



Reducing Maternal Mortality: Implementing a Hemorrhage Protocol in Obstetrics

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Project Summary

Maternal hemorrhage is one of the leading causes of death for new mothers in hospitals across the United States according to the California Maternity Quality Care Collaborative (CMQCC). Despite this known information, relatively few institutions have created a systematic protocol for early recognition and rapid response to this inevitable, life threatening event (CMQCC Toolkit). Carolinas Healthcare System (CHS) and Carolinas Medical Center-Pineville had no systematic approach or protocol for addressing these obstetric emergencies.

In 2013, an interdisciplinary team sought to implement an Obstetric Hemorrhage Protocol at CMC-Pineville. Baseline data revealed that no maternal hemorrhages were reported as Care Events within the prior year, no admission screening was performed to identify risks for hemorrhage, there was no evidence of the use of estimated blood loss as an indicator for diagnosis of hemorrhage and CMC-Pineville did not have a massive transfusion protocol in place. We identified that our patient safety net needed new provisions to further assure we were ready for hemorrhage emergencies.

Goal Statement

CMC-Pineville will reduce peripartum hysterectomies and hemorrhage related intensive care admissions by 50% by December 2014. 100% provider and staff education is critical to this initiative and will be completed by January 2014. Quantitative blood loss measurement and hemorrhage risk assessment, two additional process measures, will be 100% for all patients by July 2014.

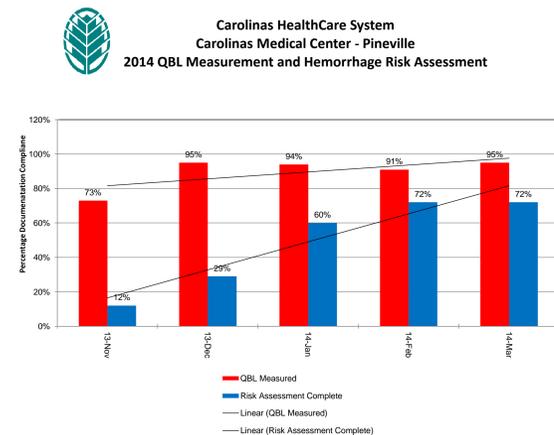
Our Journey

At CMC Pineville Maternity Center, we are committed to provide a safe system for every woman at every birth. Though we have not had a maternal death in the history of the center, we continue to increase our vigilance and are determined to establish optimal care practices through use of an obstetrical hemorrhage protocol. Adhering to this protocol has assisted in our recognition of patients at risk for hemorrhage. By identifying stages of hemorrhage and optimal response to obstetric hemorrhage per the coordination of team members from multiple disciplines and departments, we have been able to provide standardized proactive care to our mothers. The Obstetric unit, anesthesia department, blood bank, operating room, pharmacy, and laboratory have all worked together to assure we have rapid response per the protocol in our obstetrical hemorrhages. Our new system has prevented hemorrhage complications and has expedited our treatment of hemorrhage events.

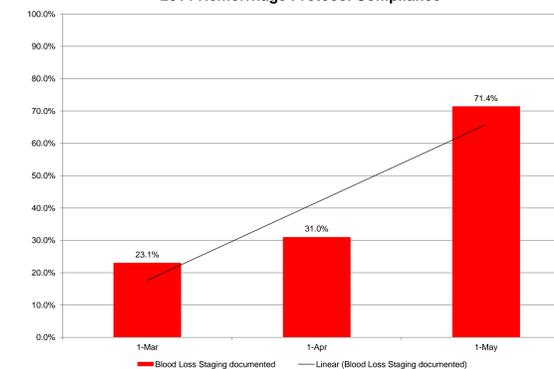
Process Measures

- Identification of key leadership roles
- Establish designated Physician Champion
- Establish multidisciplinary team including anesthesia, blood bank, pharmacy, laboratory, Interventional Radiology and OR
- Create standardized, evidence based protocol for hemorrhage
- Establish formal risk assessment with treatment algorithm
- Educate nursing team on best practices associated with the protocol: risk assessment, IV access needs, blood administration, QBL competency, post delivery management of boggy uterus with correct fundal massage, bladder management, correct documentation in I & O
- Implement Quantitative Blood Loss (QBL) measurement at all deliveries
- Analyze hemorrhage protocol compliance data in physician and nursing peer review

Results



2014 Hemorrhage Protocol Compliance

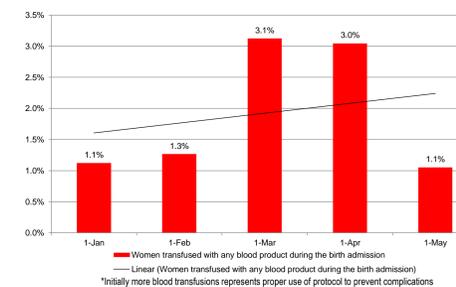


Outcome Measures

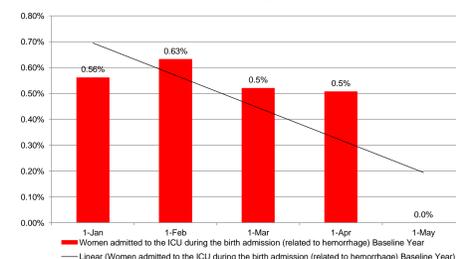
- Reduction of women transfused with any blood product during the birth admission
- Reduction of women transfused with more than four units of blood products during the birth admission
- Reduction in women admitted to the Intensive Care Unit during the birth processes (related to hemorrhage)
- Reduction of peripartum hysterectomies 2014 Hospital Engagement Network (HEN) GOAL
- Reduction of maternal deaths related to hemorrhage

Results

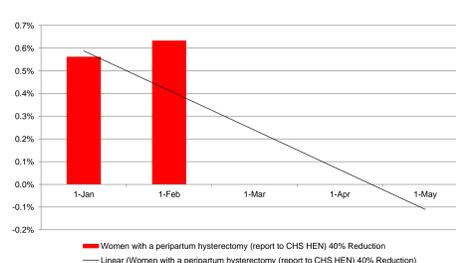
Women transfused with any blood product during the birth admission*



Women admitted to the ICU during the birth admission (related to hemorrhage) Baseline Year



Women with a peripartum hysterectomy (report to CHS HEN) 40% Reduction



Innovation

Implementation of hemorrhage protocol reflects use of evidence based strategies and best practices as recommended by The Joint Commission, ACOG and AWHONN. However, these strategies are outlined and defined on paper and through recommendations by groups currently pioneering this work. Cumulative quantification of blood loss by measurement at every delivery is new ground for maternity care. CMC-Pineville has been unable to identify another North Carolina or Florida hospital that has implemented this practice. The literature mandates measurement but does not offer suggestions for implementation. Through the PDSA process, the Maternity Center team was able to create and actualize a system for measurement.

As a credit to our team, and testimony to our level of innovation, CHS will fully implement the CMC-Pineville OB Hemorrhage Protocol through the nineteen facilities that provide maternity services in July 2014.

Sharing Knowledge

CMC-Pineville has been highlighted by the Florida Perinatal Quality Collaborative (FPQC) as an initiative leader in physician engagement and practical application of Quantified Blood Loss. Many hospitals across the country are using our journey as a framework for their own, based on our implementation success. As part of the CHS Labor and Delivery Quality Steering Outcomes Committee (QSOC), CMC-Pineville is fortunate to collaborate regularly in education, quality improvement, safety and cost saving initiatives. The hemorrhage work has allowed us to partner with the CHS HEN to implement a system-wide hemorrhage protocol. We are sharing our work formally in the following scheduled events:

NC/SC Perinatal Conference Sept 29, 2014 Myrtle Beach, SC

"Implementing a Hemorrhage Protocol in Obstetrics"
Hugh Northcutt, MD
Ansley Stone, RNC-OB, C-EFM
Debbie Pasquarello, RNC-OB, C-EFM

Moses Cone Research Symposium Oct 3, 2014 Greensboro, NC

"Reducing Maternal Mortality By Implementation of a Hemorrhage Protocol in Obstetrics"
Ansley Stone, RNC-OB, C-EFM
Debbie Pasquarello, RNC-OB, C-EFM

Applications for presentation will also be made to AWHONN and National Perinatal Association in 2014

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