the pregnancy status checkbox item on the death certificate in 2010 which permitted increased identification of maternal deaths.¹⁴ Figure modified from California Department of Public Health and Missouri Department Health and Senior Services.^{5,12,15}

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