

## MATERNAL HEALTH CASE STUDY

### Overview

More than seven years ago, Pamela West, M.Ed., R.N., director of women's and children's services at Titus Regional Medical Center, was working in the labor and delivery unit at a hospital near the Texas-Mexico border when she experienced the tragedy of a young mother bleeding to death after giving birth to twins. This devastating incident forever changed West. As a result, she dedicated her career to addressing the causes of maternal mortality, particularly emergent situations involving maternal hemorrhaging.

In 2016, West brought her knowledge to Titus Regional, a 174-bed hospital located in Mount Pleasant, Texas. Although the hospital had a massive transfusion protocol in place, West observed that the post-partum recovery unit – where most maternal hemorrhaging occurs – was not optimizing best practices. At that time, Titus Regional was above the Texas and national averages for maternal morbidity – specifically for cases related to hemorrhaging. In response, Titus began making changes to adopt best practices in maternal safety.

For example, Titus Regional now takes a stage-based approach to maternal hemorrhage. "We know that

the first two hours following delivery are the most dangerous for a new mother," says West, "so we implemented a protocol in which staff administer a vitals and bleeding assessment every 15 minutes during that initial two-hour period." In addition, West realized that Titus Regional was only using one hemorrhage medication. In response, West and

her team worked with the hospital's pharmacy to develop a protocol that allows for easy access to three different medication options to help stop hemorrhaging.

The hospital also implemented "hemorrhage carts" that includes a second IV kit, a blood warmer and cartridges, bags of saline, an EBB balloon, a Foley catheter, and a scale for weighing items in grams. Along with the hemorrhage cart, West's team added an additional step in the post-partum monitoring protocol – a worksheet listing the dry-weight measures for items such as sheets or a pad.

These can quantify blood loss making a critical difference in the care of that patient.

"When we began simulating emergent hemorrhage situations, we would ask staff how much blood they thought had been lost just by looking at a bloody sheet," says West. "Then we weighed the item, they



Nurses at Titus Regional Medical Center participate in hemorrhage simulation, weighing pads to quantify blood loss.

were always surprised to learn how much more it was than they thought. Adding this step was a major behavioral change for our staff, and we provided intense education regarding the physiology of a hemorrhage and how to keep the patient comfortable by keeping her warm and lowering the head of her bed to decrease the workload of the heart while perfusing vital organs such as the brain. These may seem like basic steps, but they are critical in providing the highest quality care.”

## Impact

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Since implementing best practices related to maternal hemorrhaging, the hospital’s maternal morbidity rate related to blood loss dropped from 51% in 2016 to nearly 40% in 2018. In January, Titus Regional began tracking detailed statistics related to maternal hemorrhage. Staff now quantifies delivery blood loss and recovery blood loss. If the patient was transfused, the number of units of blood is noted. The hospital also is tracking racial and ethnic data to identify any health disparities.

## Lessons Learned

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For every new protocol or practice that is introduced, staff receive intense education that is followed with a simulation activity. “The simulation exercises have been an important part of the process,” says West. “Testing knowledge in a simulated setting takes some of the fear out of executing a new step or protocol.”

Titus Regional also recommends implementing every new practice in a multi-step process. “We try to break things into manageable bytes,” West says. “People can only handle so much change at one time. If we want the changes to stick, we’ve learned that we focus on one step until it becomes hardwired, and then we move to the next.”

## Future Goals

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Titus Regional is intensifying its focus on patients with severe pre-eclampsia. To that end, the hospital

adopted the ACOG Labetalol, Apresoline and Nifedipine protocols to treat systolic blood pressures. Data collection for this initiative began in January.


Many of the improvements West has spearheaded in her career have been motivated by the tragedy she witnessed. “I never want a patient, her family, or my staff to experience something so profound and life-changing,” says West, “and I will do everything I can to prevent it from happening again.”

## Contact

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### **Pamela West, M.Ed., R.N.**

Director, Women’s and Children’s Services

 (903) 577-6257

 [Pamela.West@TitusRegional.com](mailto:Pamela.West@TitusRegional.com)