What is SMM?

SMM is a physical or psychologic condition that either results from or is aggravated by pregnancy and has an adverse effect on a woman’s health. It is measured by identifying women with at least 1 of 25 medical conditions while hospitalized for a delivery. SMM increased 75% in the United States over the past decade, and is estimated to affect 163 of every 10,000 deliveries, or more than 52,000 women annually.

Risk Factors

Risk for SMM is higher among women who:
- have increased maternal age,
- had their delivery paid by Medicaid,
- identify as non-Hispanic black, or
- identify as Hispanic.

Other factors such as preconception health status, obesity and other comorbidities, and access to care may contribute to these disparities.

The highest rates of SMM occur at extremes of maternal age.
In 2010 the Ohio Department of Health established the Ohio Pregnancy-Associated Mortality Review (PAMR) to identify and review maternal deaths in the state. A committee of multidisciplinary experts meets to review maternal deaths and determine underlying factors.

Three Most Common Maternal Morbidities During Delivery Hospitalization

- **Blood Transfusion**
  - 84/10,000 Deliveries
  - A blood transfusion is a procedure where donor blood, usually red blood cells, is given by an intravenous line. A pregnant woman can require a transfusion for a variety of reasons. Most commonly, this may be due to severe anemia (low hemoglobin) or postpartum hemorrhage during delivery. Circumstances can vary in severity and become life-threatening.

- **Disseminated Intravascular Coagulation (DIC)**
  - 22/10,000 Deliveries
  - DIC is a condition that reduces or blocks blood flow to major organs due to blood clots that form in the body’s small blood vessels. These clots result in a lower count of clotting factors elsewhere in the blood, leading to serious bleeding that requires medical intervention.

- **Heart Failure during Procedure or Surgery**
  - 15/10,000 Deliveries
  - Pregnancy, in general, causes the heart to work harder due to increased blood volume. During delivery, the body experiences rapid changes in blood flow that can put stress on the heart. Women with preexisting heart conditions are at higher risk for life-threatening complications.

According to a joint consensus statement by the ACOG and the Society of Maternal Fetal Medicine, cases of SMM merit review. Facilities should have a screening process in place that uses, at a minimum, two criteria: transfusion of 4 or more units of blood and admission of a pregnant or postpartum woman to an ICU. Screen-positive cases should undergo further review. However, meeting criteria for SMM does not constitute a sentinel event nor should their rates be used as a quality metric.

Data Source: Ohio Hospital Association Discharge Data

Data Note: Grey bars within figures represent 95% confidence intervals (CI). The width of the CI gives us an idea of how certain we are about the true prevalence. The 95% CI means that if we were to repeat this study 100 times, 95 of the intervals generated would contain the true estimate.

References: