

# Missouri Title V Facts:

# Maternal Morbidity / Mortality

Missouri  
**DHSS**

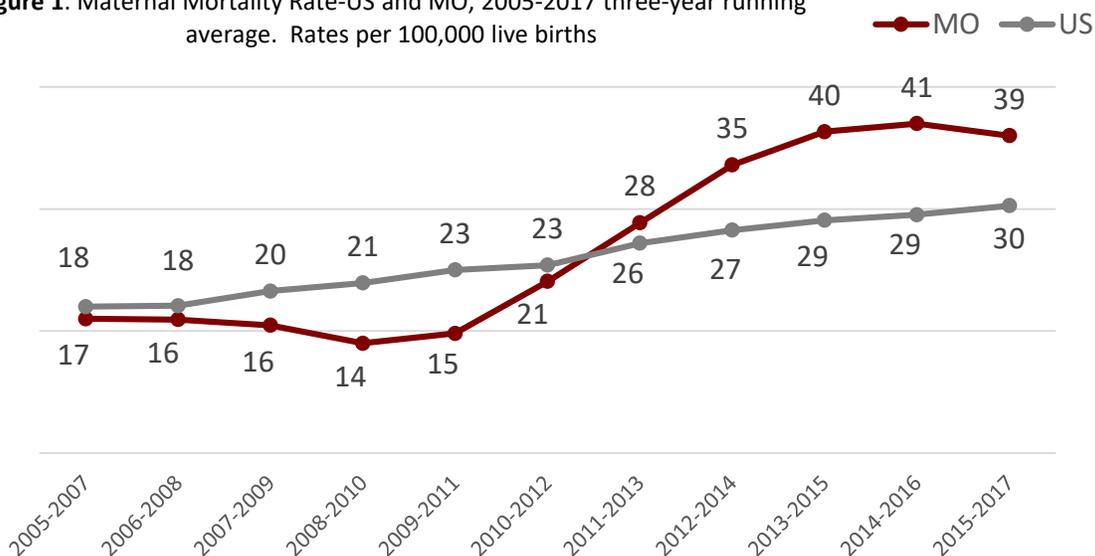
Department of Health  
and Senior Services

## Background

Instances of severe maternal morbidity and maternal mortality are internationally viewed as sentinel events that give strong insight into a country or state's ability to care for the health of its population. The death of a woman during pregnancy, childbirth, or within the first year postpartum influences the well-being of her children, family, and community, and serves as an early warning system for a society's health. This is true because good maternal health, and the risk of maternal death, is influenced by a variety of health determinants ranging from individualized factors (such as weight, or age) to more systemic issues (such as access to prenatal care, or healthy foods). In 2018, Missouri was ranked 42<sup>nd</sup> in the nation for maternal mortality.<sup>1</sup> From 2015-2017, Missouri had an average maternal mortality rate, including deaths within one year of pregnancy, of 39 deaths per 100,000 live births. Though the majority of maternal deaths occur within 42 days of pregnancy, an increasing proportion of maternal deaths are occurring between 42 days and 1 year of pregnancy. There are some indications that this shift is associated with better identification of maternal deaths.

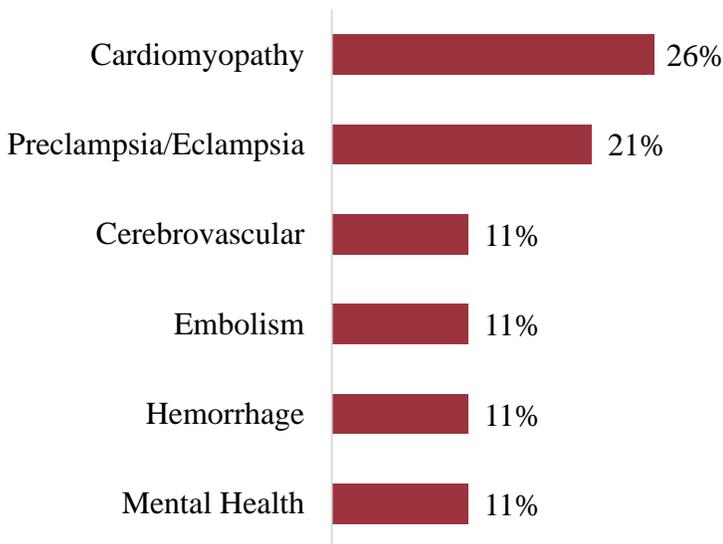
During pregnancy and for the six-to-eight weeks after, women are typically more engaged with the health care system. This provides an opportunity to identify and manage risk factors, not only for maternal mortality, but also for Severe Maternal Morbidity (SMM). Maternal morbidity is an overarching term that refers to any physical or mental illness or disability directly related to pregnancy and/or childbirth. These are not necessarily life-threatening but can have a significant impact on the quality of life. In Missouri, there were 772 instances of SMM in 2017. Maternal morbidity has increased by 75% in the United States in the past decade.<sup>2</sup>

**Figure 1.** Maternal Mortality Rate-US and MO, 2005-2017 three-year running average. Rates per 100,000 live births



Using Missouri Vital Statistics Definition: death of a mother, whether while pregnant, during delivery, or up to a year after delivery as a result of complications of pregnancy, childbirth, or puerperium (ICD-10 codes O00-O99).

**Figure 2.** Leading Cause of Pregnancy-Related Mortality (2017)



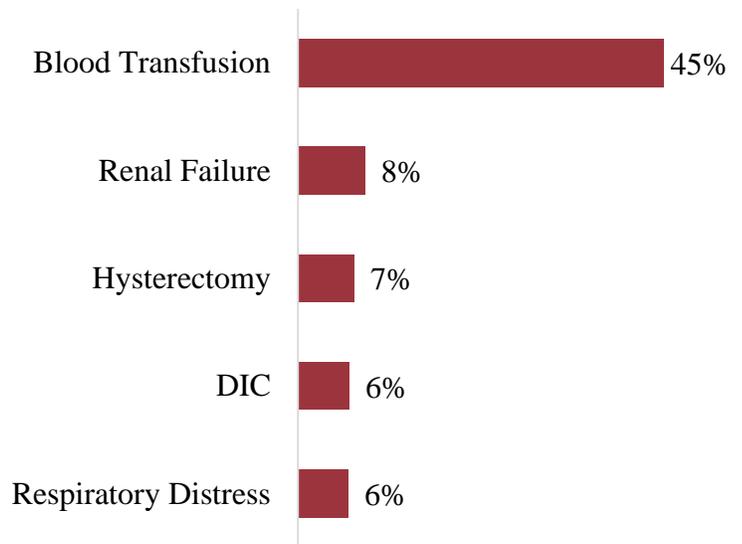
## Pregnancy Associated Monitoring Review

The Missouri Pregnancy Associated Monitoring Review (PAMR) program is a multidisciplinary board that reviews medical and social records, coroner and police reports, and other supporting documentation to determine whether a maternal death was preventable, and contributes to better understanding of the reasons for maternal deaths in the state. The committee also makes recommendations on individual, facility, or system-level changes that could serve to reduce future maternal deaths.

## Actionable Recommendations

- Providers should screen all pregnant and postpartum women for mental health disorders and provide adequate follow up.
- Providers should screen and refer pregnant/postpartum women to substance use treatment.
- Providers should educate pregnant and postpartum women on seatbelt use.
- Educate state leaders on the benefits of extending Medicaid coverage for pregnant women to one year postpartum.

**Figure 3.** Leading Indicators of Maternal Morbidity (2017)



### Quick Facts: Chronic Diseases in Pregnancy <sup>4</sup>

2016-2018

- ✓ Obesity: 28.2%
- ✓ Diabetes: 0.9% pre-pregnancy - 6.6% gestational
- ✓ High Blood Pressure: 5.2% (2014-2016) <sup>5</sup>

## Disparities in Maternal Health Experiences



Maternal health care experiences are not consistent for all mothers. Between 2014 and 2018, more than one in four (27.2%) new Missouri mothers did not begin prenatal care in the first trimester. Among Missouri black women, this number was significantly higher as more than one in three (40.0%) did not begin prenatal care in the first trimester. This limits the ability of providers to address risk factors related to maternal morbidity and mortality, such as pre-pregnancy obesity,

which in Missouri disproportionately affects black mothers (34.6% compared to 25.7% for white mothers).<sup>5</sup>

Overall, the rate of SMM in Missouri was 111.3 per 10,000 live births in 2017, but there were significant racial disparities: white mothers experienced SMM at a rate of 92.1 incidents per 10,000 live births, compared with black mothers who experienced SMM incidents at a rate of 212.9 per 10,000 live births.<sup>6</sup> Evaluating this disparity in another way, while black mothers made up 15.3% of live births, they made up 29.3% of SMM cases.

This discrepancy persists when evaluating maternal mortality. From 2016-2018 the average rate of maternal mortality was 34.4 maternal deaths per 100,000 live births.<sup>7</sup> This was higher than the national average rate of 21.4 during the same time period and over three times the Healthy People 2020 target of 11.4 deaths per 100,000 live births.<sup>8</sup> Between 2010 and 2017, the maternal mortality rate among black mothers (66.7 per 100,000 live births) was nearly 2.5 times higher than for white mothers (27.0 per 100,000 live births).<sup>9</sup>

This racial disparity is also seen in women's access to paid maternity leave. Unpaid leave results in women having to make difficult choices between continued pay and postpartum recovery. This potentially increases the chance of adverse short- or long-term outcomes related to both mental and physical postpartum health concerns. Fewer than one in three (30.3%) white mothers received paid maternity leave, and fewer than one in five (19.6%) black mothers received paid maternity leave.<sup>10</sup>

### Quick Facts: Risk Factors for Severe Morbidity and Mortality <sup>4</sup>

2016-2018

- ✓ Prior C-Sections: 30.0%
- ✓ Vaginal Birth After C-Section: 2.2%
- ✓ Advanced Maternal Age: 13.4%
- ✓ Less than High School: 12.1%
- ✓ Minority Race: 21.2%

## What is Being Done?

Pregnancy-Associated Mortality Review (PAMR): Since 2011, the PAMR program has assembled a maternal mortality review committee. The Missouri Department of Health and Senior Services worked with the Missouri Section of the American College of Obstetricians and Gynecologists in 2018 as advocates for passage of Senate Bill 514, which established a PAMR Board in state statute. This formalized and restructured the PAMR Board, and added 11 new members under Revised Statutes of Missouri (RSMo) 192.990.<sup>11</sup> The PAMR Board is a multidisciplinary group representing a wide range of perspectives which determine pregnancy-relatedness and the causes and preventability of maternal deaths.

Missouri Maternal and Child Learning and Action Network (MC-LAN): The MC-LAN was formed through the collaboration of MODHSS and the Missouri Hospital Association (MHA). The MC-LAN program assists hospitals, birthing centers, clinicians and community partners engaging in specific quality improvement projects. The MC-LAN is working to enhance hospital capacity to serve target populations by providing education, resources and staff support for quality improvement initiatives.

Alliance for Innovation in Maternal Health (AIM): Through cooperation with MHA, the PAMR program is implementing the AIM “Severe Hypertension in Pregnancy” bundle, a toolkit of best practices surrounding eclampsia, preeclampsia, and maternal hypertension, with plans to incorporate additional bundles in the future. To specifically address racial disparities, the MC-LAN plans to implement the Supported Patient Safety Bundle “Reduction of Peripartum Racial/Ethnic Disparities” beginning in 2021. The purpose of these AIM bundles is to establish and implement a best practices benchmark regarding birth procedures and processes.

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11. Missouri Revised Statutes: Mo. Rev. Stat. § 192.990 (2019)