MHA Keystone Center: Obstetrics (OB)

Collaborative Overview:
Michigan hospitals participating in MHA Keystone: Obstetrics (OB) implement evidence-based interventions to eliminate preventable fetal and maternal harm. MHA Keystone: OB impacts nearly 80 percent of all births in Michigan, based on number of participating hospitals statewide. The project integrates evidence-based clinical and science-of-safety interventions that, together, support a culture of safety to prevent harmful outcomes. Strategies have been incorporated to prevent fetal and maternal harm due to complications of labor induction and management of the second stage of labor.

Since 2009, participating Michigan hospitals have implemented best practices and timely interventions for elective induction of labor and elective cesarean birth, coordinating a safe progression of labor, and appropriate responses to fetal distress, using the Comprehensive Unit-based Safety Program (CUSP) to influence to improve patient safety through attitudes and practices. Through CUSP teams and strategies, participating hospitals reduced the occurrence of early elective deliveries by nearly 68 percent and saved more than $1.7 million in healthcare costs in 2011, based on data analytics of participating hospitals entering EED date through 2011.

Beginning in 2014, the collaborative focus changed to adverse obstetrical events related to two maternal conditions: obstetrical hemorrhage (post-partum hemorrhage) and preeclampsia. With a continued emphasis on CUSP to improve unit culture and drive new patient safety initiatives, the MHA Keystone: OB collaborative is concentrating on the following aims to reduce maternal and neonatal morbidity and mortality:

- Engage and educate patients about best options for childbirth, including labor management, labor induction, possible cesarean birth and the potential for postpartum hemorrhage.
- Educate clinicians on current evidence and obstetrical practice professional standards, provide standardized tools and protocols for easier implementation in obstetrical units.
- Provide feedback to clinicians and organizations on progress and guidance of improvement, through coaching and shared learning.

MHA Keystone Center commits to providing the following resources to support these efforts:

**Resource 1:** CUSP follows a five-step iterative process to improve patient safety and the culture that drives safety attitudes and practices. Culture is a major focus because it is the set of shared attitudes, values, goals and practices that characterize an organization (or unit/clinical area). CUSP is continuous and should become a part of daily activities in each unit or clinical area.

**Resource 2:** Educational programs, including in-person and multimedia sessions, and member services, such as:

- *Content and coaching webinars* with industry experts, for teams to share success and challenges, ask questions, and network.
- *Safe tables* through MHA and IHA Patient Safety Organizations.
- **Regional meetings** that pull hospital teams together for intensive learning sessions.
- **Site visits** for hospitals that require more intensive support.
- **Discussion board and blogs** that allow real-time discussion on issues and questions relevant to the particular collaborative.

**2016 Keystone: OB Events Schedule**

*Monthly content webinars are scheduled the second Tuesday of each month from 10 to 11 a.m. EST. For a complete list of upcoming events visit the [MHA Community](#).*

**What the MHA Keystone Center will measure:**

This program is evaluated through the collection of structure, process and outcome measures, which are collected on a monthly basis and entered in to the OB ArborMetrix portal.

We will strive to minimize the burden of data collection by using data that is already collected where feasible, to focus on methods to improve performance, and assist with member needs to promote improved patient outcomes.

**Obstetrical Hemorrhage:**

The MHA Keystone Center suggests the following interventions to prevent and manage obstetrical hemorrhage, and will use resources developed through the [California Maternal Quality Care Collaborative (CMQCC)](http://www.calmqcc.org/) to guide our activities. These interventions are considered part of the necessary infrastructure to provide a safe environment for women giving birth. Implementation of these interventions will be assessed as part of the project via structure measures.

**Structure Measures/Interventions:**

**Intervention 1:** Continuation of the CUSP. CUSP follows a six-step iterative process to improve patient safety and the culture that drives safety attitudes and practices. Culture is a major focus because it is the set of shared attitudes, values, goals and practices that characterize an organization (or unit/clinical area). CUSP is continuous and should be a part of daily activities in each unit or clinical area.

**Intervention 2:** Identification and management of patients at risk for obstetrical hemorrhage using a standardized risk assessment tool *(Appendix A).*

**Intervention 3:** Establishment and implementation of an active management third-stage labor protocol for all women giving birth vaginally, that includes routine administration of IM or IV infusion of oxytocin with delivery of the shoulder or the placenta.

**Intervention 4:** Establishment and implementation of an obstetrical hemorrhage policy based on recommendations from the CMQCC, including an a) standardized protocol for massive transfusions necessitated by obstetrical hemorrhage and b) an obstetrical hemorrhage kit or cart that has appropriate medications and equipment that may be needed for this emergency.

**Recommended Intervention 5:** Conduct interdisciplinary OB hemorrhage drills at least twice annually; include a post-drill debrief as part of the process. Consider videotaping the drill to be used for the debriefing.
Process Measures:

- Risk assessment for obstetric hemorrhage documented upon admission
  - **Numerator**: number of audited charts with risk assessments completed and documented upon admission.
  - **Denominator**: total number of charts audited.
  - **Instructions**: audit 20 randomly selected charts per month (10 vaginal, 10 cesarean if possible); all charts if less than 20 per month. If patient opts out of intervention, disregard and select a new chart for audit or exclude if less than 20 charts available.

- Women receiving active management of third stage of labor
  - **Numerator**: number of audited charts with documentation that all women giving birth vaginally received active management of third stage labor (active management of third stage of labor for all vaginal births includes routine administration of IM or IV infusion (not IV push) of oxytocin with shoulder delivery or placental delivery).
  - **Denominator**: total number of charts audited.
  - **Instructions**: audit 20 randomly selected charts per month (20 vaginal); all charts if less than 20 per month. If patient opts out of intervention, disregard and select a new chart for audit or exclude if less than 20 charts available.

Process Measure *(Recommended)*:

- Debrief sessions:
  - **Numerator**: number of debrief forms completed.
  - **Denominator**: number of hemorrhages each month that required interventions, treatments, procedures outlined in Stage 2 or 3 of the CMQCC PPH protocol (See Appendix B).

Outcome Measures:

- Blood products transfused per 1,000 women who gave birth >20 0/7 weeks gestation during birth admission.
  - **Numerator**: total number of units of any blood product* (RBCs, FFP, Plt packs, Cryo) transfused during the birth admission (women giving birth >20 0/7 weeks gestation).
  - **Denominator**: total number of women giving birth (>20 0/7 weeks gestation).
  - **Only include women who have delivered, either vaginal or cesarean, that received transfusion as a result of the delivery. All other instances would be exclusions (transfusions for comorbidities, other disease processes, or trauma).**

- Women (who gave birth > 20 0/7 weeks gestation) who were transfused with ≥4 units of any blood product during the birth admission per 1,000 women.
  - **Numerator**: number of women (who gave birth >20 0/7 weeks gestation) who were transfused with ≥4 units** any blood product* during the birth admission.
  - **Denominator**: total number of women giving birth (>20 0/7 weeks gestation).
  - **Only include women who have delivered, either vaginal or cesarean, that received transfusion as a result of the delivery. All other instances would be exclusions (transfusions for co-morbidities, other disease processes, or trauma).**

*The numerators identify all blood products rather than just RBCs. This is the definition used by The Joint Commission and supported by an ACOG/CDC/SMFM consensus committee.*
**The definition of an obstetric sentinel event including transfusion of ≥4 units of blood products is currently in consideration by The Joint Commission. The codes for postpartum hemorrhage are available on the MHA Community.**

**Preeclampsia and Hypertension Management:**
The MHA Keystone Center suggests the following interventions to identify and manage hypertension during pregnancy and will use recommendations from the American College of Obstetricians and Gynecologists (ACOG) and resources developed through the CMQCC to guide our activities. These interventions are considered part of the necessary infrastructure to provide a safe environment for women giving birth. Implementation of these interventions will be assessed as part of the project via structure measures.

**Structure Measures/Interventions:**

**Intervention 1:** Continuation of the CUSP. CUSP follows a six-step iterative process to improve patient safety and the culture that drives safety attitudes and practices. Culture is a major focus because it is the set of shared attitudes, values, goals and practices that characterize an organization (or unit/clinical area). CUSP is continuous and should be a part of daily activities in each unit or clinical area.

**Intervention 2:** All units that care for pregnant women should have a preeclampsia with severe features/eclampsia medication kit.

**Intervention 3:** All nurses, physicians and midwives who provide care to pregnant women in the hospital should be familiar with ACOG (2013) recommendations on hypertension during pregnancy and review the basics of blood pressure assessment and the care algorithms provided.

**Recommended Intervention 4:** Establishment and implementation of a process to make sure there is a follow-up appointment for all women diagnosed with preeclampsia with severe features and/or eclampsia post discharge as per the following recommendations:

- The follow-up appointment should occur within 3-7 days if blood pressure (BP) medication was used during labor, birth or postpartum, and within 7-14 days, if the diagnosis of preeclampsia was made but no medication was used.

- ACOG recommends for women in whom gestational hypertension, preeclampsia, or superimposed preeclampsia is diagnosed, that BP be monitored in the hospital or that equivalent outpatient surveillance be performed for at least 72 hours postpartum and again 7-10 days after birth, or earlier in women with symptoms.

**Recommended Intervention 5:** Establishment of discharge instructions specific to preeclampsia with severe features, HELLP syndrome, and eclampsia.

**Process Measures:**

- Pregnant women who present for inpatient care (does not require official admission) will have a BP evaluation within 15 minutes of presentation.
  - **Numerator:** pregnant women who present for inpatient care (does not require official admission) who have a BP evaluation within 15 minutes of presentation.
  - **Denominator:** total number of charts audited for pregnant women who present for inpatient care (does not require official admission).
• Instructions: audit 20 randomly selected cases of pregnant women who present for inpatient care (likely OB triage unit patients, however if perinatal service does not have an OB triage unit, then women who present for care directly to the labor and birth unit) per month; all charts if less than 20 per month.

• Pregnant women with a BP of equal to or greater than 160 systolic and/or 110 diastolic on presentation for inpatient care (does not require official admission) will be treated with antihypertensive medications within one hour of presentation.
  o Numerator: patients in denominator with BPs of greater than 160 systolic and/or 110 diastolic and were treated with an antihypertensive medication (IV Labetalol, IV Hydralazine, or PO Nifedipine if there is no IV access) within one hour of presentation.
  o Denominator: number of patients with confirmed elevated BP (initial and 15 minute recheck greater than 160 systolic and/or 110 diastolic).
  o Sample: examine patients with the following ICD-9 codes and all subsets: 642.5, 642.6, 642.7.*

• Pregnant women (presenting to the hospital) who meet criteria for preeclampsia with severe features (Appendix C) receive intravenous magnesium sulfate within one hour of diagnosis.
  o Numerator: patients in denominator that received IV magnesium sulfate within one hour of diagnosis of preeclampsia with severe features.
  o Denominator: number of patients diagnosed with preeclampsia with severe features.
  o Sample: examine patients with the following ICD-9 codes and all subsets: 642.5, 642.6, 642.7.*

Process Measure (Recommended):
• Women diagnosed with preeclampsia with severe features and/or eclampsia receive adequate discharge instructions (Appendix D).
  o Numerator: patients in denominator that received appropriate discharge instructions (Appendix D).
  o Denominator: number of patients diagnosed with preeclampsia with severe features and/or eclampsia.
  o Sample: patients with the following ICD-9 codes and all subsets: 642.5, 642.6, 642.7.*

• Women diagnosed with preeclampsia with severe features and/or eclampsia receive instructions to attend early follow-up appointments post discharge as per the following recommendations: a) the follow-up appointment should occur within 3-7 days if BP medication was used during labor, birth or postpartum, and within 7-14 days if the diagnosis of preeclampsia was made but no medication was used; b) ACOG recommends for women in whom gestational hypertension, preeclampsia, or superimposed preeclampsia is diagnosed, that BP be monitored in the hospital or that equivalent outpatient surveillance be performed for at least 72 hours postpartum and again 7-10 days after birth or earlier in women with symptoms.
  o Numerator: patients in denominator that had a follow-up appointment per the recommendations above.
  o Denominator: total number of patients with the following ICD-9 codes and all subsets: 642.5, 642.6, 642.7.*
  o Sample: patients with the following ICD-9 codes and all subsets: 642.5, 642.6, 642.7.*
*Please note: The given ICD-9 codes were chosen to narrow the focus of the project and target the patient population most closely matching the ACOG criteria. A report including patients with these codes and subsets could be examined to select charts that meet criteria of various measures. ICD-10 codes will be published when available.

Hospitals commit to:

1. Identify a project champion. This individual may hold any number of roles within the hospital, including nurse, physician, infection preventionist or quality improvement specialist. The project champion will be the primary contact responsible for deploying the interventions, collecting data and disseminating the findings among staff. It is essential that this individual be engaged and motivated to improve patient care, and adept at encouraging and enabling staff to contribute.
2. Develop and implement obstetrical hemorrhage and preeclampsia processes and patient care.
3. Teams will also be expected to collect data and report on specific measures throughout the duration of the project.
4. Participate in educational activities and regularly and reliably submit data through the duration of the project.

The MHA Keystone: OB collaborative seeks expert guidance and support from an interdisciplinary advisory committee made up of representatives from Michigan hospitals and related healthcare organizations. Each participating hospital forms a multifaceted improvement team/committee to guide the hospital’s participation in this initiative.

To enroll in MHA Keystone: OB, click here