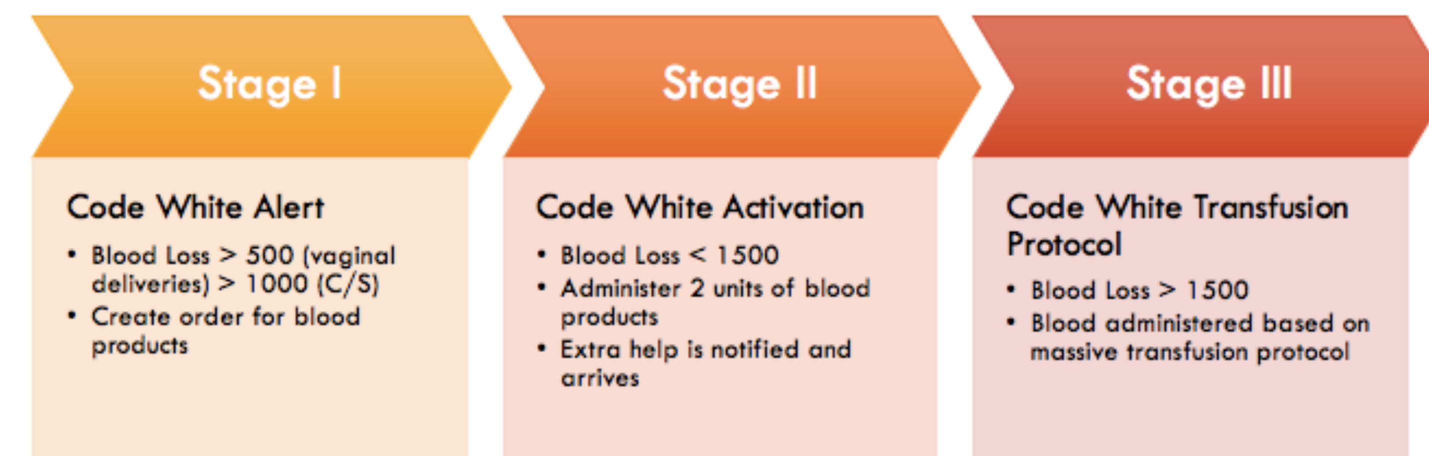
“Should We Have Called A Code White?”

Delia Shash, MS4 and Diedre Wagers, MD
University of Colorado School of Medicine, Colorado Springs Branch

School of Medicine
UNIVERSITY OF COLORADO
COLORADO SPRINGS BRANCH

Background

- Postpartum hemorrhage (PPH) is among the top causes of maternal morbidity and mortality in the United States, accounting for 11% of total pregnancy-related deaths (1).
- In Colorado, PPH accounts for 15% of pregnancy-related deaths and is tied with mental health and cardiovascular complications as the top cause of maternal morbidity and mortality (2).
- Over the past few years, maternal mortality has continued to climb in the United States despite efforts to decrease pregnancy-related deaths.
- In California, implementation of the “Obstetric Hemorrhage Toolkit” in 2010, which introduced a proactive system for faster access to blood products, led to a 20.8% decrease in maternal morbidity and mortality (3).
- In January 2019, our community-based hospital in Colorado Springs adopted a three-step Code White protocol based on this toolkit in an attempt to decrease maternal morbidity and mortality associated with PPH.



Objective

- We evaluated utilization of the Code White protocol and elicited providers’ attitudes towards its implementation.

Methods

- A retrospective chart review of patients with documented PPH from January-November 2019.
- Data abstracted included:
  - Estimated blood loss (EBL) of ≥ 500mL for vaginal deliveries and ≥ 1000mL for cesarean deliveries
  - Number of Code White alerts and activations
- Exclusion criteria:
  - Gestational age < 30 weeks
  - PPH delayed by > 24 hours.
- A survey was also distributed to the obstetrics and gynecology staff regarding the Code White protocol.

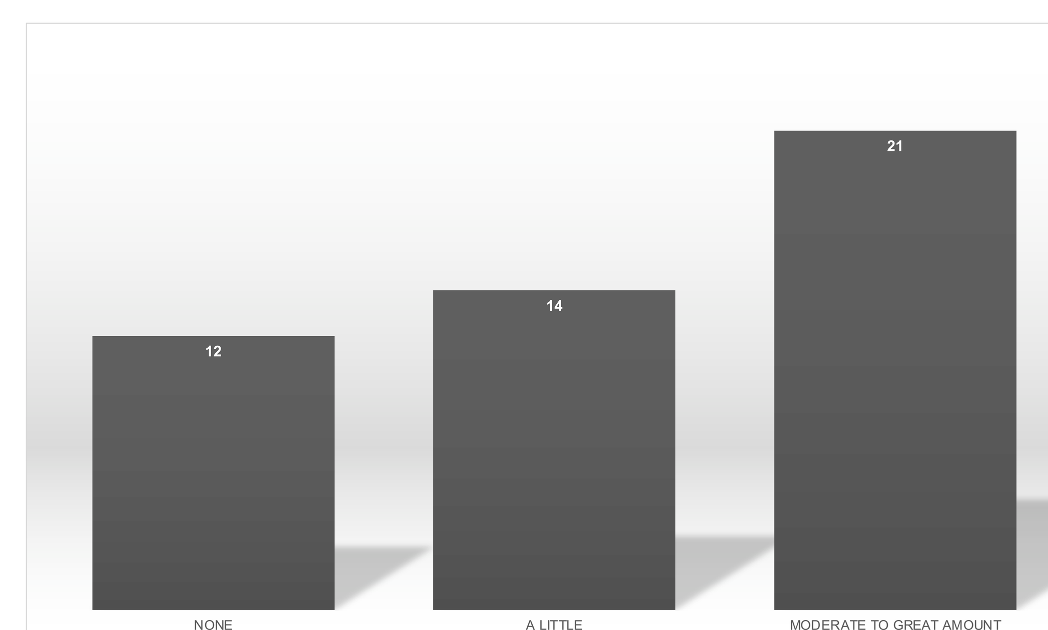
Results: Utilization of Protocol

- 70% of PPH are not being called as either a Code White alert or activation
- 60% of vaginal PPH have an EBL > 2x the criteria

Results: Attitudinal Data

Common Themes (n = 55)
Physicians don’t think a Code White is necessary
Nursing fear of backlash from physicians
Code Whites are too chaotic and they scare the patients
Hoping the bleeding will resolve
More education on Code White system, more training on Code White equipment, and increase comfort level with calling a Code White
Delay in blood products/miscommunication with the lab
Physicians are preoccupied with controlling the bleed and therefore want nurses to speak up if they think a Code White is necessary
Repercussions of reporting PPH
Negative cultural view surrounding PPH

Nurses Fear of Backlash From Physicians (n = 47)



Provider Perceived Delay in Blood Products When Code White Not Called (n = 54)

Discussion

- PPH is among the top causes of maternal morbidity and mortality in both the United States and in Colorado specifically.
- In January 2019, our community-based hospital implemented a three-step Code White protocol in order to combat this devastating complication.
- From a chart review on occurrences of PPH and implementation of the Code White protocol, it was discovered that 70% of PPH were not subsequently being followed with the proper Code White protocols.
- This represents an extreme underutilization of the Code White system.
- Additionally, 60% of vaginal PPH were discovered to have an EBL of > 2x the criteria, meaning that a potential delay in blood products could be detrimental.
- Through a survey distributed to the obstetrics and gynecology staff, it was discovered that there were various reasons behind the underutilization of the Code White process.
- Most significantly, physician hesitance to calling a Code White and nurses fear of backlash from the physicians prevented proper utilization of the protocol.

Future Directions

- Create a nursing protocol that states the charge nurse or bedside nurse MUST call a Code White alert when EBL is ≥ 500mL for vaginal deliveries and ≥ 1000mL for cesarean deliveries.
- Improve physician attendance and engagement in Code White simulations and teachings in order to have more effective multidisciplinary cohesiveness.
- Work to create a culture of safety that removes hierarchy and brings the focus back to the patient so that nurses can feel more comfortable speaking up.

References

1. “Pregnancy Mortality Surveillance System”. *Centers for Disease Control and Prevention*. 4 Feb 2020.
2. Bardin, Lauren, Anne Schiffmacher, and Sue Ricketts. “Understanding Maternal Deaths in Colorado: An Analysis of Mortality from 2008-2013”. *Colorado Department of Public Health and Environment*. Oct 2017.
3. Main, Elliott et al. “Reduction of Severe Maternal Morbidity From Hemorrhage Using a State Perinatal Quality Collaborative”. American Journal of Obstetrics and Gynecology. March 2017.