Improving Postpartum Hemorrhage Outcomes

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NYU Langone Health

PURPOSE

Hemorrhage continues to be a leading cause of maternal mortality in the US. The CDC reported (2011-2014) that hemorrhage is attributable to 11.5% of maternal deaths. In 2004, NYS reported hemorrhage as the leading cause of death in state. 97% of these deaths occurred in the hospital. Death from hemorrhage is largely thought to be preventable.

AIM

To decrease the incidence of severe maternal morbidity due to hemorrhage in the postpartum period through standardization of care; measured through blood transfusions, unexpected surgical procedures and ICU admissions.

IMPLEMENTATION

In 2012, NYU Langone –Tisch Hospital embarked on a journey of improving response to hemorrhage. Recent efforts have targeted hemorrhage prevention.

- Created Obstetric Hemorrhage Response Team (OHT) (2012)
- Implemented quantification of blood loss (2012)
- Consistent OB OR Circulator (2012)
- Updated hemorrhage risk scoring tool (2012)
- Standardized post-vaginal birth Pitocin administration (2016)
- Created a two tiered OHT system (2017)
- Standardized post-cesarean birth Pitocin administration (2017)

Vaginal Birth

- Pitocin 10 units IV in 30 minutes, then 10 units over 4 hours (Pitocin 20 units/1000mL LR)

Cesarean Birth

- Pitocin 10* units IVP in OR, then 20 units over 8 hours

**Given in intervals of 3 units*

RESULTS & OUTCOMES

Hemorrhage Rates (defined as QBL ≥ 1000 ml)			
Delivery Type	**2016**	**2017**	**2018***
C-Section	25.0%	23.0%	20.8%
Vaginal	2.1%	2.7%	2.9%
Total	8.6%	8.2%	7.9%
*thru August			

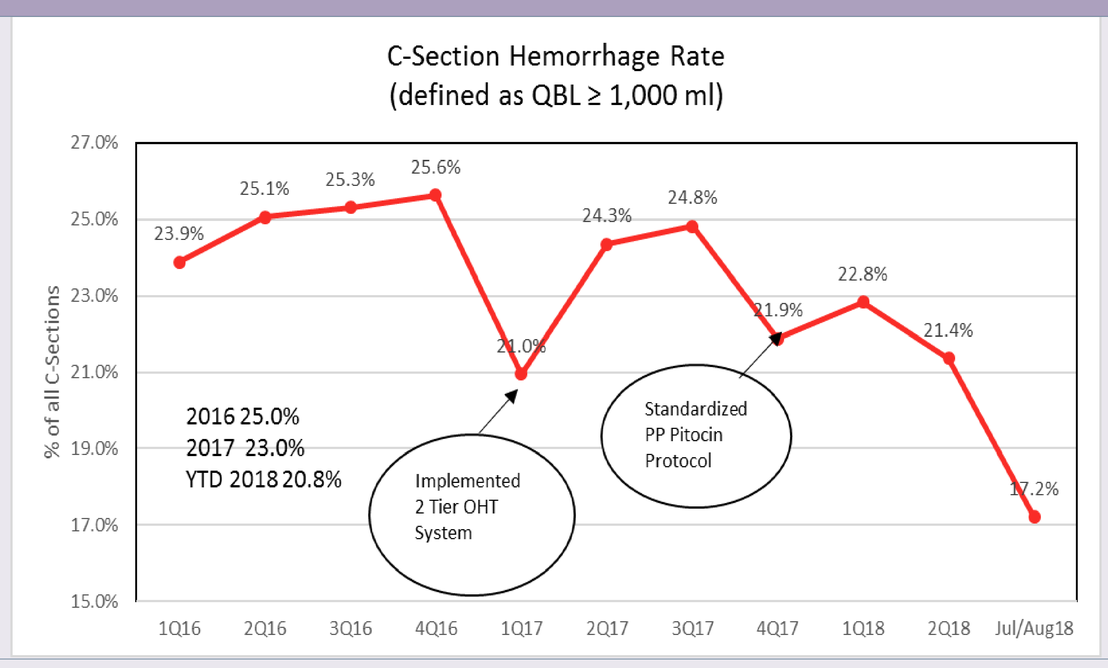
Our postpartum hemorrhage rates (defined as quantitative blood loss > 1,000 ml) have decreased since we began tracking the data in 2016. The decline is particularly notable with C-Sections.

Tracking of outcomes, rather then obstetrical hemorrhage response teams called, provides the most relevant account of postpartum hemorrhage improvement.
The following outcomes have shown improvement:

Maternal Morbidity	2016	2017	1st Half 2018
Transfusions ≥3 units PRBCs Cases	39	42	18
Transfusions ≥3 units rate	0.65%	0.69%	0.57%
Main OR/PACU Dispo Cases	25	25	7
Main PACU/SICU rate	0.42%	0.41%	0.22%
MICU/SICU Dispo Cases	16	14	6
MICU/SICU rate	0.27%	0.23%	0.19%
Hysterectomies	9	12	2
Hysterectomy rate	0.15%	0.20%	0.06%

In an attempt to better care for our patients experiencing a hemorrhage, the ICU team was incorporated into the Obstetric Hemorrhage Response Team. Later in 2017, there was a decision to create two levels of hemorrhage, based on a patients location and acuity. The ICU team reduced their attendance from 100% to less than 20% of the cases. 161 cases of hemorrhage did not require the ICU team in 2018. Patients did not have an increase in morbidity (hemorrhage, >3 units of blood transfusion, ICU admission) with the change in practice.

RESULTS & OUTCOMES



CONCLUSION

Implementing standardized care, and in turn decreasing variance, can lead to improved outcomes.
Next Steps:

1. Investigate common reasons for hemorrhage in our institution to work further on prevention.
2. Review cases of postpartum transfusion not previously identified as hemorrhage.
3. Compare postpartum hematocrit levels to quantification at time of delivery.