Improving Maternal Outcomes after Obstetric Hemorrhage through a Multidisciplinary Approach at an Urban Academic Medical Center

Megan E. Gauthier, DO[1], Elizabeth Kelly, MD[2,3], William Moravec, MD[2], Bev Stephenson, RN, BSN[4,] Shital Patel, MD[1]
[1]University of Cincinnati College of Medicine Department of Anesthesiology, [2]University of Cincinnati College of Medicine, Department of Obstetrics and Gynecology, [3]University of Cincinnati College of Medicine, Department of Pediatrics, Perinatal Institute, [4]Perinatal Quality and Safety Coordinator, UC Health

Description

The California Quality Care Collaborative successfully decreased maternal morbidity secondary to hemorrhage by development of a Quality Improvement Toolkit prepared by a statewide multidisciplinary task force targeting regional medical hospitals. In contrast, urban medical centers present unique challenges in obstetric hemorrhage management. We report our customization and implementation of the Obstetric Hemorrhage Toolkit at the University Of Cincinnati Medical Center. To guide this process, we formed a multi collaborative steering committee to define current postpartum hemorrhage (PPH) incidence and assess rate of severe maternal morbidity (SMM) from PPH. Our overall project goal is a 20% reduction in SMM.

Aim

Decrease hemorrhage associated severe maternal morbidity from 0.69% to 0.55% by July, 1 2019

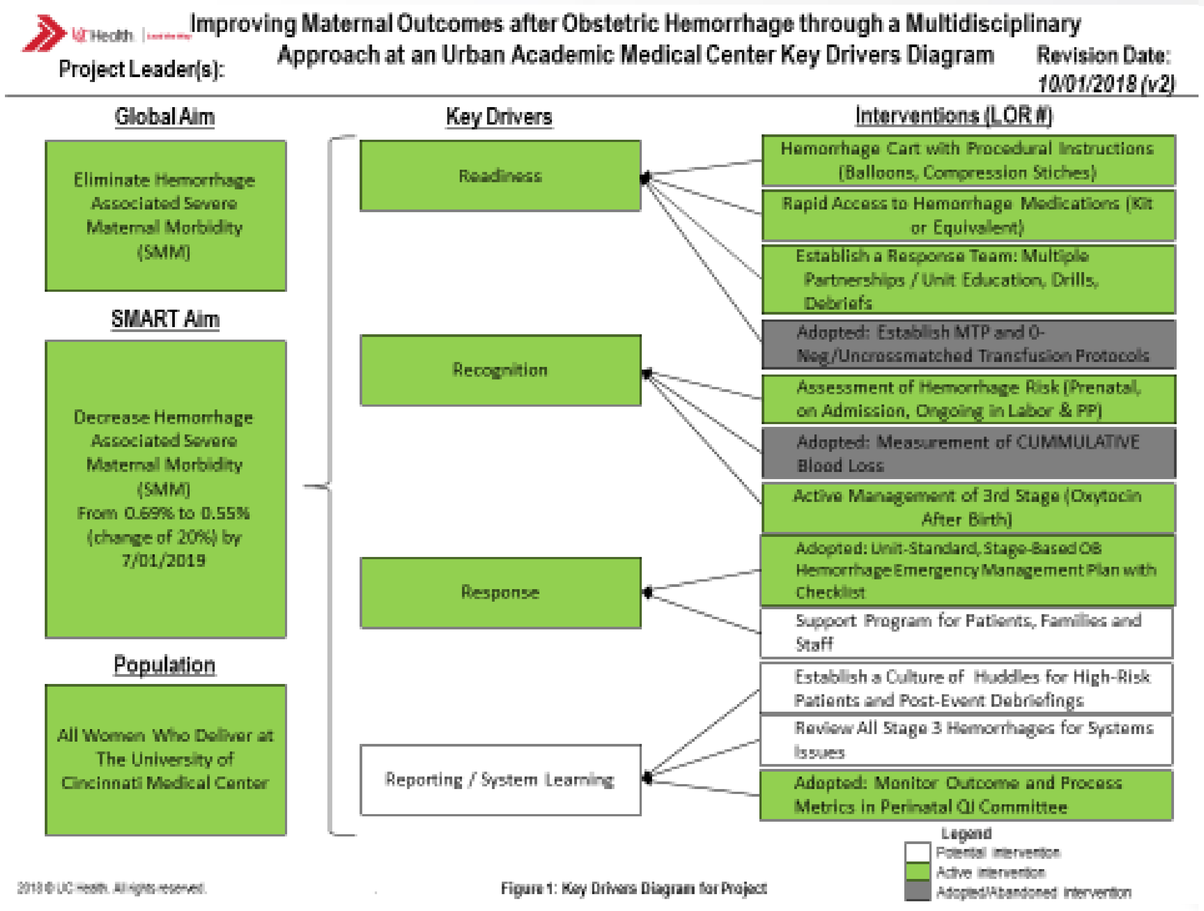
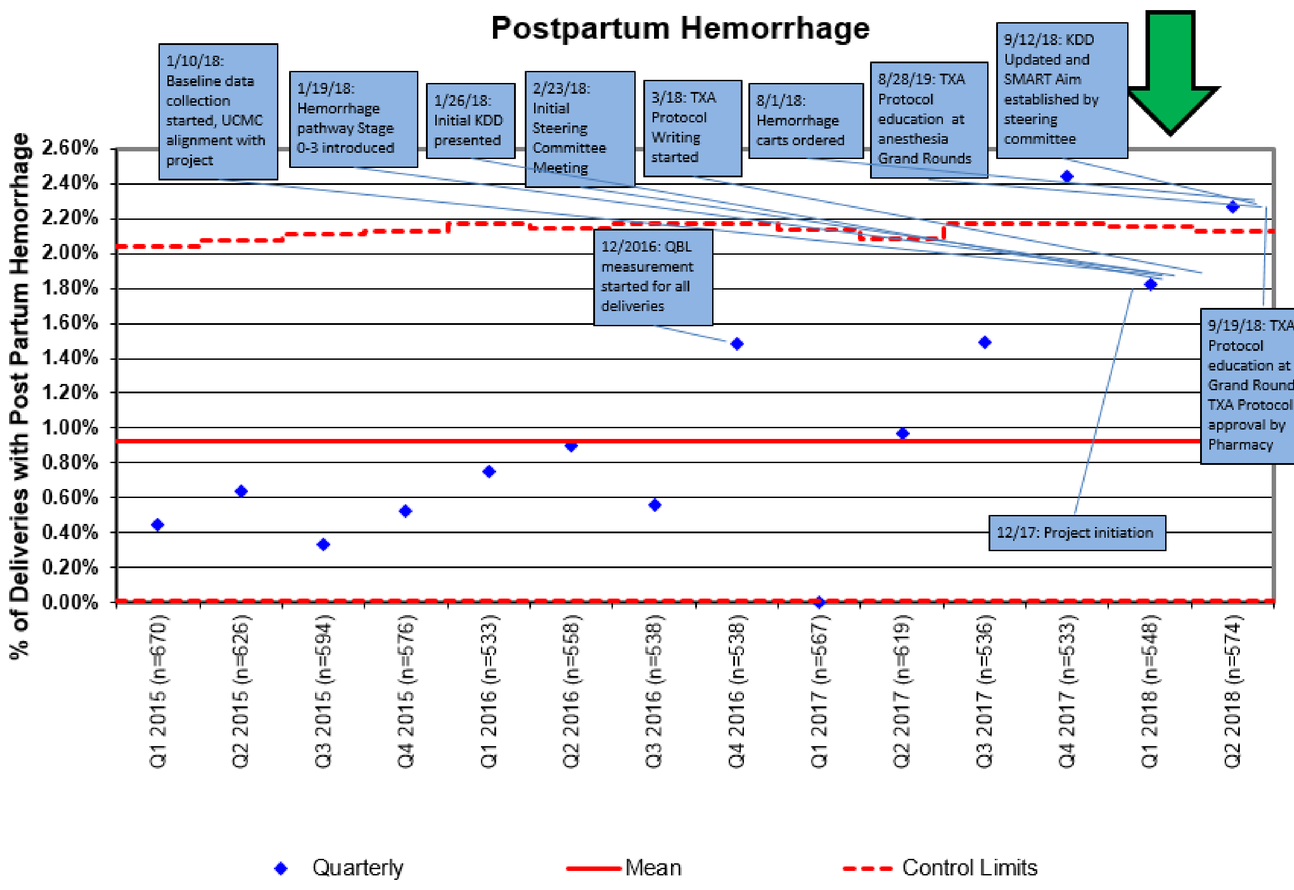
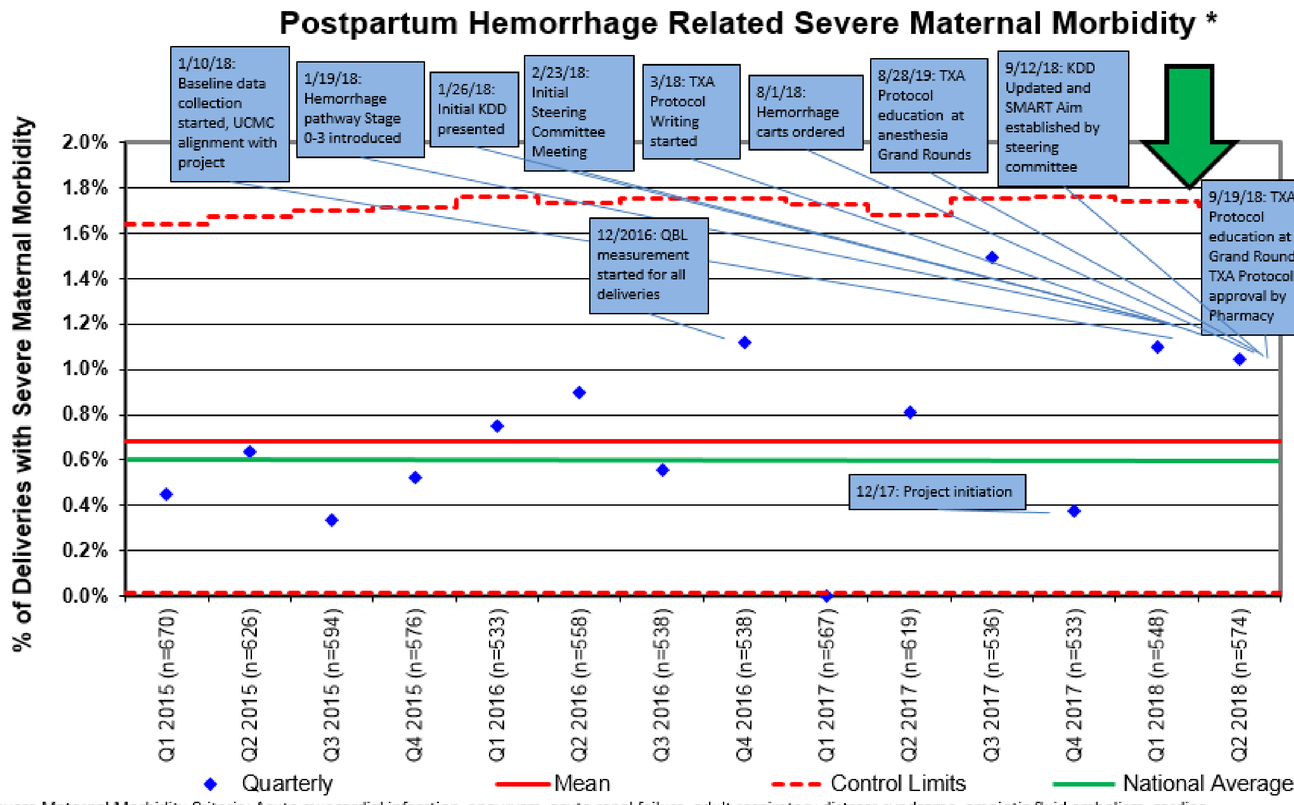


Figure 1: Key Drivers Diagram for Project



Actions Taken

- Multi collaborative committee formed
- Formation of sub-committees for readiness, recognition, response, and reporting measures assigned by areas of expertise and authority
- Monthly steering committee meetings to review progress and discuss future interventions
- Hemorrhage risk assessment tool developed
- Hemorrhage medications and equipment made available via Hemorrhage Carts on L&D and postpartum



* Severe Maternal Morbidity Criteria: Acute myocardial infarction, aneurysm, acute renal failure, adult respiratory distress syndrome, amniotic fluid embolism, cardiac arrest/ventricular fibrillation, hysterectomy, conversion of cardiac rhythm, disseminated intravascular coagulation, eclampsia, heart failure, puerperal cerebrovascular disorders, pulmonary edema/acute heart failure, temporary tracheostomy, severe anesthesia complications, sepsis, shock, sickle cell disease, air and thrombotic embolism. blood transfusion (>4 units PRBCs), Ventilation, ICU Admission

Figure 2: Breakdown of multidisciplinary committee shareholders represented on PPH Steering Committee

Early Lessons Learned:

- Involvement of multi collaborative committee representing all impacted parties is crucial
- Early identification of team leader for each step of process
- Clearly delineated roles for providers in high stress situation are required
- Obstacles to success vary from institution to institution especially when learners are involved

Results

- Customized stage-based OB Hemorrhage Emergency Management plan with checklist via multidisciplinary input
- Debrief form developed
- Obstetric hemorrhage TXA Protocol developed, approved, and implemented
- Education provided on TXA Protocol to Anesthesia, Obstetric, and Nursing staff
- TEG interpretation software made available on L&D
- Anesthesia hemorrhage drill development and successful initial run

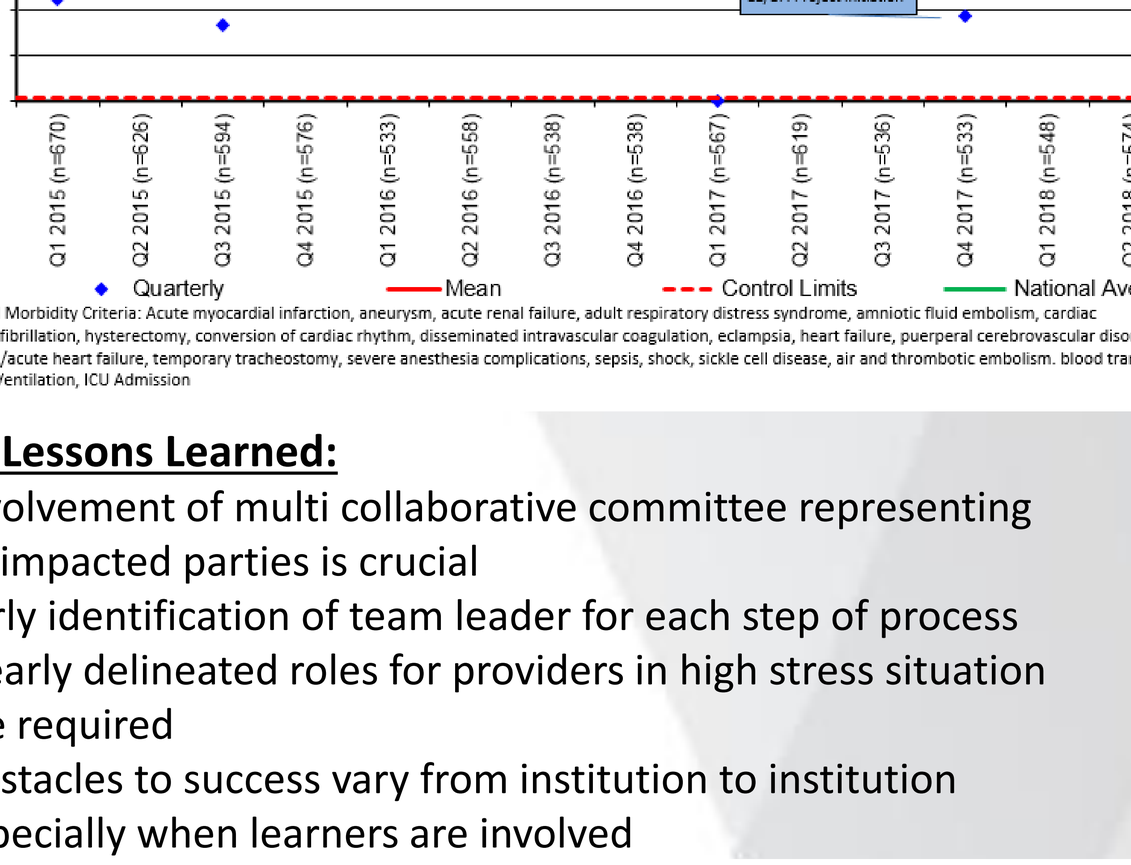


Figure 3: Future Interventions