South Carolina Maternal Morbidity and Mortality Review Committee

Legislative Brief
March 2022

The South Carolina Maternal Morbidity and Mortality Review (MMMR) Committee, established by state law in 2016, investigates the death of mothers associated with pregnancy to determine preventability. A pregnancy-related (PR) death occurs when a woman dies while pregnant or within one year of pregnancy. The cause is related to or made worse by her pregnancy or its management. This does not include accidental or incidental causes.

VISION: To eliminate preventable maternal deaths, reduce maternal morbidities, and improve population health for women of reproductive age in South Carolina.

BACKGROUND

Across the United States, roughly 700 women die each year from the result of pregnancy or delivery complications. Some groups of women experience this tragic event at a much higher rate than other groups.[1]

There are six primary decisions that the SC MMMR Committee makes for each maternal death reviewed. These decisions increase understanding of the medical and non-medical contributors to maternal deaths and prioritize interventions that effectively reduce their occurrence.

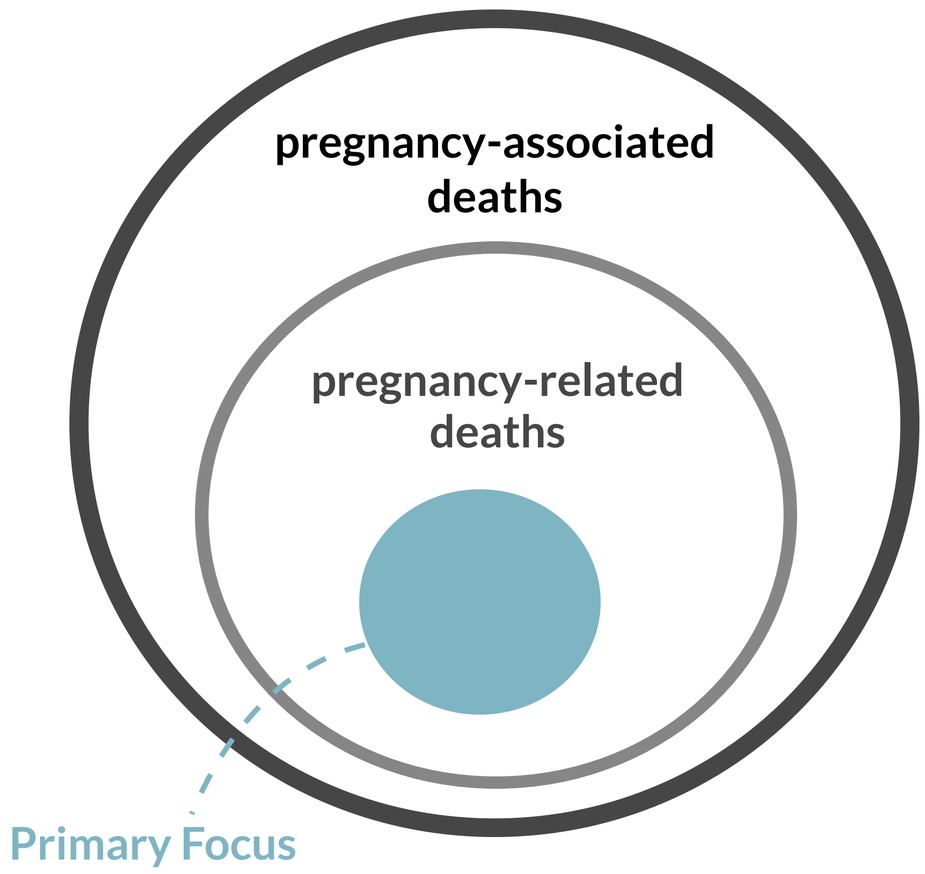
The SC MMMR Committee recently established a subcommittee to review pregnancy-associated deaths, or deaths temporally-related to pregnancy, and to determine which deaths were potentially made worse by the pregnancy or its management and should be reviewed by the full committee. **Beginning in 2021, the subcommittee expedited the review of maternal deaths impacted by COVID-19.**

In 2021, the SC MMMR Committee completed the review of PR deaths occurring in 2018 which resulted in the **first report of the South Carolina Pregnancy-Related Mortality Ratio (PRMR) - 35.3 pregnancy-related deaths per 100,00 live births in 2018.** Although higher than the U.S. PRMR of 17.3, the SC MMMR Committee is actively working through its partners and stakeholders to address the health and health care needs of women and leverage existing resources to support continued education and training among providers and payors.[2]

GOALS:

1. Determine the annual number of pregnancy-associated deaths that are pregnancy-related.
2. Identify trends and risk factors among preventable pregnancy-related deaths in SC.
3. Develop actionable recommendations for prevention and intervention.

Scope of Case Review for the South Carolina Maternal Morbidity and Mortality Review Committee



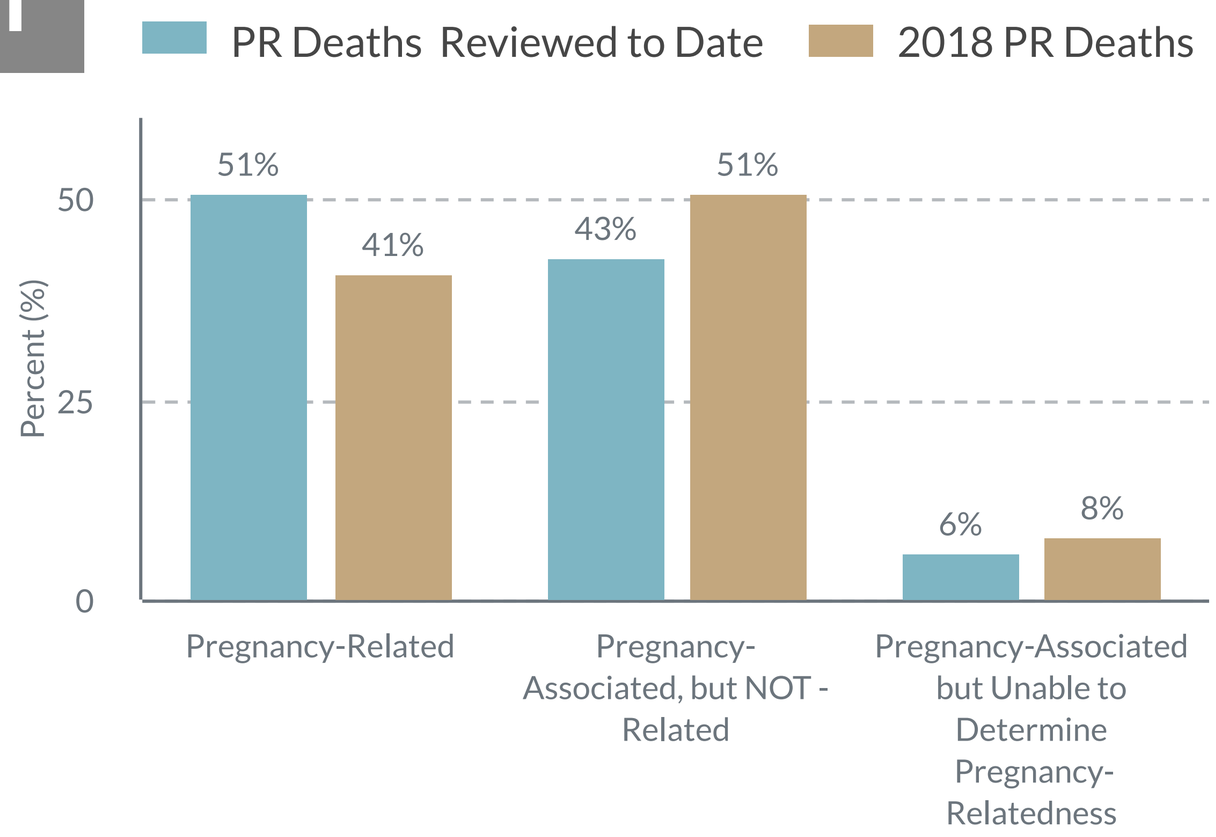
MORE THAN 100 CHILDREN AND FAMILIES ARE IMPACTED BY LOSS.

Distribution of Pregnancy-Related Deaths by Timing of Death in Relation to Pregnancy

WINS:

- The SC MMMRC established its subcommittee to review pregnancy-associated deaths and expedited the review of those impacted by COVID-19.
- In 2021, SC completed the review of PR deaths occurring in 2018 which resulted in the first report of the South Carolina Pregnancy-Related Mortality Ratio (PRMR) - 35.3 pregnancy-related deaths per 100,000 live births in 2018.

1 **Pregnancy-Related Determination of Maternal Deaths**



Between 2016 and 2021, there were 112 pregnancy-associated deaths reviewed by the SC MMMRC or subcommittee, of which 51% (n=57) were determined to be pregnancy-related. There were 49 maternal deaths reviewed from 2018. Of which, 41% (n=20) were determined to be pregnancy-related.

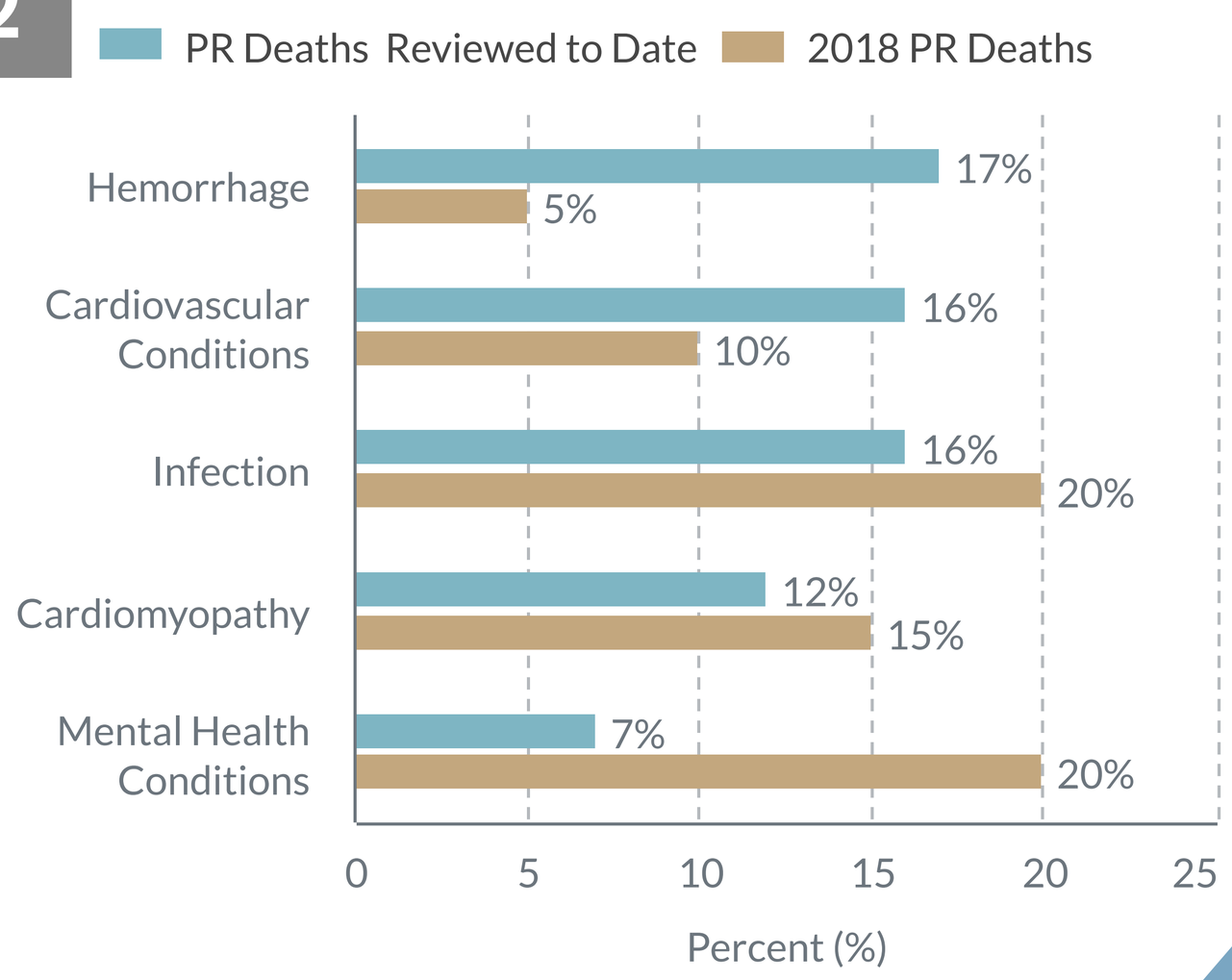
Maternal deaths to non-Hispanic Black women accounted for 42% of all PR deaths (non-Hispanic White, 28%; Hispanic, 9%; Other, 3%; Unknown, 17%; not shown).

Hemorrhage, cardiovascular conditions, and infection were the three leading causes of PR deaths reviewed between 2016 and 2021. Conditions of the heart, its muscle, and blood vessels constitute more than 1 in 4 PR deaths (cardiovascular conditions and cardiomyopathy combined).

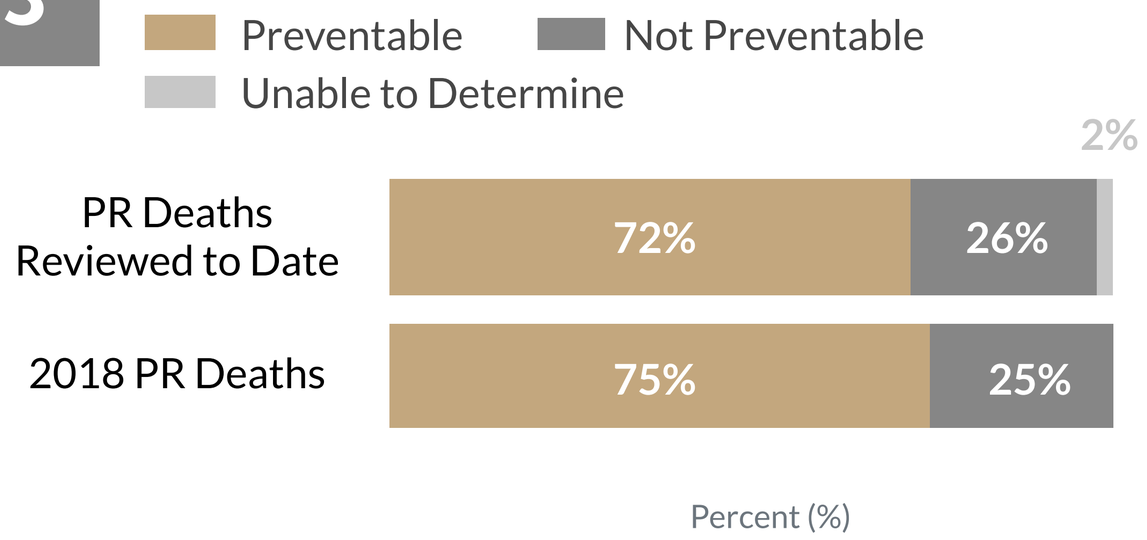
Mental health conditions and infection were the leading causes of PR deaths in 2018. Hemorrhage, infection, and cardiomyopathy were tied as the leading cause of PR death in non-Hispanic Black women, while infection was the prominent cause of PR death in non-Hispanic White women (not shown)

*Percentages shown do not sum to 100%.

2 **Leading Causes of Pregnancy-Related Deaths***



3 Preventability of Pregnancy-Related Deaths

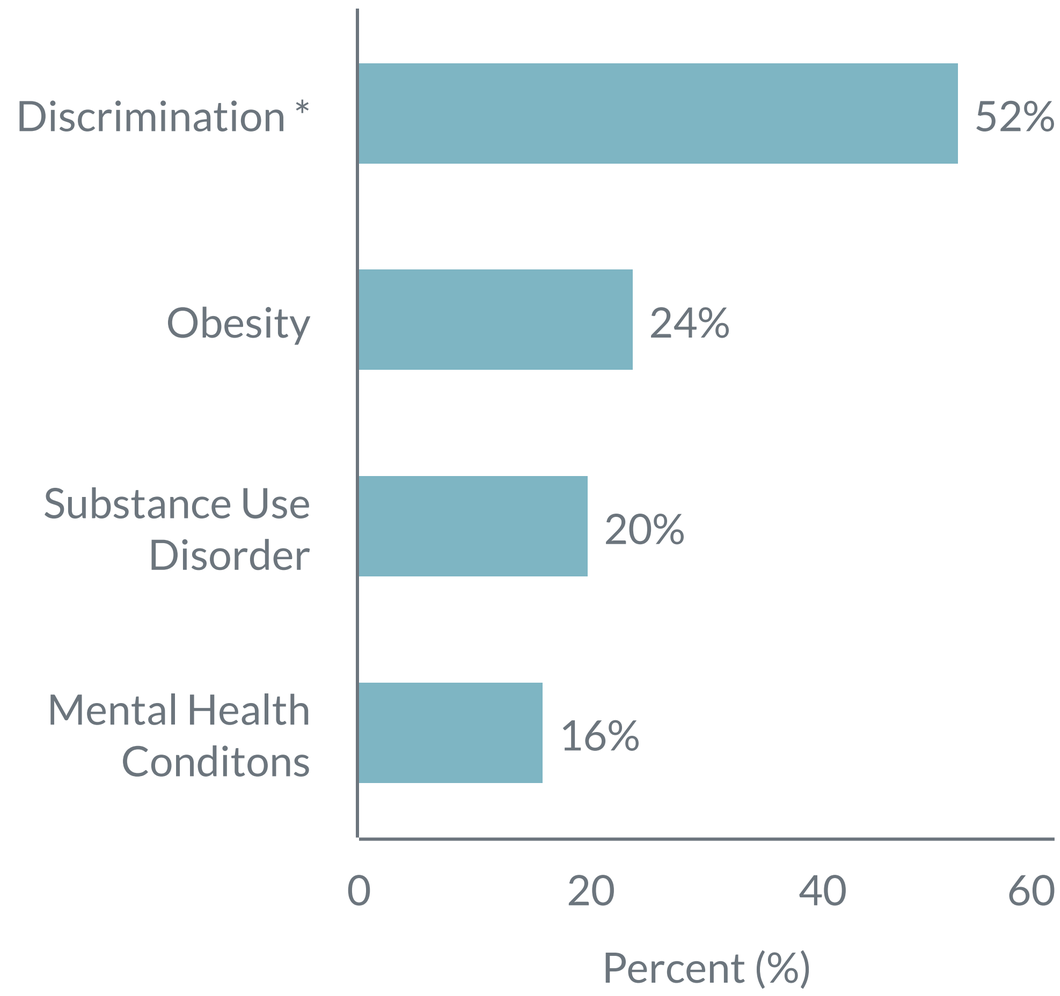


The determination of preventability highlights the critical and unique role of the SC MMMR Committee to spur actions that will lead to the reduction in preventable pregnancy-related deaths. Overall, nearly three in four (72%) PR deaths reviewed by the Committee were determined to be preventable. Among PR deaths that occurred in 2018, 75% were determined to be preventable.

SPECIAL CIRCUMSTANCES

Discrimination · Obesity · Substance Use Disorder · Mental Health

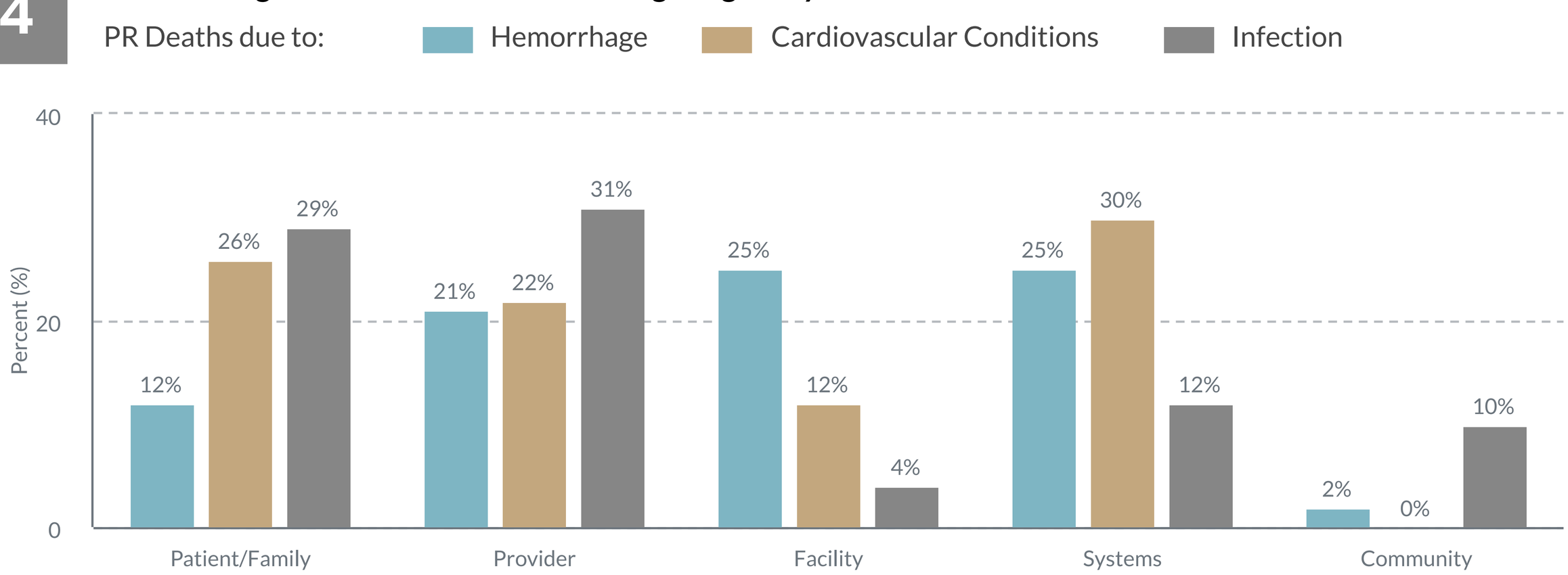
Did the following factors contribute to PR deaths?



The SC MMMR Committee makes determinations around the circumstances of each pregnancy-related death. Discrimination was recognized as a contributing factor in more than half of all pregnancy-related deaths reviewed. Similarly, obesity (24%), substance use disorder (20%), and mental health conditions (16%) were identified as contributing factors .

* Discrimination was added to the committee decisions form in May 2020; therefore, discrimination was only assessed in 36 of the 57 pregnancy-related deaths reviewed to date.

4 Contributing Factor Classifications among Pregnancy-Related Deaths



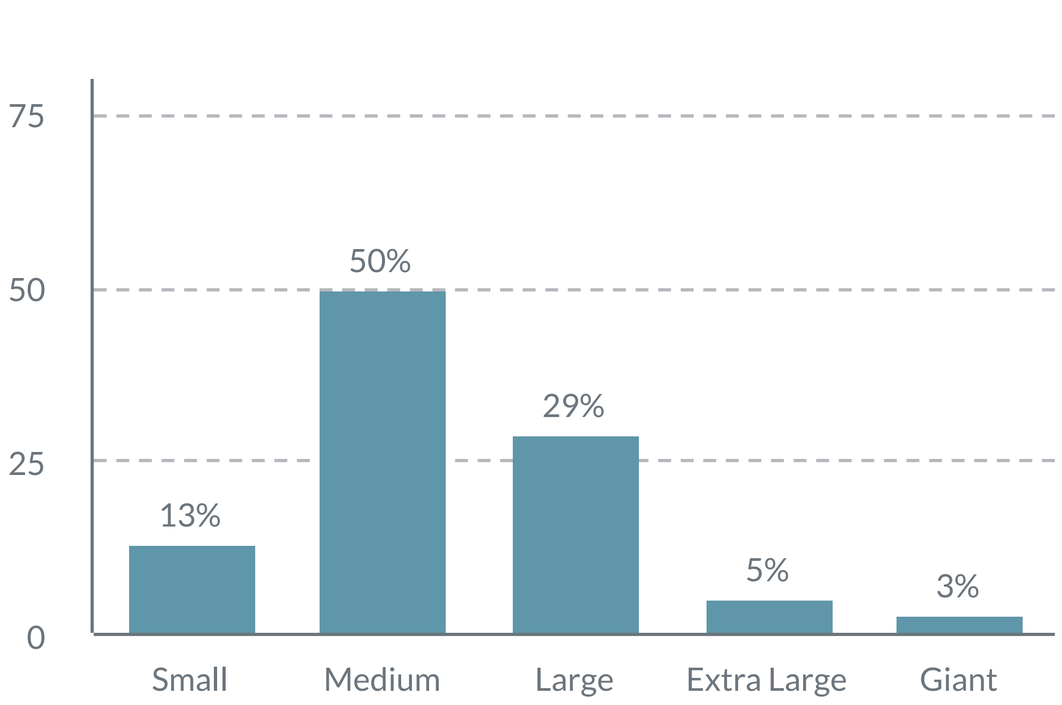
The SC MMMR Committee identified an average of 4 factors for every pregnancy-related death. Facility and systems-level factors accounted for 50% of all contributing factors for deaths due to hemorrhage. Systems-level factors also accounted for 30% of all contributing factors for deaths due to cardiovascular conditions, while provider factors comprised 31% of all contributing factors for deaths due to infection.

The Committee identified delay in treatment or patient care, clinical skill and quality of care, access and financial constraints, policies and procedures, and continuity of care and care coordination as areas of improvement across the more prominent factor levels.

5 Committee Recommendations for Reducing Pregnancy-Related Deaths in South Carolina?

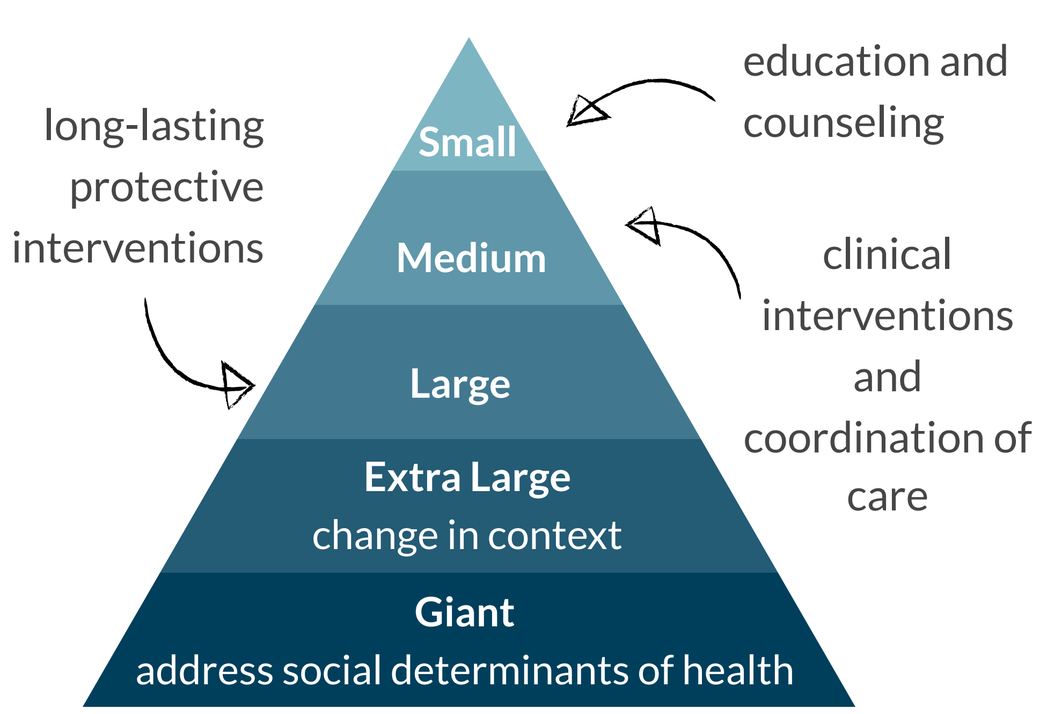
COORDINATION OF CARE AND REFERRALS	• Women who have pre-existing coronary artery disease/cardiac conditions or a newly diagnosed cardiovascular condition should receive referrals to advanced obstetric care (Maternal Fetal Medicine) and Cardiology. • OB Care Coordinators/Navigators should link women to appropriate medical and mental health services, assist in establishing access to care, and assist in obtaining social services. • All women with a history of moderate to severe mental health conditions and/or substance use disorder should have a referral to a behavioral health specialist and advanced maternal care/Maternal Fetal Medicine.
CLINICAL INTERVENTION	• All SC birthing hospitals should adopt hemorrhage protocols/safety bundles and educate providers and staff regarding hemorrhage recognition and management to include quantitative blood loss measurement, surgical management, ICU care and blood product administration. • SC should support the education and training of Obstetrical and Emergency medical and nursing staff utilizing simulations of obstetrical emergencies, and training seminars. • Providers should consider administering monoclonal antibody and other contemporary treatments, if appropriate, as an option for pregnant and post-partum women.
DISCRIMINATION AND UNEQUAL TREATMENT	• Recognize and address racism and improve the quality of care provided to women of color. Women of color should receive equitable and comprehensive care during pregnancy and the post-partum period. • All SC hospitals and obstetric providers should utilize interpretative services to assist women when English is not their primary language.
HEALTH CARE ACCESS	• SC should expand Medicaid to cover 12 months postpartum; this will allow for comprehensive medical care and will reduce racial disparities that occur in SC with regards to maternal mortality. • All women should have an established primary care provider who can address chronic health and mental health conditions before, during, and after pregnancy.
PRECONCEPTION, PERINATAL, AND POSTPARTUM HEALTH	• All women should have universal screenings for mental health, substance use, domestic violence, and chronic disease at the initial prenatal appointment, during pregnancy, and at postpartum follow-up care appointments. • All women should have a postpartum appointment within 1-3 weeks following delivery. Telehealth appointments are a viable alternative if an in-person appointment is not feasible. • Providers caring for pregnant and post-partum women should educate, counsel, and support the benefits of the COVID-19 vaccination.

6 The Expected Level of Impact After Implementing Recommendations



Health Impact Pyramid [3]

Helps to prioritize and translate recommendations to action



1 Petersen, E. E., Davis, N. L., Goodman, D., Cox, S., Mayes, N., Johnston, E., ... & Barfield, W. (2019). Vital signs: pregnancy-related deaths, United States, 2011–2015, and strategies for prevention, 13 states, 2013–2017. Morbidity and Mortality Weekly Report, 68(18), 423.

2 Centers for Disease Control and Prevention (CDC). (2020, November). Pregnancy Mortality Surveillance System. Retrieved from https://www.cdc.gov/reproductivehealth/maternal-mortality/pregnancy-mortality-surveillance-system.htm.

3 Building U.S. Capacity to Review and Prevent Maternal Deaths. (2018). Report from nine maternal mortality review committees. Retrieved from http://reviewtoaction.org/Report_from_Nine_MMRCs