Organization: Sinai Hospital of Baltimore  
Solution Title: Obstetrical Hemorrhage Prevention: To Quantify Blood Loss or Not….The Journey

Program/Project Description, including Goals: What was the problem to be solved? How was it identified? What baseline data existed? What were the goals—how would you know if you were successful?

Obstetrical Hemorrhage: Prevention and Measurement of Blood Loss

Visual estimation is the most frequently practiced method of determining blood loss during childbirth in the United States. Twenty three publications were reviewed that evaluated the accuracy of visual estimation of blood loss. Inconsistency in accurate measurement was validated and they also indicated that early intervention was the best prevention.

A community-based teaching hospital in Baltimore identified a need to implement a newer approach to prevention and measurement of Obstetrical Hemorrhage. Utilization of data collected through review of Obstetrical Hemorrhages, blood utilization, and transfers to higher level of care indicated an opportunity to decrease the number of hemorrhages and morbidity associated with it. The Team, in conjunction with evidenced based toolkits such as the CMQCC and other national initiatives, began the journey to develop and implement an Obstetrical Hemorrhage Protocol that would be standardized but also recognize any barriers that would impact the success rate.

The presentation will describe a multidisciplinary approach that began in January, 2015 that utilizes rapid cycle improvement to address development of evidence based guidelines and education, assessment and acquisition of equipment, overcoming resistance to change via sharing of data, and acknowledgement of success and challenges without losing momentum.

Goals:

1. Implement a standardized approach for management of Obstetrical Hemorrhage in a community-based teaching hospital with a High Risk Clinic
2. Training and implementation of an electronic Risk Assessment for Obstetrical Hemorrhage that will lead to more frequent surveillance of the patient and expedite preventive measures
3. Eliminate barriers in standardizing the approach to quantification of blood loss

Process: What methodology or process was used to develop the Solution?
IHI - Plan-Do-Study-Act Method

Solution: What Solution was developed? How was it implemented?

The Team needed to identify the best approach to identifying, measuring, and preventing OB Hemorrhages for the available service and staff which included:

- Developing a user friendly risk assessment process,
Developing and implementing changes in the EMR for assessment and reassessment; calculation of measurement; visual prompts for staff for easy alerts of high risk patients;
Providing real time data and feedback through audits and debriefings;
Direct communication method for notification of a Hemorrhage Event;
Providing feedback of improvements to the Medical staff to increase buy-in;
Identification of Champions to assist with sustaining momentum and real time rapid cycle improvements;
Embedded Educator for successful roll-out and drills/simulations;
Continuing sustainment of success with onboarding of new staff;
Development of an OB Massive Transfusion Policy that is being mirrored within other services.

**Measurable Outcomes:** What are the results of implementing the Solution? Provide qualitative and/or quantitative results to data. (Please include graphs, charts, or tools).

**Outcomes**

![Graph showing decreased overall Obstetrical Hemorrhage with Transfusion](image)

Decreased overall Obstetrical Hemorrhage with Transfusion by 71.43% from CY 15 to CYTD 16.
No Post Partum Hemorrhages on the MotherBaby Unit for over approximately five months post full implementation.

**Sustainability:** What measures are being taken to ensure that results can be sustained and spread?

After full implementation begun in January, 2016:

- Weekly OB Hemorrhage Huddles by the Core Team and Champions meet to discuss any ongoing observations of issues;
- Debriefings are done after every prevented and/or true hemorrhage which are shared at the Huddle for opportunities;
- Ongoing monitoring of online Risk Assessment process to determine staff compliance; which includes an identification of team members and actual measurement of blood loss. This helps to identify any needs for additional education or possible barriers to sustainment.

**Role of Collaboration and Leadership:** What role did teamwork and collaboration play in the Solution? What partners and participants were involved? Was the organization's leadership engaged and did they share the vision for success? How was leadership support demonstrated?

Strong support was given from both Physician and Patient Care Leadership along with Senior Leadership to encourage a significant change in process that required:

- Acquisition of new equipment
- Changes in physical plant for safety purposes
- Time available for staff participation
- Embedded Education and IT Support which provided real time feedback and changes that enhanced the process
- Ongoing drills/simulations to provide enhanced teamwork and identify barriers to standardized treatment
**Innovation:** What makes this Solution innovative? What are its unique attributes?

Many organizations that provide Obstetrical care are taking steps to address OB Hemorrhage. The Team looked at different initiatives nationally. We assessed and trialed what worked best for our patient population but also worked to use any evidence-based material available to us. Despite some resistance to quantification of blood loss, we were able to promote a more valid process by sharing the data that indicated a real improvement. Bringing front-line staff into the process from the beginning helped to cement the success of our process.

**Culture of Safety:** What impact did the solution have on the culture of safety within the organization?

We have shared our successes and opportunities at various oversight meetings. Evidence of standardized management and teamwork impacting outcomes is a strong message to others that it can be done.

**Patient and Family Integration:** How did the solution include the patient and family?

This process does not necessarily have direct involvement by family but it does provide a measure of support and decreased anxiety when the team is calm and direct in the care provided during crisis moments.

**Related Tools and Resources**

CMQCC
AIM Project
AWHONN
Premier/QUEST Partnership for Patients

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