

Overview

Virtua Health, a comprehensive community health system, serves communities in southern New Jersey and the greater Philadelphia region. The health system sees 8,000 to 9,000 deliveries across three of its five acute care hospitals, making women's health among its leading service lines.

Virtua used the opening of Virtua Voorhees in 2011, a 400-bed hospital, to evolve care delivery for laboring patients. "Data showed we were an underperformer as it relates to C-section rates," said Nicole Lamborne, M.D., vice president of clinical operations for women's services. "Our primary focus was bringing those numbers down." Recognizing the risk of complications, such as hemorrhage, infection, blood clots and even stroke is 40% higher for those experiencing a C-section, Virtua Voorhees established an independent laborists model to reduce C-section rates for first-time, low-risk moms.

"The model is designed to provide active management of laboring patients, and ensures their care meets quality, safety and outcome standards," said Lamborne. Unlike other OB/GYNs who split their time between clinic and the hospital, laborists are at the hospital at all times to assist in regular and emergency deliveries.

They offer additional clinical and decision-making support to nurses and other obstetricians, and help them assess and manage any risk factors associated with delivering the baby. Laborists also provide an extra layer of support and attention to the patient for a better patient experience.

"We wanted to make sure that patients were not stagnating on the floor, and end up needing a C-section. We wanted to improve their outcomes," Lamborne added. With laborists involved, laboring patients are able to see an OB sooner and continue laboring in a



hospital room while waiting for their designated physician. This reduces wait times for those laboring on the floor, ensures patients are being safely monitored at all times, and improves patient flow into the system and ultimately reduces the cost of labor.

Virtua uses a multidisciplinary, collaborative approach to reduce gaps in care. In addition to laborists, Virtua Voorhees involves nurses in decision-making and protocol development for assessing the need for a C-section and identifying risks for hemorrhage, hypertension and sepsis.

"You have to look at what led to the C-section in the first place. You have to change the whole process from how patients are induced to how labor is managed to achieve a different outcome. Nursing plays a very important role in how our patients are managed, and therefore, what their overall outcome is," explains Lamborne.

Impact

The multidisciplinary approach with laborists and nurses enforced increased compliance to hemorrhage protocols, including ongoing risk assessment and quantifying blood

loss. This led to improved outcomes for patients, the workforce and the overall labor experience. As of 2020, C-section rates dropped from 30% to 17.9%, while the episiotomy rate remains at 2% since 2015.

Additionally, there was a 30% increase in completion of pre-delivery hemorrhage risk assessment. In 2021, it treated 70-75% of its severe range hypertension patients within 60 minutes. As a result, transfers to the ICU for hypertension decreased by 25%, and 60% for hemorrhage, while readmission rates dropped by 23%. The overall length of stay for patients who experienced hemorrhage or severe range hypertension was reduced by 1.2 hospital days.

Lessons Learned

The importance of education, collaboration and consistency was evident throughout Virtua's journey. It helped the team set priorities and work collectively toward common goals. Recognizing that changing traditional practices is challenging, Virtua collected data showing better outcomes in moms when C-sections are avoided, unless medically necessary. This also contributed to getting buy-in from physicians and other team members across the system.

The team continues to collect monthly data on protocol adherence, C-section, hypertension and hemorrhage rates and send quarterly reports to physicians. Additionally, the care team educates patients on when and why C-sections are necessary.

This assisted in gaining the patients' confidence in the hospital's labor management approach.

Future Goals

Virtua also is incorporating midwives to increase the likelihood for less interventional and more natural labor. The hospital opened a freestanding, midwifery, birth and wellness center on its campus in October 2021. Virtua hopes to improve patient satisfaction rates as midwives have proven to provide more patient-centric care.

Recognizing that maternal morbidity and mortality are impacted by race and ethnicity, Virtua uses state-level data to analyze labor complications in minority populations. This not only validates the need for more equitable care for minority populations, but also creates new opportunity to "increase awareness of unconscious bias and how care can differ based on any biases we may have," concludes Lamborne.

Contact

Nicole M. Lamborne, M.D.

Vice President of Clinical Operations for Women's Services, Virtua Health

 nlamborne@virtua.org