Perinatal Road Map

MHA’s road maps provide hospitals and health systems with evidence-based recommendations and standards for the development of topic-specific prevention and quality improvement programs, and are intended to align process improvements with outcome data. Road maps reflect published literature and guidance from relevant professional organizations and regulatory agencies, as well as identified proven practices. MHA quality and patient safety committees provide expert guidance and oversight to the various road maps.

Each road map is tiered into fundamental and advanced strategies:
- **Fundamental strategies** should be prioritized for implementation, and generally have a strong evidence base in published literature in addition to being supported by multiple professional bodies and regulatory agencies.
- **Advanced strategies** should be considered in addition to fundamental strategies when there is evidence the fundamental strategies are being implemented and adhered to consistently and there is evidence that rates are not decreasing and/or the pathogenesis (morbidity/mortality among patients) has changed.

**Operational definitions** are included to assist facility teams with road map auditing and identifying whether current work meets the intention behind each road map element.

**Resources** linked within the road map include journal articles, expert recommendations, electronic order sets and other pertinent tools which organizations need to assist in implementation of best practices.

<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Team members      | **FUNDAMENTAL**  
(check each box if “yes”)  
- The facility has a process in place to designate members as the Perinatal Patient Safety Program champions/team members/liaisons with clear roles and expectations. |                                                |
|                   | **ADVANCED**  
(check each box if “yes”)  
- The facility has a process in place to engage other team members as regular or ad hoc members as appropriate, e.g., purchasing, education, human resources and patient/family |                                                |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| **FUNDAMENTAL**    | □ Percent of birthing women with severe hypertension receiving appropriate treatment within 60 minutes.  
□ Use and completion of standardized tool and process to schedule inductions and C-sections.  
□ Review of all Early Elective Deliveries (EEDs) not meeting exclusion criteria. | • Following the correct procedure for inductions helps to ensure the best outcome for both the mother and baby. Consider using the ACOG induction checklist for scheduling these procedures.  
[ACOG Induction Checklist](#)  
• Following the correct procedure for C-sections helps to ensure the best outcome for both the mother and baby. Consider using the ACOG induction checklist for scheduling these procedures.  
[ACOG C-Section Checklist](#)  
• According to the Institutes for Healthcare Improvement (2017), “data shows that outcomes for newborns are greatly improved when gestation is longer than 39 weeks. Yet studies indicate that almost one-third of all babies delivered in the United States are electively delivered”. Consider using the IHI Oxytocin Bundle to improve outcomes and adherence to the Joint Commission 39-week measure.  
[IHI Oxytocin Bundle](#) |
| **ADVANCED**       | □ Review all maternal ICU admissions or transfers, maternal stroke, eclampsia, transfusions ≥4.  
□ Ensure awareness of and compliance with the Minnesota Adverse Health Event Reporting Law for Maternal and Neonatal Events.  
□ OB patients in ED with an obstetrics-related diagnoses or condition affecting pregnancy. | |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Collect perinatal outcome data | **FUNDAMENTAL** *(check each box if “yes”)*  
- PC-01- early elective deliveries, not meeting exclusion criteria  
- Maternal hemorrhage rate, including maternal hemorrhage rate ≥ 4 units of RBC’s  
- Eclampsia rate  
- Maternal sepsis rate  
- Perinatal mortality (up to seven days) rate  
- PSI 18 obstetric trauma rate, vaginal delivery with instrument  
- PSI 19 obstetric trauma rate, vaginal delivery without instrument | • Electronic fetal heart rate monitoring can provide the care team with an understanding of how the fetus is doing during the antepartum period. For a greater understanding of fetal heart rate monitoring and its use, consider reviewing the ACOG practice bulletin 106.  
ACOG Fetal Heart Rate Monitoring Information  
• Simulation provides an opportunity for the team to practice and prepare for difficult clinical situations. In an article by Miller et al. (2008) the advantages of In Situ Simulation are discussed.  
| Perinatal patient safety interdisciplinary education | **ADVANCED** *(check each box if “yes”)*  
- Preeclampsia rate  
- PSI 17 birth trauma rate, injury to neonate  
- PC-05- exclusive breast milk feeding rate  
- Episiotomy rate  
- OB readmissions within 30 days  
- PC 02- Cesarean section rate | • |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Perinatal patient safety interdisciplinary education, cont. | **ADVANCED** *(check each box if “yes”)*  
  - Training on individual communication skills and team collaboration, e.g., SBAR, TeamSTEPPS, briefs, debriefs, handoffs, simulation. | • Clear communication between team members is crucial in ensuring patient safety. Consider the AHRQ TeamSTEPPS website for communication templates and overall resources.  
  TeamSTEPPS |
| Provide patient and family education | **FUNDAMENTAL** *(check each box if “yes”)*  
  - Risks, benefits and alternatives for maternal intra-partum procedures (e.g. informed consent). |  |
| Early Elective Deliveries | **ADVANCED** *(check each box if “yes”)*  
  - Newborn screening per the Minnesota Department of Human Services (DHS). | • Newborn screening is mandated by MN statues 144.125-144.128, 144.966 and 144.1251. Visit the MDH newborn screening program website for further information on what testing is required.  
  Newborn Screening Program |
| Early Elective Deliveries | **FUNDAMENTAL** *(check each box if “yes”)*  
  - The facility has a hard stop policy in place to prevent elective deliveries < 39 weeks without medical indication.  
  - Providers are required to obtain approval from physician leadership before performing an elective scheduled delivery before 39 weeks.  
  - Establishing gestational age for all elective deliveries  
    - Ultrasound measurement at less than 20 weeks gestation supports gestational age of 39 weeks or greater; fetal heart tones have been documented as present for 30 weeks by doppler/ultrasonography; it has been 36 weeks since a positive serum or urine hCG pregnancy test.  
  - The facility has developed, accepted and maintained a list of medical indications for delivery prior to 39 weeks. | • According to the Institutes for Healthcare Improvement (2017), “data shows that outcomes for newborns are greatly improved when gestation is longer than 39 weeks. Yet studies indicate that almost one-third of all babies delivered in the United States are electively delivered”. To gain a deeper understanding of non-medically indicated early-term deliveries, consider reviewing the ACOG committee opinion 561.  
  ACOG Non-medically Indicated Early-term Deliveries |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| **Early Elective Deliveries, continued** | **ADVANCED**  
(check each box if “yes”)  
☐ Hospital staff is authorized to deny a request to schedule an elective delivery before 39 weeks and 0 days of gestation. |  |
| **Estimated fetal weight** | **ADVANCED**  
(check each box if “yes”)  
☐ The facility requires that all patients have estimated fetal weight documented within one week prior to delivery. |  |
| **Fetal heart rate and uterine activity** | **FUNDAMENTAL**  
(check each box if “yes”)  
☐ The facility uses an algorithm in place for management of Category II tracings.  
☐ The facility has a policy in place that outlines the appropriate and safe administration of uterotonics relative to fetal heart rate assessment and implementation of intrauterine resuscitation relative to fetal heart rate assessment.  
• Understanding how to manage Category II tracings is essential in providing safe patient care. Consider implementing the Clark Algorithm for Management of Category II EFM.  
[Example Algorithm](#) |  |
| | **ADVANCED**  
(check each box if “yes”)  
☐ The facility has standard practices in place for the appropriate and safe administration of uterotonics relative to uterine activity.  
☐ The facility has standard practices in place for the management of abnormal uterine activity.  
☐ The facility requires provider/RN do a vaginal exam and document dilatation, effacement, station, presenting part prior to the induction/augmentation as clinically appropriate. |  |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Hypertensive emergencies, pre-eclampsia and eclampsia | **FUNDAMENTAL**  
 *(check each box if “yes”)*  
 □ The facility has a protocol for early detection and treatment of hypertensive emergency based on ACOG guidelines.  
 □ The facility has a process that provides immediate access to medications required for hypertensive emergency and eclampsia.  
 □ The unit has an algorithm for eclampsia readily available.  
**ADVANCED**  
 *(check each box if “yes”)*  
 □ The facility has a protocol for safe administration of magnesium sulfate for seizure prophylaxis and seizure management.  
 □ The facility has a process to support collaboration between the Emergency Department and OB in identification, evaluation and treatment of preeclampsia/ eclampsia.  
 □ Facility uses an early recognition toolkit. | • Detecting and treating hypertension early is vital to ensuring safe maternal outcomes. Considering reviewing the ACOG committee opinion 692 and CMQCC preeclampsia toolkit for information on treatment protocols.  
 **ACOG Emergent Therapy for Acute-onset, Serve Hypertension During Pregnancy and the Postpartum Period**  
 **CMQCC Preeclampsia Toolkit**  
 • Detecting and treating hypertension early is vital to ensuring safe maternal outcomes. Considering reviewing the CMQCC preeclampsia toolkit for information on treatment protocols.  
 **CMQCC Preeclampsia Early Recognition Tool (PERT)** |
| Obstetric hemorrhage | **FUNDAMENTAL**  
 *(check each box if “yes”)*  
 □ Use of evidenced-based risk scoring tool for all women admitted for delivery and the score is recorded in the EMR.  
 □ The facility has a process in place for early detection and management of obstetric hemorrhage.  
 - The process includes:  
   ○ The identification of risk factors upon admission and throughout the intrapartum period.  
   ○ Ongoing team communication.  
   ○ Access to recommended medications and tamponade devices.  
   ○ Standardized protocols such as order sets and algorithms.  
   ○ Emergent care planning such as massive transfusions, surgical intervention, or transfer to higher level of care based on facility resources. |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Obstetric hemorrhage, continued | **ADVANCED**  
(check each box if “yes”)  
- Use of an OB hemorrhage toolkit  
- Process for quantification of blood loss for all births  
- Management of all women with cumulative blood loss $\geq 500$ ml. | “The CMQCC OB Hemorrhage Task Force developed the Improving Health Care Response to Obstetric Hemorrhage toolkit to help obstetrical providers, clinical staff, hospitals and healthcare organizations develop methods within their facilities for timely recognition and an organized, swift response to hemorrhage. The toolkit was initially released in July 2010, and was updated March 2015 to Version 2.0 with the latest evidence-based changes outlined in the Executive Summary section of the Toolkit (CMQCC, 2017)”.  
[CMQCC OB Hemorrhage Toolkit](#)  
[CMQCC OB Hemorrhage Appendix I: Two Steps Quantification of Blood Loss at Cesarean Birth](#) |
| Cervical ripening | **ADVANCED**  
(check each box if “yes”)  
- The facility has adopted evidence based cervical ripening protocols utilizing the Bishop Score  
- No cervical ripening for non-medically/fetal necessary deliveries | There are several methods available to providers to assist with inducing labor. The ACOG labor induction overview and SOGC clinical practice guideline provide key resources to ensure favorable maternal and neonatal outcomes.  
[ACOG Labor Induction Overview](#)  
[SOGC Clinical Practice Guideline, Induction of Labor](#) |
| Operative vaginal delivery | **FUNDAMENTAL**  
(check each box if “yes”)  
- The facility has standard practices in place for appropriate and safe performance of operative vaginal delivery.  
  - The guidelines may include:  
    - Alternative labor strategies  
    - Consented patient  
    - High probability of success (estimated fetal weight, fetal station and fetal position)  
    - Maximum number of application and pop-offs predetermined.  
    - Exit strategy available (ensure surgical team/resuscitation team readiness).  
- The facility has a quality improvement process in place to review operative vaginal deliveries, including neonatal complications, that fall outside the facility’s standard practices. |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FUNDAMENTAL</strong></td>
<td>(check each box if “yes”)</td>
<td>• Having a process in place to prevent retained items during vaginal deliveries and C-sections will improve the maternal recovery period. Consider using the Roadmap to Preventing Retained Objects in Vaginal Deliveries and the Roadmap to Preventing the Retention of Tucked and Packed Items to establish these policies and procedures. Roadmap to Preventing Retained Objects in Vaginal Deliveries Roadmap to Preventing the Retention of Tucked and Packed Items</td>
</tr>
<tr>
<td>☐ The facility develops and maintains policies and procedures related to packed item, sharps, and intentionally placed devices or packing procedures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ This includes:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The labor and delivery room has a designated basin for all used vaginal packing or sponges.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The facility requires that two people perform the count – at least one is a licensed nurse.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The facility requires that both individuals directly view and verbally count each item.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The facility has a process in place to perform a count immediately before delivery pack is used (baseline), at the end of delivery, prior to any team members leaving, any time there is concern about the accuracy of the count, and after a permanent staff change of L&amp;D nurse during a case.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The facility has a process in place to account for all intentionally placed items, eg. spiral electrodes, IUPC, tamponade balloon, hygroscopic dilators.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The facility has a process in place to perform and document a final visual inspection and ensuring counts are correct.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ The facility has a process in place to provide follow up care, education, and resources for mother and infant after discharge including education about risk factors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road map sections</td>
<td>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</td>
<td>If specific road map element is missing, consider the following resources:</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| **Surgical best practices related to surgical site infections** | **FUNDAMENTAL** *(check each box if “yes”)*  
☐ The facility has adopted the antibiotic dosing, normothermia and OR traffic control elements of the MN Slashing SSI Bundle. | • Surgical site infection (SSI) is the most common and costly health care-associated infection (HAI), occurring in up to 5 percent of patients undergoing inpatient surgery. Annual costs are estimated at $3.5 billion to $10 billion, and the emotional and physical costs patients are staggering, including lengthened hospital stays, readmission and death. Experts estimate that up to 60 percent of SSIs are preventable.  
[MHA SSI road map](#) |
| **ADVANCED** *(check each box if “yes”)*  
☐ The facility has adopted the preoperative bathing, postoperative wound care, glycemic control, and clean instruments, water, and gloves/gown for wound closure elements of the MN Slashing SSI Bundle. |  |
| **VTE prevention** | **ADVANCED** *(check each box if “yes”)*  
☐ The facility has a process in place for assessment and management of VTE prevention which includes mechanical prophylaxis for all C-sections, unless contraindicated and pharmacological interventions as appropriate, e.g., SCIP protocol. |  |
| **Providing patient/family education on preventing newborn falls** | **FUNDAMENTAL** *(check each box if “yes”)*  
☐ Providing patient/family education on preventing newborn falls. |  |
<table>
<thead>
<tr>
<th>Road map sections</th>
<th>Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)</th>
<th>If specific road map element is missing, consider the following resources:</th>
</tr>
</thead>
</table>
| Safe sleep practices | **FUNDAMENTAL**  
*(check each box if “yes”)*  
☐ Modeling and teaching safe sleep practices per CDC/NIH SAFE to Sleep Campaign. | • Reduce the risk of sudden unexpected infant death by modeling and educating patient and families on safe sleep practices. Considering providing safe sleep information during the hospital stay and at discharge.  
Safe Sleep Brochure  
• Staff should understand the importance of modeling and educating patients on safe sleep practices. The MDH safe sleep webinar provides staff education on this safety intervention.  
MDH Safe Sleep Webinar |