

## **PRINT-Using simulations to tackle potentially fatal pregnancy-related hypertension and hemorrhage**

Amidst COVID-19 staffing and capacity challenges, health leaders across the country and at Peoria, Illinois-based OSF HealthCare could not ignore the grim reality that more needed to be done to stop pregnant women from dying.

Nikki Delinski, DNP, RN, director of Education Operations, [Jump Trading Simulation & Education Center](#), was enlisted by leaders to develop training that could reinforce standardized best practices across the Ministry. The two-part series included online education and on-site training so Mission Partners (employees) did not have to travel to the Jump Trading Simulation & Education Center in Peoria during the height of the pandemic, when clinicians were most needed at patients' bedsides.

The training was developed by nursing leaders, providers and educators over several months and focused on two well-known complications that offer the best chance of survival if treated properly: pregnancy-related hemorrhage and pregnancy-induced high blood pressure called preeclampsia.

Many of the frontline caregivers provided valuable feedback after more than 500 in-person simulations.

**"Our Mission Partners said that they needed to familiarize themselves with the guidelines and the supplies. It was more than communication, more than timeliness. It was better understanding the supplies – where they are, as well as understanding what those guidelines are and who can act on those guidelines."**

**–Nikki Delinski, Director of Education Operations**

Newly-released research from the Centers for Disease Control and Prevention (CDC) confirms earlier studies that show [80% of the annual average of 700 pregnancy-related deaths are preventable](#). The agency's data also revealed Black women are three times more likely than white women to die due to pregnancy-related causes. The evidence prompted OSF Innovation to look at using "in situ" or in-person simulations to train doctors, medical technicians, nurses, midwives and other medical providers.

Delinski and her team organized simulations throughout the 16 hospitals and medical centers within OSF Healthcare. The education emphasizes early recognition of symptoms, teamwork, communication and a list of well-rehearsed treatments and interventions that represent best practices.

In collaboration with the Solutions Design team and the Clinical Education team at OSF Ministry Services, the on-site training for maternal hemorrhage used manikins that simulated bleeding. But Delinski points out that the simulation operations specialists redesigned the manikins to produce optimized symptoms, such as sweating, stress and real-life blood loss scenarios.

"So it wasn't just a gush of blood. It was over time, and those nurses and physicians were able to then actually implement their interventions in the appropriate timeframe. They were able to use the supplies, rather than just saying, 'Here I would do this,' or 'I would think about this.'"

All too often, symptoms that follow the days, weeks and even months after delivery can be dismissed as simply a side effect of giving birth. Headaches are written off as caused by the stress of a new baby, lack of sleep or even a pregnancy loss. Vomiting could be caused by not eating well due to demands of being a new mom. But CDC research indicates slightly more than half of all pregnancy-related deaths happen seven days to one year after pregnancy.

At OSF, Delinski and her team developed hypertension training that, used 40 specially-trained standardized participants (SPs), clinical actors who have studied and practiced the symptoms and also know the guidelines. Those SPs also participate in debriefings and often point out how certain actions or behaviors made them feel.

Next steps will include recruiting SPs who more specifically reflect the diversity of the individual communities.

"If we're going up to Chicago to do some of these 'in situ,' these in-the-moment, in-the-environment simulations, what better way to portray realism than to have actual community members acting as those patients?"

Delinski believes educating the multidisciplinary teams that care for pregnant women can also help raise community awareness about the need to listen to the concerns of women who are pregnant or who have been pregnant during the last year and help them get the right care at the right time.

By our Mission Partners becoming more educated, it will help to educate our patients and the community. So when we're gaining new information and new experiences, we will then naturally share those experiences and education with our patients [so they know what] signs and symptoms to look for and when to reach out for help."

The education team traveled some 15,352 miles to provide the on-site trainings with an average of four sessions hosted at each location to accommodate various shifts. OSF HealthCare has been collecting data to measure the impact of the training on outcomes. Cumulative measurements for blood loss have improved the past few measurement cycles, remaining at or above target levels. Some Birthing Center staff members also report better teamwork and preparation for pregnancy-related medical emergencies.