OB EMERGENCY TRIAGE AND CARE RESOURCE WORKBOOK

MISSOURI PQC Perinatal Quality Collaborative | MHA

Acknowledgments

Improving the health outcomes of maternal and infant populations is a critical priority in Missouri. The Missouri Perinatal Quality Collaborative serves as a statewide convener, resource, and change agent to support decreased variations in care and outcomes, support optimized use of evidence-based practice, and support clinical-community integration — all noted gaps in achieving equitable and improved health.

These efforts would not be possible without the collective vision and collaboration of the Missouri Department of Health and Senior Services, Missouri Hospital Association, and members of the Missouri Maternal-Child Learning and Action Network. MC LAN members represent a diverse group of stakeholders from clinical backgrounds, professional associations, government agencies, community-based organizations and community representatives who have committed support to reducing maternal morbidity and mortality in Missouri, including the March of Dimes, Missouri Section of American College of Obstetricians and Gynecologists, Missouri Chapter of the American Academy of Pediatrics, Missouri Primary Care Association, Missouri DHSS, Missouri Department of Social Services MO HealthNet Division, Missouri Foundation for Health, Missouri Chapter of the Association of Women's Health, Obstetric and Neonatal Nurses, Nurse Practitioners in Women's Health Association, Missouri Chapter of the Amniotic Fluid Embolism Foundation, Generate Health, St. Louis Integrated Health Network, Bootheel Perinatal Network, Healthy Blue MO, Home State Health, United Healthcare, Nurture KC, Promise 1000, M-Brace Birthing, SafiMoms365, the Doula Foundation and Simply Strategy. These partners successfully aligned efforts to bring Alliance for Innovation on Maternal Health initiatives to Missouri in 2019 and connect directly to the Missouri Pregnancy-Associated Mortality Review Board, which identifies leading causes of morbidity and mortality.

The MO PQC also acknowledges the contributions of AIM, the national, cross-sector commitment designed to lead in developing and implementing patient safety bundles to promote safe care for every U.S. birth. Founded in 2014 through a cooperative agreement funded by the Health Services Resources Administration and executed by ACOG, the AIM program provides expert technical support and capacity building to multidisciplinary state-based teams, most often perinatal quality collaboratives, leading targeted rapid-cycle quality improvement via implementation of patient safety bundles. An AIM patient safety bundle is a structured way of improving the process of care and patient outcomes: a small, straightforward set of evidence-based practices that, when performed collectively and reliably, have been proven to improve patient outcomes. Patient safety bundles are developed by expert multidisciplinary working groups, supported by the AIM staff at ACOG. Working groups include representatives appointed by professional member organizations, known experts and researchers specializing in the clinical topic, and patients with lived experience. The bundle development process includes design of measure and metrics for implementation and multiple levels of review from engaged stakeholders.[1]

The MO PQC leverages AIM patient safety bundles as one option to support implementation of evidence-based practice and care delivery redesign for birthing units, providers, and communities throughout the state.

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The Evidence

Access to quality maternity care is a critical component of maternal health, leading to positive birth outcomes for the birthing person and infant. In the midst of a lingering pandemic, now more than ever, maternity care in the United States has reached a critical juncture. Despite spending the highest percentage of gross domestic product on health care, the U.S. still faces increasing rates of maternal mortality.

Birthing people face challenges to accessing care before, during and after their pregnancy. One in 12 women live in an area of low or no access to maternal health care. Nationwide, 5% of counties have less maternity care access compared to two years ago. In maternal care deserts (counties where there is a lack of maternity care resources, and where there are no hospitals or birth centers offering obstetric care and no obstetric providers), approximately 2.2 million women of childbearing age and almost 150,000 babies are affected.[2]

Closures of hospital birth units are a growing concern as well. Hospitals in nearly one in 10 counties across the U.S. have lost obstetric services, adding to an overall decrease in maternity care access. These areas of combined low or no access affect up to 6.9 million women and almost 500,000 births in the U.S. Rural communities with a majority of non-white racial and ethnic groups and low-income residents have seen a higher proportion of closures when compared with other hospitals.[3]

Several solutions have been proposed to help mitigate these issues. A 2022 Government Accountability Office study found that the following efforts could increase the availability of obstetric care in rural areas.

- Increasing Medicaid reimbursement, as Medicaid covers a higher proportion of births in rural areas compared to urban areas.
- Increasing the use of remote consultations, through videoconferencing or telehealth calls. Clinicians in rural hospitals can consult with specialty obstetric care, which may allow rural patients to receive higher levels of care in their own communities.
- Establishing regional partnerships, such as a hub-and-spoke model where a larger hospital (hub) partners with smaller rural hospitals (spoke) to provide care coordination, training and other resources.[3]

In addition to the actions mentioned above, the March of Dimes concluded that these additional actions can mitigate the maternity care crisis.[2]

- Expand access to and improve integration of the midwifery model of care in all states.
- Expand equitable access to doula services through reimbursement and workforce development.
- Standardize evidence-based obstetric care through the implementation of patient safety bundles, protocols/checklists, and participation in perinatal quality collaboratives.

Strategies that hospitals can implement to reduce risk in maternity care deserts include the following.

- Implement education, training and simulation drills for emergency deliveries and maternal emergencies, such as hypertension, sepsis and hemorrhage.
- Have precipitous delivery kits and infant resuscitation equipment available in the emergency department. Consider the creation of emergency medication kits for postpartum hemorrhage and suspected preeclampsia.
- Use algorithms, early recognition tools, maternal early warning systems and best practice guidelines for sepsis, hypertension/preeclampsia, postpartum hemorrhage and infant resuscitation. The California Maternal Quality Care Collaborative has many algorithms and examples to use, which can be found in the Resources section of this document.
- In the ED, ask and document if the patient is pregnant or has been pregnant in the past 12 months, as many signs and symptoms may be linked to perinatal health concerns. Post signage to help remind patients to inform health care providers if they are pregnant or have been pregnant recently.
- Implement training for your emergency medical services teams on performing an emergency delivery and rapid assessment for other potential OB emergencies like postpartum hemorrhage or hypertensive crisis.
- Partner with tertiary medical centers and OB groups for education, training, consultation and transfer agreements. Consider the use of telehealth to obtain rapid consultation with an obstetrician.
- Debrief after every OB delivery (if the hospital does not have OB services) or harm event. Use event reporting to track and trend OB events for your institution.[4,5]

Missouri's Call to Action

The Missouri PAMR Board reviews all deaths of women and birthing people while pregnant or within one year of the end of the pregnancy. Pregnancy-associated death is the overarching term used when referring to maternal deaths. Within this broad categorization are more specific terms to describe the cause of death, including pregnancy-related death; pregnancy-associated, but not related (PANR) death; and pregnancy-associated, but unable to determine relatedness.[6] See definitions below.

Pregnancy-related death: Death occurring during or within one year of the end of pregnancy from a pregnancy complication, a chain of events initiated by pregnancy, or the aggravation of an unrelated condition by the physiological effects of pregnancy[6]

PANR: Death during or within one year of pregnancy from a cause that is not related to pregnancy[6] (e.g., pregnant person who dies in a natural disaster)

Pregnancy-associated, but unable to determine relatedness: Cases when the board was unable to determine if a death was pregnancy-related or PANR[6]

Maternal morbidity: Unexpected negative outcomes of childbirth resulting in short- or long-term health impacts[6]

Maternal mortality: The World Health Organization defines a maternal death as "a death while pregnant or within 42 days of the end of the pregnancy from any cause related to or aggravated by pregnancy or its management, but not from accidental or incidental causes."[7] In Missouri, the term maternal mortality is used to describe deaths that occur during pregnancy, at delivery and up to one year after the end of a pregnancy.[6]

In Missouri, 41.7% of counties are defined as maternity care deserts compared to 32.6% in the U.S. Additionally, 11.2% of babies were born to birthing people who live in rural counties in Missouri, while only 3.7% of maternity care providers practice in rural Missouri counties. In rural areas of Missouri, 39.2% of women live more than 30 minutes from a birthing hospital compared to 6.9% of women living in urban areas.[2]

In its 2023 report, "Where You Live Matters: Maternity Care Access in Missouri," the March of Dimes stated that, in Missouri, 7,227 babies were born in maternity care deserts. Two additional rural birthing hospitals in Missouri have closed their maternity units since publication of this report, bringing the total number of closures to 11 since 2009. Eight out of 11 closures were in rural counties, with four closures since 2016. No urban counties in Missouri are currently classified as maternity care deserts. Areas with the largest maternal care deserts include the northern part of Missouri (above the Interstate 70 corridor) and the Bootheel/southeast part of the state. Travel distance becomes a critical factor during pregnancy, especially at the time of birth and in emergency situations.[8] The farther a birthing person travels to receive maternity care, the greater the risk of maternal morbidity and adverse infant outcomes, such as stillbirth and admission to a neonatal intensive care unit.[9] Furthermore, longer travel distances can cause financial and emotional strain on birthing people and their families.[8]

The lack of maternity care hospitals adds a greater burden on EDs in rural, nonobstetric hospitals and on EMS, which may be tasked with transporting pregnant people to hospitals with birthing facilities. Community-based resources, such as health departments, crisis pregnancy centers, navigator programs and social support agencies, can help provide support for birthing families. Building upon and leveraging additional workforce opportunities, such as certified nurse midwives, certified professional midwives, doulas, community health workers and peer recovery coaches, also may support improved maternal and infant outcomes by increasing access to medical and social support.

Pregnant and postpartum patients can and do present to every hospital, whether or not they have obstetric services. To prepare for these patients, all ED settings and hospitals without birthing services should implement the following evidence-based practices and ensure a continual level of readiness to best care for these patients.

- Ask all patients of birthing age if they are currently pregnant or have been pregnant in the past 12 months and document as part of the medical record. Post signage reminding patients to inform their health care providers if they are pregnant or have been pregnant recently.
- Have precipitous delivery kits and infant resuscitation equipment available in the ED. Consider the creation of emergency medication kits for postpartum hemorrhage and suspected preeclampsia. Ensure kits are well-maintained well and that all staff have easy access to them.
- Use algorithms, early recognition tools, maternal early warning systems and best practice guidelines for sepsis, hypertension/preeclampsia, postpartum hemorrhage and infant resuscitation.
- Implement education, training and simulation drills for emergency deliveries and maternal emergencies, such as hypertension, sepsis and hemorrhage.
- Include EMS teams in training scenarios, such as performing an emergency delivery and rapid assessment for other potential OB emergencies like postpartum hemorrhage or hypertensive crisis.
- Partner with tertiary medical centers and OB groups for education, training, consultation and transfer agreements. Consider the use of telehealth to obtain rapid consultation with an obstetrician.
- Debrief after every delivery and obstetric event, and utilize event reporting to track and trend OB events for your institution.

The MO PQC encourages all stakeholders in maternal-infant health to take action to reduce severe maternal morbidity and maternal mortality by planning for obstetric patients and their health care needs during and after pregnancy. The purpose of this resource workbook is to provide a framework for evidence-based care.

Birthing organizations interested in learning more about the OB Emergency Triage and Care Patient safety Bundle may register with the MO PQC.

AIM Bundle Components[10]

An AIM patient safety bundle is a structured way of improving the process of care and patient outcomes: a small, straightforward set of evidence-based practices that, when performed collectively and reliably, have been proven to improve patient outcomes.

Readiness — Every Unit/Team

- ☐ Identify a Rapid Response Team for obstetric emergencies.
  - ☐ For facilities without obstetric services:
    - ☐ physicians (ED, family medicine, pediatricians, general surgery)
    - ☐ anesthesiology providers
    - ☐ advanced practice providers (physician assistants, nurse practitioners)
    - ☐ registered nurses (ED, ICU, house supervisors, critical response nurses)
    - ☐ surgical staff (scrub technicians, first assistants)
    - ☐ respiratory therapists
    - ☐ radiology staff (ultrasound)
    - ☐ pharmacy staff
    - ☐ laboratory/blood bank staff
  - ☐ For facilities with Level I obstetric services:
    - ☐ physicians (obstetricians, ED, family medicine, pediatricians, general surgery)
    - ☐ anesthesiology providers
    - ☐ advanced practice providers (midwives, physician assistants, nurse practitioners)
    - ☐ registered nurses (OB, ED, ICU, house supervisors, critical response nurses)
    - ☐ surgical staff (scrub technicians, first assistants)
    - ☐ respiratory therapists
    - ☐ radiology staff (ultrasound)
    - ☐ pharmacy staff
    - ☐ laboratory/blood bank staff
- ☐ Identify protocols and procedures for activating the Rapid Response Team.
  - ☐ Consider the use of a targeted "Maternal Fetal Triage" tool, such as AWHONN's Maternal-Fetal Triage Index, which includes clinical triggers for triage of outpatients in the ED and OB triage units.
  - ☐ All members of the organization should be aware of, and know how and when to activate the team, and feel empowered to do so when necessary.
  - ☐ For inpatients, early warning systems (such as MEOWS) that are incorporated into the electronic medical system can help identify patients that need escalation of care.[11]
  - ☐ Consider early consultation (including telehealth) with obstetric care professionals to facilitate accurate triage and evaluation.[12]

- ☐ Ensure rapid access to necessary medications, resources and equipment.
  - ☐ Keep equipment and medications to treat specific emergency conditions readily accessible and in a single location, such as a box, cart, backpack or "go bag."
  - ☐ Plan for medications that need refrigeration to be quickly available during an emergency (i.e., "kits" that are easy to access by overriding).
  - ☐ Reviews and restocks of medications and equipment should be scheduled and have standardized checklists.
- ☐ Establish policies, procedures and checklists to respond to obstetric emergencies, including, but not limited to, the following.
  - ☐ emergent birth (in nonobstetric hospitals)
  - ☐ obstetric hemorrhage, incorporating
    - ☐ massive transfusion protocols
    - ☐ blood products and blood product alternatives
  - ☐ severe hypertension in pregnancy and postpartum
    - ☐ preeclampsia and eclampsia management
    - ☐ magnesium sulfate administration
  - ☐ care of the obstetric cardiac patient
  - ☐ maternal sepsis
  - ☐ pregnant and postpartum people with substance use disorder
  - ☐ pregnant and postpartum people with mental health conditions
- ☐ Train all health care professionals and staff who may care for pregnant women to recognize and respond to obstetric emergencies.
  - ☐ Consider training programs that provide both didactic and classroom/in-person simulations. Examples of various training programs are available in the Resources section.
  - ☐ Schedule drills and simulation exercises to maintain preparedness for effective recognition and response to obstetric emergencies.
  - ☐ Consider participating in Project Extension for Community Healthcare Outcomes (ECHO) clinics.
- ☐ Plan for appropriate patient transfer to higher levels of care.
  - ☐ Include EDs and EMS providers in establishing shared guidelines for triage and transport of obstetric patients.
  - ☐ Consider developing a decision tree or process checklist to operationalize a developed care process model for transfers.[13]
  - ☐ Adopt a systematic approach to care for all obstetric patients who present to the ED. An example of this can be found in the Resources section ("Management of Pregnant Patients in the Emergency Department").
- ☐ Develop relationships with regional perinatal care centers/higher levels of maternity care to coordinate consultation and transfer pathways. Consider establishing transfer agreements. An example is available in the Resources section.
- ☐ Establish remote care capabilities and telehealth consultation supports, utilizing the following.
  - ☐ Telemedicine
  - ☐ Project ECHO
  - ☐ Missouri's Maternal Health Access Project (see Resources)

- [ ] Develop and maintain referral resources and care coordination pathways. Care should be taken to include resources that can meet a variety of patient needs, including different literacy proficiencies, languages and cultural backgrounds. These can include the following.
    - [ ] maternal fetal medicine specialists
    - [ ] genetic counselors
    - [ ] nephrologists
    - [ ] endocrinologists
    - [ ] psychiatrists
    - [ ] social workers
    - [ ] substance use disorder treatment options (inpatient and outpatient)
    - [ ] community-based services
        - ☐ food banks
        - ☐ diaper banks
        - ☐ home visiting programs

Recognition and Prevention — Every Patient

- [ ] Screen for current or recent pregnancy in all care settings. This can be as simple as asking every woman of childbearing age (10-55 years old), "Are your currently pregnant, or have you been pregnant within the last year?" The Resources section of this document has examples of health care professional-facing aids that help remind providers of the importance of screening.
- [ ] Triage and evaluate for urgent signs and symptoms in collaboration with obstetric care professionals.
    - [ ] Nonobstetric hospitals, clinics and EMS need a consultative relationship to facilitate accurate triage and evaluation; this can be accomplished through telehealth or phone consultation. Obstetric care professionals can support triage decisions, guide evaluation of pregnant and postpartum people, and help determine initial care plans, which may include stabilization and transfer to a higher level of maternal or newborn care.
    - [ ] Teams should utilize obstetric-specific resources to identify early warning signs and trigger prompt evaluation and response. See the Resources section for examples of triage tools.
- [ ] Screen for comorbid conditions and risk factors for maternal morbidity and mortality.
    - [ ] Be mindful of the impact of race and ethnicity and their associated risk factors.
    - [ ] Consider screening for substance use using validated screening tools to identify people at risk and provide resources to support harm reduction and access to desired treatment. See the Resources section for examples.
- [ ] Provide patient education on urgent signs and symptoms during pregnancy and postpartum and when to seek care. See the Resources section for examples of patient-facing educational materials.

Response — Every Event

Pregnant and postpartum patients can and do present to every hospital, whether or not they have obstetric services. Response should include activation of planned response teams and initiation of standard protocols. These events can include the following.

- ☐ Routine birth in nonobstetric settings
  - ☐ Consider routine trainings, such as Basic Life Support in Obstetrics (BLSO) and Advanced Life Support in Obstetrics (ALSO), as well as simulations and tabletop exercises.
  - ☐ Ensure a safe and adequately equipped space is available to care for routine births, with preparation for keeping the birthing person and baby secure and together. See the Resources section for equipment and medication suggestions.
- ☐ Perimortem cesarean delivery
  - ☐ Health care professionals in nonobstetric settings may be called upon to perform this procedure when providing care to pregnant patients.[14]
  - ☐ Evidence suggests that the delivery of a fetus from a uterus at the umbilicus or more than 20 weeks gestation may improve maternal outcomes in cardiac arrest where resuscitation has not been successful.[15]
  - ☐ Consideration and planning for this rare event should be part of readiness planning in all sites that provide emergency care. Ideally, surgical instruments and equipment should be on hand, including a cord clamp, and training should include that a delivery can be initiated with only a scalpel while additional resources and equipment are gathered.[15]
- ☐ Obstetric hemorrhage
  - ☐ Uterine atony is the leading cause of obstetric hemorrhage, and uterotonic agents can be a first-line treatment to manage bleeding.
  - ☐ Teams should ensure immediate access to a hemorrhage cart with supplies, checklists, instruction cards for devices and procedures, and access to a kit or equivalent with first- and second-line hemorrhage medications.
  - ☐ Quantified blood loss is a cornerstone of identifying an obstetric hemorrhage. See the Resources section for more information.
- ☐ Severe hypertension in pregnancy and postpartum
  - ☐ Severe hypertension is a systolic blood pressure of 160 mm Hg or greater or a diastolic blood pressure of 110 mm Hg or greater, or both, during pregnancy and the postpartum period and is a ***medical emergency***.
  - ☐ As patients are stabilized to be discharged, health care professionals should ensure patients receive condition-specific education on hypertensive emergencies and when to seek immediate care.
  - ☐ All health care professionals and staff who care for patients should be regularly trained on appropriate blood pressure measurement See Resources section for tools.

- ☐ If a patient with severe hypertension (a systolic blood pressure of 160 mm Hg or greater or a diastolic blood pressure of 110 mm Hg or greater, or both) presents for care, health care professionals should confirm persistence of severe hypertension by measuring blood pressure again after 15 minutes. If persistent severe hypertension is confirmed, immediate response by initiating antihypertensive treatment within 60 minutes should occur regardless of underlying hypertensive disorders in pregnancy. See the Resources section for a sample medication kit.
- ☐ Consultation with MFM and obstetric providers is crucial, and transfer to a higher level of care must be given consideration.

☐ Perinatal mental health conditions

- ☐ All pregnant and postpartum patients should be provided with education and materials on mental health warning signs and symptoms, as well as crisis resources, due to the prevalence of mental health conditions in the perinatal period.
- ☐ If a patient screens positive from a screening tool or health care professionals determine the need, procedures should be initiated to address suicide risk and assess a patient's risk of psychosis and harm to self or others.

☐ Maternal sepsis

- ☐ Due to normal physiological changes associated with pregnancy and the postpartum period, some signs and symptoms of infection and sepsis can be difficult to determine as abnormal.
- ☐ Health care professionals must consider sepsis in pregnant and postpartum people as a differential diagnosis, particularly among patients with a deteriorating status and even in the absence of a fever or hypotension.
- ☐ Rapid response teams should work with their pharmacy services to ensure rapid access to appropriate antimicrobials within one hour after diagnosis, followed by rapid access to additional antimicrobials.
- ☐ See the Resources section for screening tools and other resources.

☐ Pregnant and postpartum people with substance use disorder

- ☐ Screening all pregnant and postpartum people for SUDs using a validated self-reported verbal screening method is critical for recognizing SUDs and providing referral to appropriate treatment.
- ☐ Administering naloxone to pregnant and postpartum people in emergency settings and developing naloxone kit distribution programs can save lives and prevent fatal opioid overdoses.

☐ Cardiac conditions in pregnancy and postpartum

- ☐ Among pregnant and postpartum people who die from cardiac conditions, most do not have a diagnosis of cardiac disease prior to their deaths.
- ☐ Most pregnant and postpartum people who die from cardiac conditions have underlying risk factors and present for care with signs and symptoms indicative of cardiac disease.
- ☐ Due to normal physiological changes associated with pregnancy and the postpartum period, some signs and symptoms of cardiac disease can be difficult to differentiate as abnormal.

- ☐ Health care professionals and staff should ask all patients whether they are currently pregnant, have been pregnant within the past year and if they have a history of cardiovascular disease.
- ☐ If a pregnant or postpartum patient has signs and symptoms in the "Caution" or "Stop" columns of the table below, appropriate facility-wide standard policies and protocols for the assessment, treatment and escalation of care should be initiated.

	ROUTINE CARE Reassurance	CAUTION*† Nonemergent Evaluation	STOP†† Prompt Evaluation Pregnancy Heart Team
History of CVD	None	None	Yes
Self-reported symptoms	None or mild	Yes	Yes
Shortness of breath	No interference with activities of daily living; with heavy exertion only	With moderate exertion, new-onset asthma, persistent cough, or moderate or severe OSA§	At rest; paroxysmal nocturnal dyspnea or orthopnea; bilateral chest infiltrates on CXR or refractory pneumonia
Chest pain	Reflux related that resolves with treatment	Atypical	At rest or with minimal exertion
Palpitations	Few seconds, self-limited	Brief, self-limited episodes; no lightheadedness or syncope	Associated with near syncope
Syncope	Dizziness only with prolonged standing or dehydration	Vasovagal	Exertional or unprovoked
Fatigue	Mild	Mild or moderate	Extreme
Vital Signs	Normal		
HR (beats per minute)	<90	90-119	≥120
Systolic BP (mm Hg)	120-139	140-159	≥160 (or symptomatic low BP)
RR (per minute)	12-15	16-25	≥25
Oxygen saturation	>97%	95-97%	<95% (unless chronic)
Physical examination	Normal		
JVP	Not visible	Not visible	Visible > 2 cm above clavicle
Heart	S3, barely audible soft systolic murmur	S3, systolic murmur	Loud systolic murmur, diastolic murmur, S4
Lungs	Clear	Clear	Wheezing, crackles, effusion
Edema	Mild	Moderate	Marked

Abbreviations: BP-blood pressure; CVD — cardiovascular disease; CXR — chest X-ray; HR — heart rate; JVP — jugular venous pressure; OSA — obstructive sleep apnea; RR — respiratory rate.

Reused with permission from Pregnancy and Heart Disease. ACOG Practice Bulletin 212. American College of Obstetricians and Gynecologists. Obstet Gynecol 2019;133:320-356. Table 5 in the source is noted as modified from Thorne S. Pregnancy and native heart valve disease. Heart 2016;102-1410-7.

Reporting and Systems Learning — Every Unit

- ☐ Conduct huddles and postevent debriefs to identify successes, opportunities for improvement and action planning for future events. See the Resources section for examples and templates.
  - ☐ **Safety huddles** are an essential component of a safety culture in high-reliability organizations. Huddles are standing meetings that occur at a consistent time, ideally twice in a 24-hour period, for five to seven minutes and may coincide with the start of a new staffing shift. Leaders can share critical information with the entire team, such as changes in staffing, supplies or processes. Key reminders about special populations, screening for pregnancy in triage, management of obstetric complications and other low-volume, high-risk events also may be integrated into huddles. Huddles also can be held when there is a change in patient status, change in resources (such as staffing or facility resources) or other acute topics that require team awareness and planning.
  - ☐ **Postevent debriefs** should be held following all patient safety issues, errors, near misses or significant clinical events. These debriefs should include the following.
    - ☐ all who provided care in the event (if possible)
    - ☐ a review of the event timeline and summary of actions taken during care
    - ☐ successes, barriers and opportunities for improvement, with next steps identified and assigned
  - ☐ Action planning is the step taken after a root cause analysis or debrief to address identified gaps in care, processes, equipment and supplies. This should include all care team members to reinforce that patient safety and high-quality care is each team member's responsibility. Facilities can design a system to allow team members to document issues and review processes discussed during debriefs. Each facility should identify a formal pathway to share knowledge gained from the event with leadership and staff. Teams should determine formal ownership for improvements as part of action planning.
- ☐ Perform multidisciplinary reviews of serious complications per established facility criteria to identify systems issues.
  - ☐ In low-volume settings, facilities may track all instances of obstetric care and review charts to identify successes and opportunities for improvement.
  - ☐ Facilities should work with facility and system leadership and transfer centers to determine a minimum list of criteria to consider during chart review. These considerations should be consistent across all obstetric chart reviews and possibly integrated into a facility tool or checklist. Elements to consider include the following.
    - ☐ gestational age
    - ☐ admission diagnosis
    - ☐ outcome (e.g., delivery, transport)
    - ☐ triage accuracy
    - ☐ timely establishment of pregnancy status or GA
    - ☐ recognition of critical symptoms in obstetric context (e.g., hypertension, hemorrhage, ectopic pregnancy, sepsis)
    - ☐ appropriate transfer
    - ☐ appropriate consultation with obstetric care professionals

- ☐ evaluation and determination of whether any decision or action on the part of providers could have resulted in reduced or avoided morbidity or mortality

☐ Any charge review undertaken should be anchored in a "just culture" approach.

Respectful, Equitable and Supportive Care — Every Unit/ Provider/Team Member

☐ Provide education and training to health care professionals on health equity and respectful care.

☐ Engage in open, transparent and empathetic communication with pregnant and postpartum people and their identified support network to understand diagnoses, options and treatment plans. Some strategies to accomplish this include the following.

- ☐ shared decision-making
- ☐ teach-back methods of instruction
- ☐ when shared decision-making is not feasible (i.e., emergency scenarios, there is only one option available, patient is not physically able to make decisions), engage the patient's identified support network to align treatment with patient's values and wishes
- ☐ utilize language assistance, interpretation and translation services when needed

☐ Provide trauma-informed care for patients, their identified support network and staff.

- ☐ Trauma-informed care includes six key principles.
  - ☐ safety
  - ☐ trustworthiness and transparency
  - ☐ peer support
  - ☐ collaboration and mutuality
  - ☐ empowerment, voice and choice
  - ☐ cultural, historical and gender issues
- ☐ Health care professionals can contribute to a culture of TIC by using psychologically safe practices, such as confirming a patient's name, pronunciation and pronouns; confirming whether patients want others in the exam room, as appropriate; and sitting level with patients while communicating.
- ☐ As health care professionals begin patient evaluation and exams, they should be mindful of factors that may contribute to a patient's feelings of safety, such as respect for patient modesty and privacy. Health care professionals also may guide patients through exams and procedures using person-centered language, describing the exam or procedure in detail, giving warning before touching patients and ensuring they remain in the patient's line of sight.[16]

Resources Section

General Resources

AIM: Obstetric Emergency Readiness Resource Kit
ACOG: Identifying and Managing Obstetric Emergencies in Nonobstetric Settings

Continued Learning

Missouri Show-Me ECHO (Extension for Community Healthcare Outcomes)
Centers for Medicare and Medicaid Services, Office of Minority Health: Advancing Rural Maternal Health Equity

Simulations

AIM: Obstetric In-Situ Drill Program Manual
Argentina's Institute for Clinical Effectiveness and Health Policy and the Maternal Health Task Force at the Harvard Chan School: Obstetric Emergency Drills Training Kit
Perinatal Quality Collaborative Vermont: Resource Binder: A Guide to OB Drill Binders

Transport

Indiana Perinatal Quality Improvement Collaborative: Maternal Fetal Transport Go-No Go Algorithm
CMS: Transfer Agreement Example
Maine Center for Disease Control and Prevention: Best Practice Recommendations for Handoff Communication During Transport from a Home or Freestanding Birth Center to a Hospital Setting
Tennessee Perinatal Care System: Guidelines for Transportation
Children's Mercy Kansas City: Transportation for Expecting Moms and Babies
SSM Health: Maternal Transport Services
Barnes-Jewish Hospital: Maternal-Fetal & Newborn Transport Services
HCA Midwest Health: Maternal-fetal medicine at HCA Midwest Health

Telehealth and Mental Health Resources

MHAP: Missouri Maternal Health Access Project
Health Resources and Services Administration: National Maternal Mental Health Hotline
Office on Women's Health: "Get Help Now" Hotline
The National Parent & Youth Helpline™
HRSA: MotherToBaby (for questions about medications and substance exposures during pregnancy and breastfeeding)
Federal Communications Commission: 988 Suicide and Crisis Lifeline

Health Care Professional-facing Materials

Centers for Disease Control and Prevention: "Hear Her" Campaign
Reproductive Health National Training Center: Urgent Postpartum Warning Signs

Patient-facing Materials

CDC: "Hear Her" Campaign (also in Spanish)
AIM: Urgent Maternal Warning Signs
ACOG: Pregnancy Status Signs in English and Spanish

Obstetric Triage

Archives of Academic Emergency Medicine: A Review of Obstetric Triage Scales
AWHONN: Maternal Fetal Triage Index (MFTI)
Texas Collaborative for Healthy Mothers and Babies: Maternal Early Warning System

Obstetric Readiness Resources

AIM: Condition- and Event-Specific Equipment and Medications for Care of Obstetric Patients in the Emergency Department

Obstetric Hemorrhage

ACOG: Obstetric Hemorrhage Checklist
CMQCC: OB Hemorrhage Checklist: Carts, Kits and Trays
CMQCC: Medications for Postpartum Hemorrhage
ACOG: Guidance on Quantification of Blood Loss During OB Hemorrhage

Severe Hypertension in Pregnancy and Postpartum

ACOG: ED Postpartum Preeclampsia Checklist
Oklahoma Perinatal Quality Improvement Collaborative: How to Correctly Measure Blood Pressure (for Healthcare Professionals)
CMQCC: Accurate Blood Pressure Measurement Toolkit
CMQCC: Preeclampsia Screening Tools
CMQCC: Sample Acute-Onset, Severe Hypertension and Eclampsia Medication Kit
Preeclampsia Foundation: Patient Education Materials
ACOG: Acute Hypertension in Pregnancy and Postpartum Algorithm
ACOG: Eclampsia Algorithm
ACOG: Cardiovascular Disease (CVD) in Pregnancy & Postpartum Algorithm

Maternal Sepsis

CMQCC: Maternal Sepsis Evaluation Flow Chart
CMQCC: Maternal Sepsis Sample Education Outline
Saskatchewan Health Authority: Maternal Sepsis Clinical Algorithm

Care for Pregnant and Postpartum People With Substance Use Disorder

Academy of Perinatal Harm Reduction: Pregnancy and Substance Use: A Harm Reduction Toolkit
CDC: Treatment for Opioid Use Disorder Before, During and After Pregnancy
Substance Abuse and Mental Health Services Administration: Clinical Guidance for Treating Pregnant and Parenting Women with Opioid Use Disorder and Their Infants

Cardiac Conditions in Pregnancy and Postpartum

CMQCC: Cardiovascular Disease Assessment in Pregnant and Postpartum Women Algorithm
American Heart Association: Cardiac Arrest in Pregnancy In-Hospital ACLS Algorithm

Huddles and Debriefings

Institute for Healthcare Improvement: Patient Safety Essentials Toolkit: Huddles
Agency for Healthcare Research and Quality: Daily Huddle Component Kit
AHRQ: Improving Patient Safety and Team Communication through Daily Huddles
AHRQ: Debriefing for Clinical Learning
AHRQ: Action Planning Template
Trends in Anaesthesia and Critical Care: TALK© Debriefing Card
Clinical Excellence Commission: Post-Event Safety Huddles

Respectful, Equitable and Supportive Care

March of Dimes: Beyond Labels: Do Your Part to Reduce Stigma
ACOG: Respectful Care eModules
Institute for Healthcare Advancement: 10 Elements of Competence for Using Teach-Back Effectively
IHA: Always Use Teach-Back! Training Toolkit
IHA: Teach-Back Quick Guide
Ottawa Hospital Research Institute: Patient Decision Aids: Implementation Toolkit
AHRQ: SHARE Approach Curriculum Tools
CMS: Providing Language Services to Diverse Populations: Lessons from the Field
Rural Health Information Hub: Enhancing Services for Deaf, Hard of Hearing, and Deafblind Patients in Rural America

Trauma-informed Care

SAMHSA: Concept of Trauma and Guidance for a Trauma-Informed Approach
Trauma-Informed Care Implementation Resource Center: All Resources
Medical Education Online: Trauma-Informed Care in the Emergency Department: Concepts and Recommendations for Integrating Practices Into Emergency Medicine
Journal of Obstetric, Gynecologic, & Neonatal Nursing: National Partnership for Maternal Safety: Consensus Bundle on Support After a Severe Maternal Event
AIM: Patient Support After a Severe Event: The Importance of Providing Trauma-Informed Care
AIM: Implementing a Clinician and Staff Peer Support Program
Crisis Prevention Institute: 3 Keys to Help Staff Cope with Secondary Trauma

References

[1] Health Resources & Services Administration. (n.d.). Alliance for innovation on maternal health (AIM) capacity. https://www.hrsa.gov/grants/find-funding/HRSA-23-066

[2] Brigance, C., Lucas, R., Jones, E., Davis, A., Oinuma, M., Mishkin, K., & Henderson, Z. (2022). Nowhere to go: maternity care deserts across the U.S. (2022 Report) [PDF]. March of Dimes. Retrieved February 26, 2024, from https://www.marchofdimes.org/sites/default/files/2022-10/2022_Maternity_Care_Report.pdf

[3] U.S. Government Accountability Office. (2022). Maternal health: Availability of hospital-based obstetric care in rural areas. Retrieved February 26, 2024, from https://www.gao.gov/products/gao-23-105515

[4] Curi. (2023). How to reduce risk in maternity care deserts. Constellation Mutual. Retrieved April 5, 2024, from https://constellationmutual.com/blog/how-to-reduce-risk-in-maternity-care-deserts/

[5] Office of the Surgeon General. (2020). The Surgeon General's call to action to improve maternal health: Chapter 4: Strategies and actions: Improving maternal health and reducing maternal mortality and morbidity. https://www.ncbi.nlm.nih.gov/books/NBK568218/

[6] Missouri Department of Health and Senior Services. (2023). A multi-year look at maternal mortality in Missouri, 2018-2020 Pregnancy-Associated Mortality Review [PDF]. https://health.mo.gov/data/pamr/pdf/2020-annual-report.pdf

[7] Hoyert, D. L. (2023). Maternal mortality rates in the United States, 2021. NCHS Health E-Stats. https://www.cdc.gov/nchs/data/hestat/maternal-mortality/2021/maternal-mortality-rates-2021.htm#ref1

[8] Kozhimannil, K. B., Hung, P., Henning-Smith, C., Casey, M. M., & Prasad, S. (2018). Association between loss of hospital-based obstetric services and birth outcomes in rural counties in the United States. *Journal of the American Medical Association, 319*(12), 1239. https://doi.org/10.1001/jama.2018.1830

[9] Roa, L., Uribe-Leitz, T., Fallah, P. N., Williams, W., Jarman, M. P., Bergmark, R. W., Boatin, A. A., & Molina, R. L. (2020). Travel time to access obstetric and neonatal care in the United States. *Obstetrics & Gynecology, 136*(3), 610–612. https://doi.org/10.1097/aog.0000000000004053

[10] ACOG. (n.d.). AIM Patient Safety Bundles. Alliance for Innovation on Maternal Health. Retrieved February 16, 2024, from https://saferbirth.org/patient-safety-bundles/

[11] Cole, M. F. (2014). A modified early obstetric warning system. *British Journal of Midwifery, 22*(12). https://www.britishjournalofmidwifery.com/content/professional/a-modified-early-obstetric-warning-system/

[12] ACOG. (2017). Committee Opinion No. 667: Hospital-based triage of obstetric patients. *Obstetrics & Gynecology, 128*(1), e16–e19. Retrieved March 7, 2024, from https://doi.org/10.1097/AOG.0000000000001524

[13] Indiana Department of Health. (2018). Maternal Fetal Transport Go-No Go Algorithm. https://www.in.gov/health/mch/files/ipqic/2021INH-Sample-Description.pdf

[14] Krywko, D. M., Sheraton, M., & Presley, B. (2017). "Perimortem cesarean" in Manual of Obstetrics and Gynecology for the Postgraduates. Jaypee Brothers Medical Publishers. https://doi.org/10.5005/jp/books/12992_15

[15] ACOG. (2019). ACOG Practice Bulletin No. 211: Critical care in pregnancy. *Obstetrics & Gynecology, 133*(5), e303-e319. https://doi.org/10.1097/aog.0000000000003241

[16] Greenwald, A., Kelly, A., Mathew, T., & Thomas, L. (2023). Trauma-informed care in the emergency department: Concepts and recommendations for integrating practices into emergency medicine. *Medical Education Online, 28*(1). https://doi.org/10.1080/10872981.2023.2178366


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