Recognition and Management of Maternal Hemorrhage to Improve Maternal Mortality and Morbidity in Massachusetts
Massachusetts Perinatal Quality Collaborative

Introduction

The Massachusetts Perinatal Quality Collaborative (MPQC) was formed in 2011with the stated goal of improving perinatal outcomes for women and newborns in Massachusetts. Membership with representation from each of the 48 hospitals in the Commonwealth with obstetrical programs was established and collaborative relationships were developed with the Massachusetts Department of Public Health (DPH), March of Dimes (MOD), American College of Obstetricians and Gynecologists(ACOG), Association of Women's Health Obstetric and Neonatal Nursing (AWHONN), American Academy of Pediatrics (AAP) and the American College of Nurse Midwifery(ACNM).
At its formation the MPQC received the recommendations of the Lehman Center's OB Safety Panel, completed in 2009, as the foundation and starting point for perinatal quality efforts. One of their five recommendations was to assure that each maternity hospital in the Commonwealth have clinical guidelines for the recognition and management of maternal hemorrhage.

Purpose

The MPQC is working with the MA DPH to decrease the incidence of peripartum maternal hemorrhage and improve the maternal and neonatal outcomes associated with hemorrhage before, during and immediately after delivery. Maternal peripartum hemorrhage is one of the greatest risk factors for women during labor and birth. Eighteen (18) maternal deaths related to maternal hemorrhage were reported in Massachusetts from 1997-2007, an average of 1.8/year. The incidence of maternal death continues at $\geq$ 1 per year in the 6 year period of 2003-2008, with six deaths reported from causes related to hemorrhage.

Background

In the March 2012 Report of the Massachusetts Maternal Mortality Review Committee, a key finding was that the pregnancy-related mortality ratio (PRMR) had not changed in Massachusetts from 2000-2007. Recommendation 6. in that report states: " Each maternity hospital should have clinical guidelines and protocols for the recognition and management of maternal hemorrhage including standardized timing and criteria for implementing a massive transfusion protocol. The guidelines and protocols should include procedures that effectively address the clinical risk and management of peripartum maternal hemorrhage".

Intervention and Findings

Acting on that recommendation, the MPQC included a presentation on Maternal Hemorrhage by Brian Bateman, MD at the November 5, 2012 MPQC Educational Symposium. At that meeting we conducted a survey of participants on the Maternal Hemorrhage practice in their institutions. We had a convenience sample of 29 responses representing 55% of the hospitals in Massachusetts with an obstetrical program. At the May MPQC Summit we gave participants who had not completed the survey a chance to submit their information. There were 13 responses bringing the total number of responses to 42 with representation from 28 ie 58% of the Massachusetts Hospitals with obstetrical programs. A copy of the survey tool with response tallies is attached. Our analysis of the data indicated that the management of maternal hemorrhage varies among institutions, not all have a massive transfusion protocol, many do not have a system for review and performance improvement planning, some conduct practice drills and 90% of the respondents stated that they would use education/consultation resources for risk recognition and clinical management of maternal hemorrhage, if they were available.

Recommendations

- Distribute survey data de-identified to the MPQC Steering Committee.
- Add questions to the survey that identify systems and logistical issues for smaller and more remote hospitals.
- Recruit and appoint a MPQC Maternal Hemorrhage Working Group to assemble and consolidate references, best practices and success strategies.
- Identify from the Working Group above a team who can travel as educators and consultants.
- Investigate problem identification process improvements and outcomes on Maternal Hemorrhage in Perinatal Quality Collaboratives in other states: CA, WI, OH, NH/VT, NC.
- Review Lehman Center report and recommendations on Maternal Hemorrhage.
- Coordinate data collection and outcome measurement efforts with the MA DPH Maternal Mortality and Morbidity Review Committtee.
- Seek guidance of the DPH Perinatal Advisory Committee
- Survey hospitals who did not respond through the Regional Lead and personal contact.
- Develop outcome and resource utilization measures.
- Conduct a pilot on consultation/education/support with successful institutions first and then build a consultation service based from the MPQC.
- Investigate data sources: DPH, NPIC, Leapfrog, etc. Consider blood utilization data as a measure.
- Include “near miss” events.
- Assemble a reference bibliography.
- Seek grant funding.

Next Steps:

1. Provide summary and recommendation to MPQC Steering Committee: next conference call.
2. Consult with DPH. Request endorsement, collaboration.
3. Provide a report at May MPQC Educational Symposium.
4. Accept invitation to present findings and recommendations at Mass Medical Society/ACOG meeting in July 2013.

5. Revise survey tool and resurvey to include all OB programs in Massachusetts.

Results:

Each of the above recommendations has been addressed and Next Steps accomplished. Resurvey to be done in July 2013 and Consultation Services will be offered in Fall 2013.