Optimizing Nurse Driven Protocols for OBGYN Care

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Advancing ob-gyn care for all.

Before We Get Started

This webinar will be recorded

If you need help during the call, please chat an ACOG staff member

Submit your questions throughout this session using the Q&A box

Any questions following this webinar can be sent to obgynsafety@acog.org

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Introducing…

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A New Partner in Quality and Patient Safety

Combining ACOG's trusted expertise with real-world support to help hospitals and health systems deliver safer, more equitable care.

- Evidence-based quality improvement strategies
- Plan to support review of patient safety work
- Tailored support for frontline teams
- Designed for measurable impact

Let's improve ob-gyn care–together.

Quality in Action | AN ACOG FOUNDATION PATIENT SAFETY ORGANIZATION

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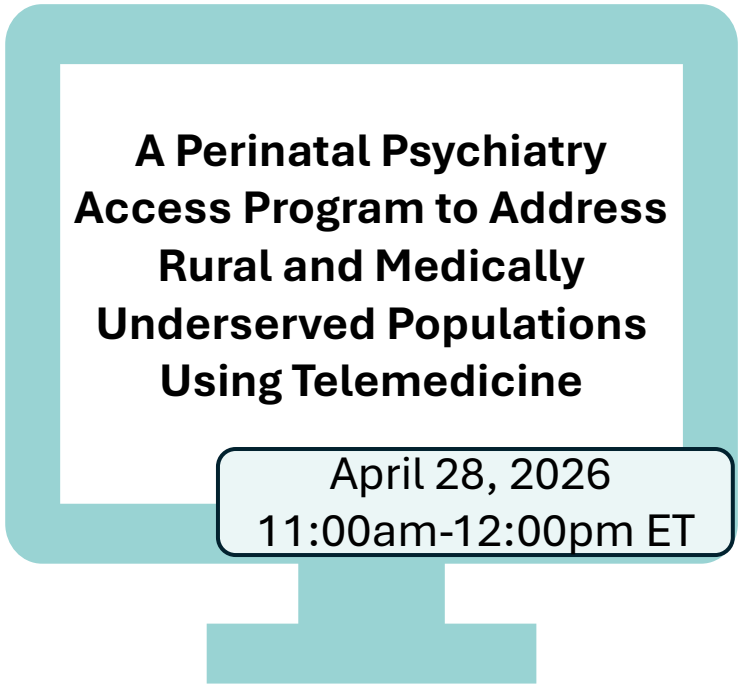
Upcoming April Sessions

Page to Practice Conversation

Page to Practice Lecture



Journal Club

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Today's Speakers

Courtney Martin, DO, MHA, FACOG

Daisy Ramos, MSN, C-EFM, RNC-OB, PHN

Caitlin Soyring, MSN, RNC-OB, C-EFM

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Optimizing Nurse Driven Protocols for OBGYN Care

Dr. Courtney Martin DO, MHA, FACOG

Daisy Ramos MSN, RN, PHN, RNC-OB, C-EFM

Caitlyn Soyring RN

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Disclosures

- No financial disclosures

35-year-old. Pregnant. Chest pain. Tachycardia.

RN calls Dr. concerned. Told its likely

“normal for pregnancy.”

RN unable to call rapid response without approval despite criteria being met.

No standing orders to start care.

Hours later...

Cardiac arrest.

This was not a rare event.

This was a predictable miss.

This was system design failure.

Case Vignette: CVD in Pregnancy

35-year-old G2P1 with obesity and chronic hypertension, presents with chest pain and dyspnea. Her Respiratory rate and heart rate are elevated (26 and 120) and is attributed to pregnancy. Symptoms attributed to reflux and anxiety; ECG interpreted as 'nonspecific.'

Hours later: cardiac arrest from undiagnosed SCAD.

Lesson: CVD is the leading cause of maternal death. Bias and lack of pregnancy-specific CVD awareness drive missed opportunities. Lack of nurse driven protocols, rapid response and escalation resulted in delays.

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Why does this keep happening?

- We normalize abnormal physiology
- We miss early warning signs
- Lack of nurse driven care and empowerment
- We delay escalation
- We rely on individuals instead of systems

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This patient didn’t need a better doctor. She needed a better system.

And systems don’t change unless we build them.

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“The Greatest Crimes Against Pregnant Women are Wishful Thinking and Watchful Waiting” -Dr. Barry Block, Retired MFM

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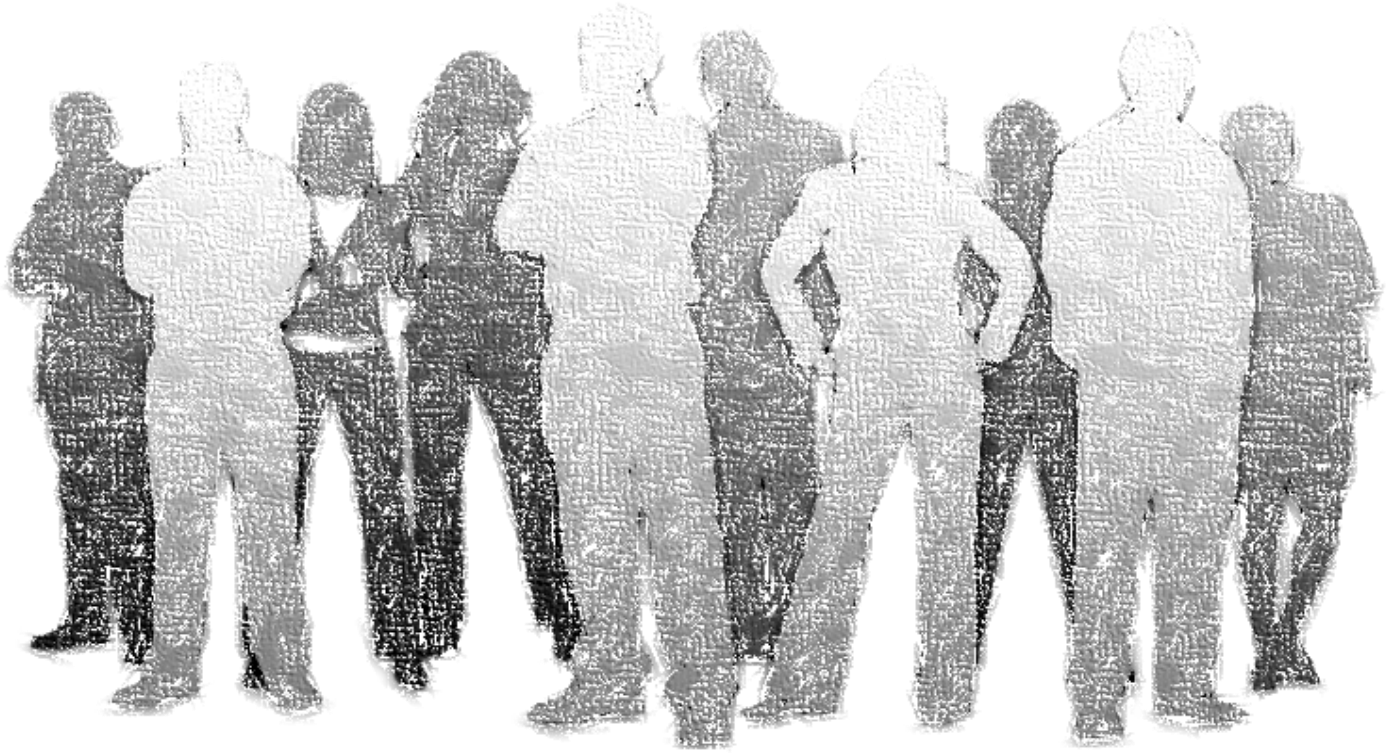
TEAM: Remember



None of us is as smart as all of us.

Ken Blanchard

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Severe Maternal Morbidity and Maternal Physiology

- Severe maternal morbidity (SMM) was developed by the CDC to measure potentially life-threatening complications of pregnancy and childbirth.
- SMM is nearly 100 times more common than maternal death and has also been on the rise nationally.
- Because it is so much more common than maternal death and can be measured in any administrative dataset, SMM is a promising measure for providing insights about obstetric outcomes and improvement opportunities.

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Severe Maternal Morbidity

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SMM and Mortality on the Rise

- Maternal mortality and severe maternal morbidity (SMM) are rising in the U.S.
    - Sepsis accounts for ~13% of maternal deaths—on par with hemorrhage and hypertensive disorders.
- State MMRCs repeatedly cite preventable themes: delayed recognition, delayed escalation, and late intervention.
- Two hidden drivers are wellness bias and pregnancy physiology that masks deterioration; both interact with inequity and social determinants.

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WHY is this so hard?

- Relatively rare (but deadly when it happens)
- Definitions of some conditions are not standardized
- Diagnostic approaches are not uniform
- Wellness Bias
- Fetocentric counseling and approach
- Treatment often delayed and piecemeal
- Variation in clinical practice despite guideline availability

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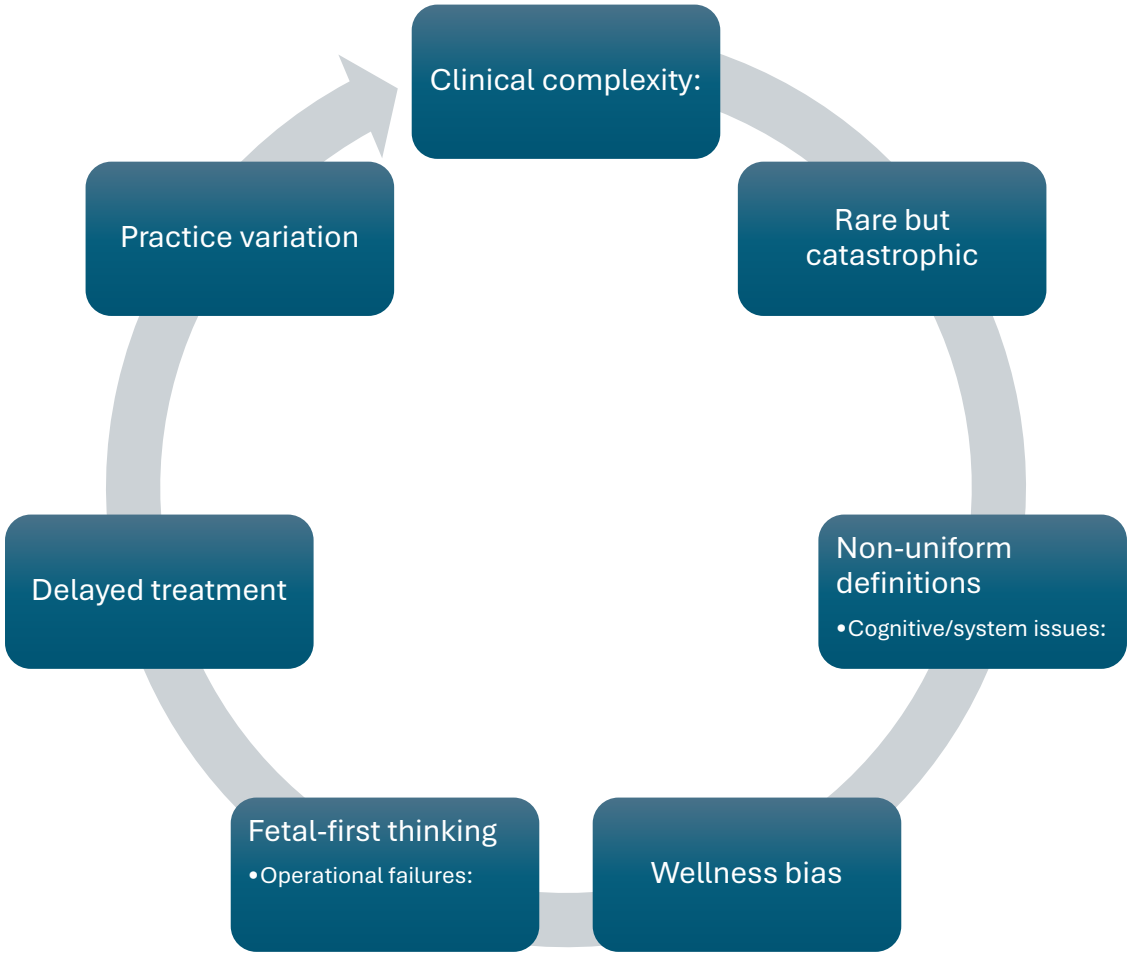
Why is this so hard?



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Early Warning Signal Limits

- SMM is rare—and mortality rarer—making early identification challenging.
- MEWT/early warning tools flag obvious danger, but by the time thresholds are crossed, patients may already be far into disease.
  - This contributes to delays: deterioration becomes undeniable only after physiologic reserve is exhausted.
  - Lack of Nurse driven care delays not only recognition but action and treatment
- Expand surveillance beyond obvious triggers to subtle signals—rising RR, persistent tachycardia, small shifts in creatinine, lactate, or $PaCO_2$—to act before MEWT fires.

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Respiratory

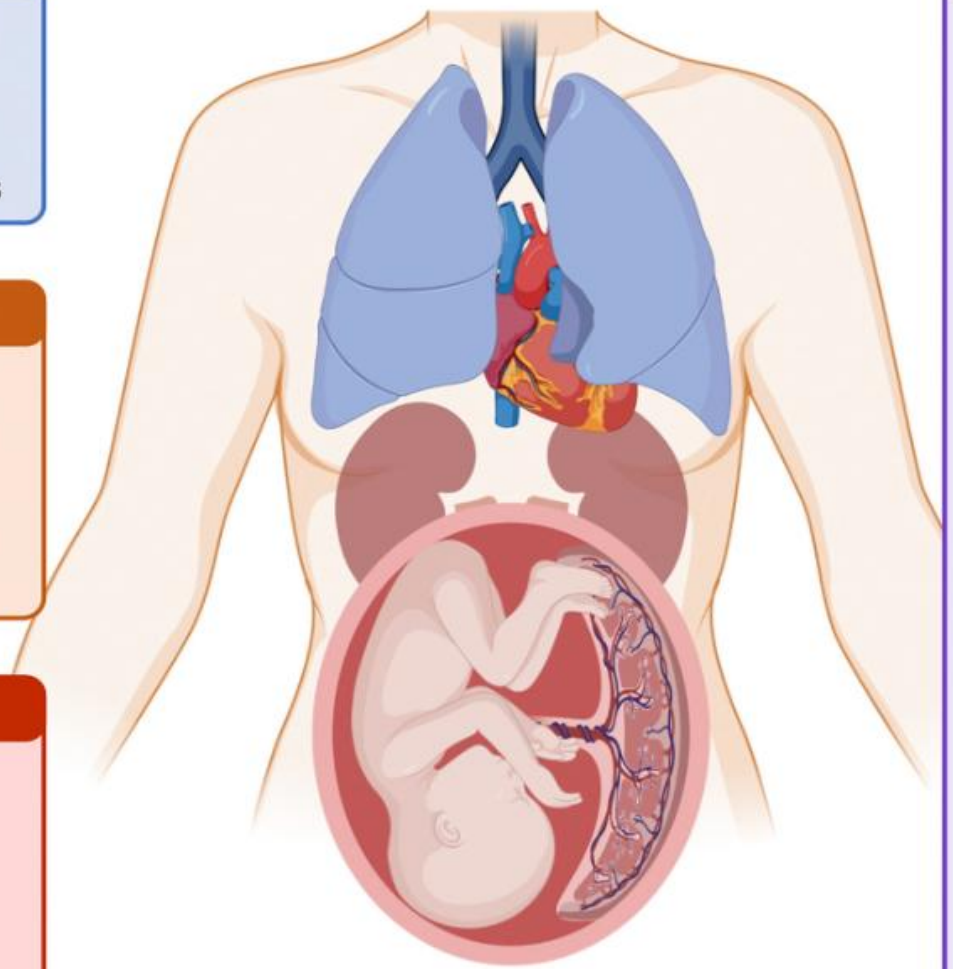
↑ Tidal volume
↓ FRC and ERV
↑ Minute respiration
Compensated respiratory alkalosis

Cardiovascular

↑ Blood volume
↓ Systemic vascular resistance
↑ Heart rate
↑ Cardiac output
Aortocaval compression

Renal

↑ Renal plasma flow
↓ GFR
↑ Heart rate
↑ Cardiac output
↑ Renal collecting duct dilatation



Immunomodulation

Systemic

- Expansion of fetal-specific Tregs
- Shift in memory T cells, and T-helper and Treg subsets
- Tolerogenic feto-placental antigens (exosomes, microvesicles, debris)
- Progesterone Immunomodulation (suppress inflammatory and cytotoxic responses)

Local (maternal-fetal interface)

- Expansion of tolerogenic immune cell types:
  i. Cytokine producing uNK
  ii. ILC subsets (ILC2)
  iii. Fetal-specific CD8/CD4 T cells
- Progesterone Immunomodulation

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RED FLAGS in PREGNANCY

NORMAL PREGNANCY ADJUSTMENTS	RED FLAGS THAT MAY BE MISSED
HR up to 100–105 bpm	HR > 110 bpm = possible early shock
BP may trend slightly lower	SBP < 105 mmHg = not benign
$PaCO_2$ 28–32 mmHg	$PaCO_2$ ≥40 mmHg = hypoventilation, CO_2 retention
Creatinine 0.4–0.6 mg/dL	Creatinine ≥ 1.0 mg/dL = abnormal
RR elevated slightly, but not above 24	**Low-grade fever (≥100.4°F) = possible sepsis**
	New O2 requirement or unexplained dyspnea = possible PE, pneumonia, or sepsis

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Maternal Physiology Can Mask Deterioration

- Cardiovascular: SVR↓, volume↑ → SBP <105 or HR >110 can signal early shock.
- Respiratory: Baseline $PaCO_2$ 28–32 mmHg; $PaCO_2$ 40 implies hypoventilation.
- Renal: Baseline creatinine 0.4–0.6 mg/dL; 1.0 mg/dL = AKI in pregnancy.
- Hematologic: Dilutional anemia and hypercoagulability obscure bleeding and DIC.
- Immune: Blunted febrile response—serious infection may lack high fever.

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Treat the Mom, Treat the Baby

- The failure to treat maternal disease aggressively is arguably itself a form of bias.
- In every major mortality review, maternal stabilization is cited as the most important determinant of fetal survival and barring a few exceptions to known fetal risk
- Delay, Denial, Dismissal in nearly every case reviewed

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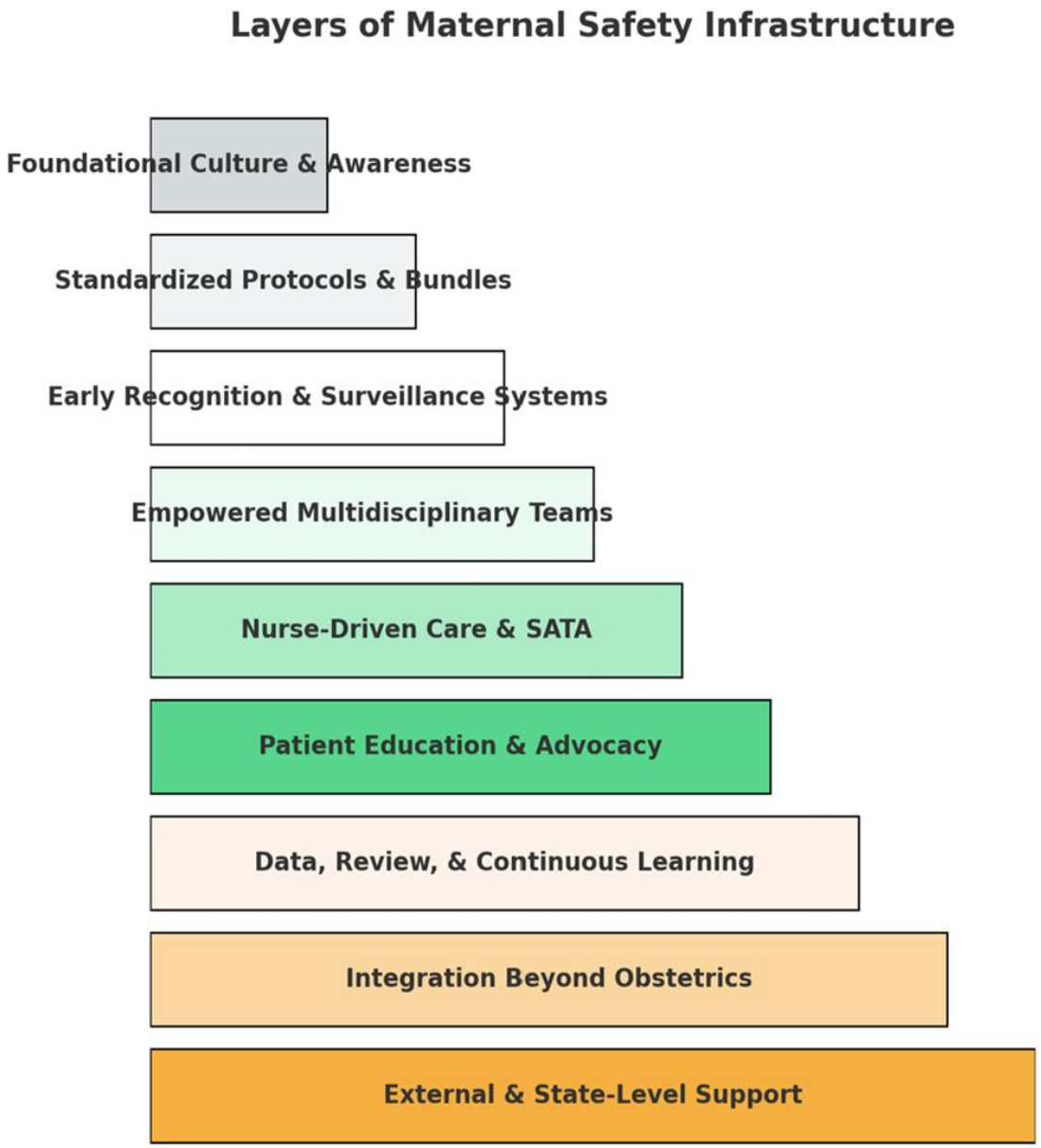

The Path to Safety

Maternal Safety Infrastructure: A Path to Whole Person Care

1. Foundational Culture & Awareness
2. Standardized Protocols & Bundles
3. Early Recognition & Surveillance Systems
4. Empowered Multidisciplinary Teams
5. Nurse-Driven Care & Semi-Autonomous Treatment Algorithms (SATA)
6. Data, Review, & Continuous Learning

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7. Patient Education & Advocacy

8. Data, Review, & Continuous Learning.

9. Integration Beyond Obstetrics

10. External & State-Level Support

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Hoag Safety Infrastructure

It takes a team of engaged individuals to keep our patients safe!

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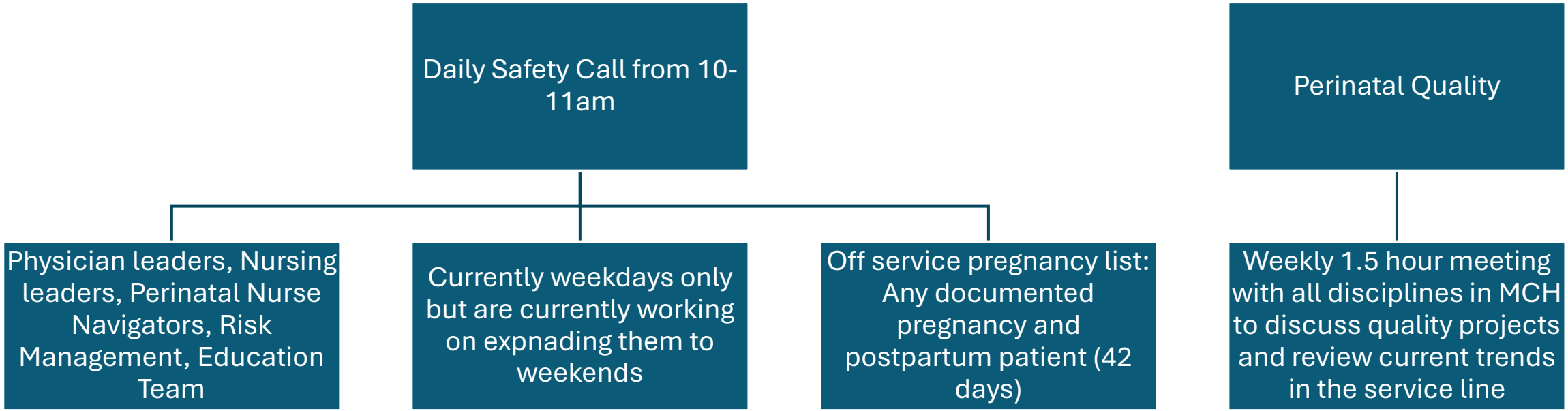
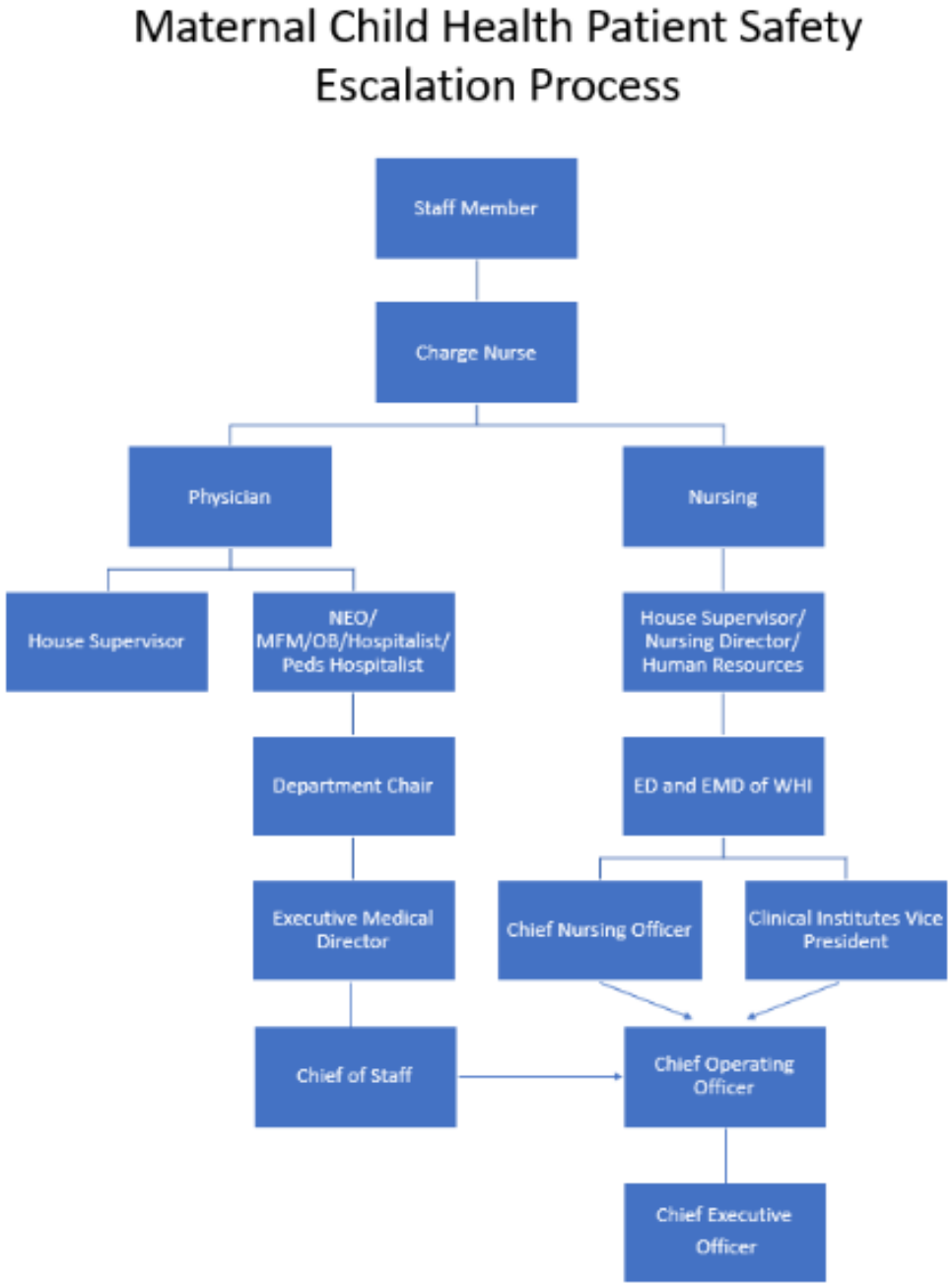
Safety Practices



Life Wings

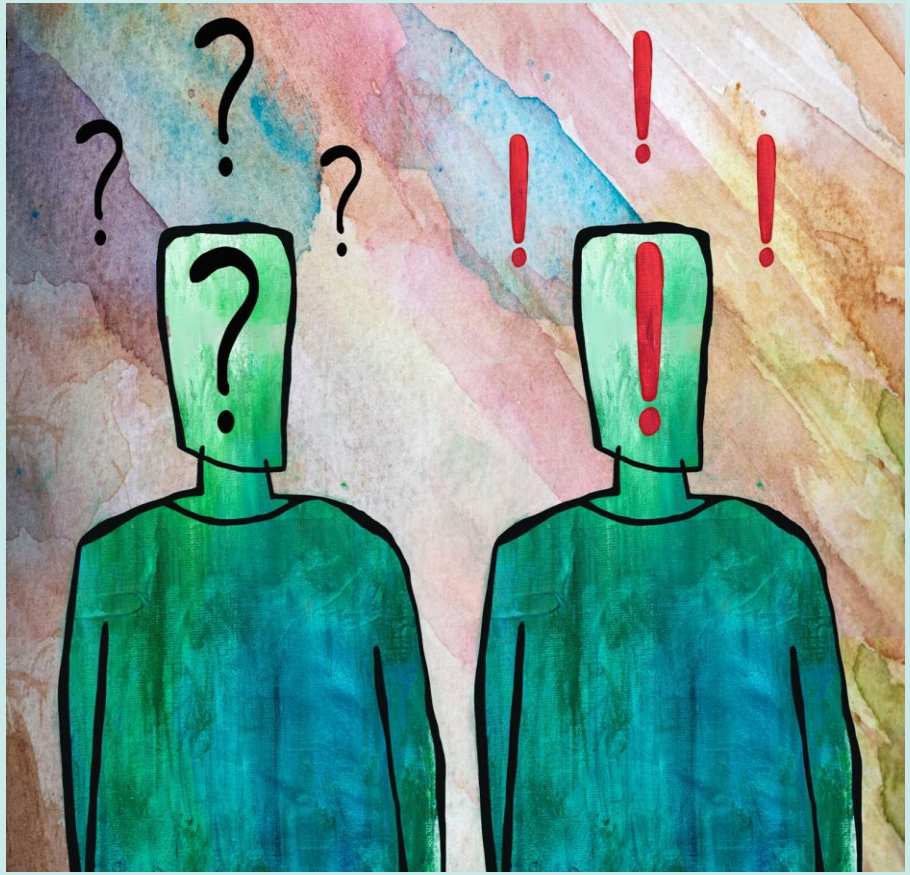
- Safety language implemented in the service line to "speak up for safety"
- Use our "CUS" words:
  - "Concerned"
  - "Uncomfortable"
  - "Safety"
- These are used in real time conversations with the team and can be used in our Team Care Huddles or utilize our Escalation Protocol as needed.

MCH Escalation Tool



Implicit and Explicit Bias in Pregnancy

Biases- both implicit and explicit- can delay recognition, escalate inequities, and worsen outcomes



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Types of Bias in Maternity Care

Racial & Ethnic Bias	• Black and AI/AN women face 2–4× higher mortality • Symptoms minimized, concerns dismissed
Pregnancy Bias ("Wellness Bias")	• Assumption that young, healthy-appearing patients cannot be critically ill • Mislabeling abnormal vitals as "normal for pregnancy"
Substance Use Disorder Bias	• Stigma leads to delayed pain management, reduced trust • Hesitation to offer full diagnostic/treatment options

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Types of Bias in Maternity Care

Socioeconomic / Housing Instability Bias

- Patients experiencing homelessness or underinsurance face access barriers
- Symptoms overlooked as “noncompliance” rather than lack of resources

Other Overlaps

- Weight bias (BMI-related dismissal or delayed escalation)
- Mental health bias (symptoms attributed to anxiety/depression instead of pathology)

“Bias at the bedside leads to missed warning signs and preventable harm—awareness is the first step toward equity.”

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Wellness Bias and Normalization of Deviance

Wellness bias assumes healthy-appearing pregnant patients cannot be critically ill—leading to dismissal of abnormal vitals and patient concerns.

Normalization of deviance erodes vigilance: alarms bypassed, protocols skipped, abnormal labs rationalized.

These effects are amplified in marginalized populations, widening disparities in morbidity and mortality.

Bias in Treating Pregnant Patients-How Can Nurse Driven Care Help?

•Advocacy within hospital systems, care teams, and patients to reduce Feto-centric hesitation delays maternal stabilization—the best fetal protection.

Examples:

- Imaging: Deferring CXR or CTPA in suspected PE.
- Medications: Hesitancy with broad-spectrum antibiotics, vasoactives, antivirals.
- Procedures: Delayed cardioversion, surgery, or ECMO cannulation.

Clinical pearl: Treat maternal disease aggressively; delay endangers mother and fetus.

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MAKING IT WORK IN REAL LIFE

Pearls for Change

As healthcare continues to evolve, it has become increasingly evident that collaborative efforts between two critical disciplines are crucial for achieving optimal patient outcomes and healthcare equity. The physician and nurse dyad is the fulcrum in which the quality improvement world balances on in Obstetric Safety.

Partnering with Physicians AND Nursing is KEY to building safety infrastructure.

SHRINK THE CHANGE start small, with one project, harness data, and work with short term and long-term plans to achieve the safety infrastructure overtime. Chip away.

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Nurse Driven Care

- Nurse-driven protocols initiate therapy without waiting for order entry when criteria are met.
- Nurse driven rapid response activations, escalations
- SATA triggers time-sensitive treatments when no discretionary decision is required.
- Examples: severe BP → IV antihypertensives; sepsis criteria → antibiotics; QBL + instability → MTP activation.
- These close workflow gaps, counter wellness bias, and start therapy while teams mobilize.

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Standardized Order Sets and Related EHR Tools

✅ **Right Care, Right Time**	Supports timely, consistent management of complex maternal conditions.
🩸 **Proven in Other Bundles**	Hemorrhage Hypertensive disorders
💻 **EHR Tools (ie Sepsis)**	Sepsis order sets Antibiotics (sepsis + chorio) Nursing protocols Care escalation tools (Sepsis in Obstetrics Score) Sepsis pathway
➡️ **Next Phase: Decision Support**	Integration of advanced alerts, predictive models, and real-time guidance

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Nurse Driven Care:
Clinical Practice Variation Reduction

What It Is:

- Wide differences in how clinicians manage the same maternal condition (e.g., sepsis, hemorrhage, hypertension).
- Occurs across hospitals, units, or even within the same team.

Why It Matters, what does care variation lead to?

- **Delays care:** Inconsistent pathways slow recognition and treatment.
- **Increases preventable harm:** Missed steps in high-risk conditions (SMM, mortality).
- **Confuses teams:** Nurses, anesthesia, and physicians receive mixed signals.
- **Equity gap:** Marginalized patients more likely to receive non-standard or suboptimal care.
- **Evidence-based care lost:** Best practices are diluted when every provider “does it differently.

How to Fix It:

- Standardized **order sets, bundles, and protocols**.
- **Simulation and drills** to build team consistency.
- **Nurse-driven care and SATA** to remove order-entry bottlenecks.
- **Feedback loops** from MMRCs and SMM reviews to close gaps.

Beyond OB Settings

- Many pregnant/postpartum patients present first to urgent care, ED, family medicine, ICU, or surgery.
- These teams may not be familiar with pregnancy physiology or maternal-first counseling.
- Risks: adult cutoffs misclassify abnormality (e.g., Cr 1.0, $PaCO_2$ 40, SBP 100) and overly fetocentric counseling defers needed care

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System Solutions Must Extend Beyond L+D

- Pregnancy-specific thresholds should be embedded in EHRs across all hospital units.

- Multispecialty education led by obstetricians and maternal–fetal medicine specialists should be offered to emergency medicine, internal medicine, ICU, and surgical teams.

    a. Education should focus on pregnancy physiology, maternal-first counseling, and the principles of maternal safety bundles.

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System Solutions Must Extend Beyond L+D

- Culture of early consultation: Clinicians outside of obstetrics should be encouraged — and supported — to call or consult early. Maternal safety improves when OB, MFM, and anesthesia are engaged upstream, before critical illness evolves.
- Nurse-driven protocols and Semi-Autonomous Treatment Algorithms (SATA) can serve as safeguards, ensuring time-sensitive interventions such as antibiotics, antihypertensives, or transfusion activation occur reliably even in non-OB environments.
- Ultimately, every specialty must be equipped to recognize and respond to maternal risk. A healthy fetus depends on a stable mother — and that requires a system where timely maternal care is prioritized by all providers, not just obstetric teams.

CULTIVATING CHANGE: EMPOWER NURSES TO DRIVE CARE

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CULTIVATING CHANGE AND BUY-IN

Align	Remove	Appeal
Align Incentives	Remove barriers to doing the right thing	Appeal to the following values most of us hold • Compassion and Empathy • Professional Integrity and Accountability • Commitment to Evidence Based Practice • Equity and Justice

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COMPASSION AND EMPATHY

Healthcare providers are driven by their compassion and empathy towards patients.

Emphasize the devastating impact of maternal mortality on families, communities, and society as a whole.

Share real-life stories of maternal deaths and the emotional toll it takes on families.

Appeal to their sense of compassion and empathy by highlighting that every maternal death is preventable and that their care and expertise can make a difference in saving lives.

PROFESSIONAL INTEGRITY AND ACCOUNTABILITY

Healthcare providers take pride in their professional integrity and sense of responsibility towards their patients.

Frame reducing maternal mortality as part of their ethical duty and professional responsibility.

Emphasize that maternal mortality is a significant indicator of healthcare quality and that every maternal death represents a missed opportunity to provide safe and effective care.

Appeal to their sense of professional pride and responsibility in preventing maternal deaths and improving the quality of care for pregnant individuals

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COMMITMENT TO EVIDENCE BASED PRACTICE

Healthcare providers are trained to follow evidence-based practice guidelines and strive for the best possible outcomes for their patients.

Present them with the latest evidence and research on maternal mortality, including risk factors, preventive strategies, and best practices for managing complications during pregnancy, childbirth, and postpartum periods.

Emphasize that evidence-based interventions can significantly reduce maternal mortality and that their adherence to best practices can make a tangible impact on improving maternal health outcomes.

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EQUITY AND JUSTICE

Highlight	Emphasize	Appeal
Highlight the disparities in maternal mortality rates, particularly among marginalized and underserved populations, such as women of color, low-income women, and women in rural areas.	Emphasize that reducing maternal mortality is not only a healthcare issue but also a social justice issue.	Appeal to their sense of fairness and urge them to take action to address these disparities and ensure that all pregnant individuals receive equitable and high-quality care, regardless of their social or economic status.

PARTNERING WITH NURSING

Most important part of building safety infrastructure	Like physicians, they must have seat at the table
Teamwork, education, and evidence	Nursing needs to partner with us to educate and teach the evidence behind the change and work
Empower nursing to work up to scope of license	Nurse driven and Semi-Autonomous care pathways allow nursing to stay in scope, but expedite care •Examples in Pre-eclampsia, Chorioamnionitis

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THE QUALITY JOURNEY PARTNERSHIP

- The educational process for nursing is different than physicians
- Must avoid pitfalls in training and quality improvement
- It is critical to actively and consistently work on building trust in the computer, EMR and AI
- Utilization of decision support to stay in scope of nursing practice

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PRIORITIZATION WITH C-SUITE

- Investing in quality improves administrative benchmarks
- Strike while the Iron is HOT-----SMM and Mortality are getting traction, start now
- Safety infrastructure building provides “floor” for patients and covers the holes in the “swiss cheese” effect
- Joint Commission Survey now includes HTN and Hemorrhage Elements of Performance
- Pay for Performance among payors with maternal safety bundles

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Building Safety for Nursing in the EMR

Bedside RNs need the autonomy to act quickly based on evidence-based criteria and established protocols with standardized procedures.

Empowers nurses to practice at the top of their license and reduces the “time to treatment” in OB emergencies

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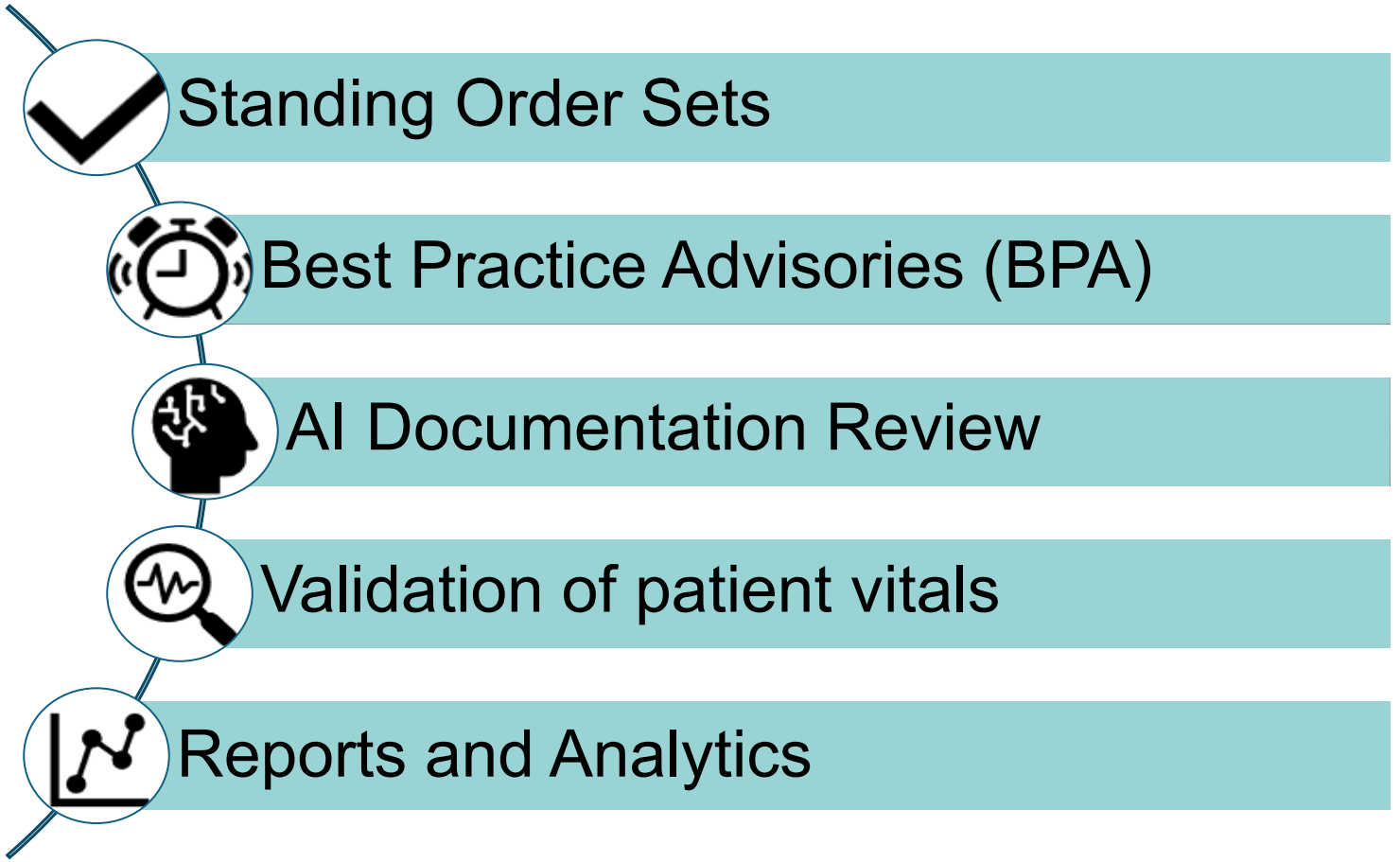
EMR and MATERNAL SAFETY

1. Comprehensive Patient Information: EMRs allow healthcare providers to access a mother's complete medical history, including previous pregnancies, medical conditions, and allergies.
2. Real-time Monitoring: EMRs can integrate with medical devices such as fetal monitors and alert healthcare providers in real-time if there are any abnormalities in the mother's vital signs or fetal heart rate, allowing for timely interventions.
3. Decision Support Tools: EMRs can incorporate clinical decision support tools that provide evidence-based recommendations for managing complications during pregnancy and childbirth, such as sepsis, preeclampsia, and hemorrhage. This can aid healthcare providers in making informed decisions and following best practices.

EMR Tools We Use



Translating Evidence into Action with Clinical Decision Support

AUTOMATED TRIGGERS AND REAL-TIME DATA

REDUCING COGNITIVE LOAD

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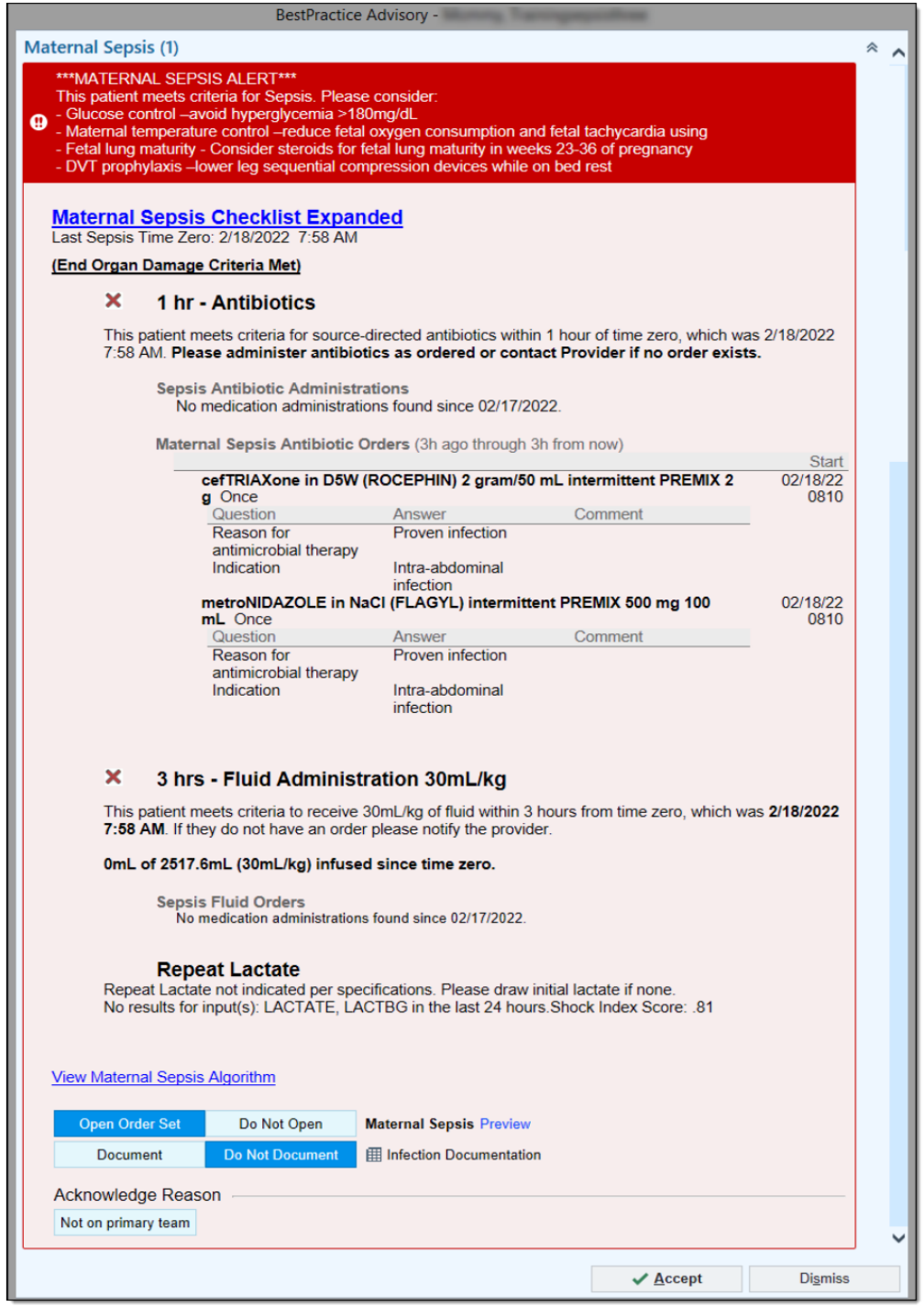
Sepsis BPA with relevant data and Algorithm/ Orderset access



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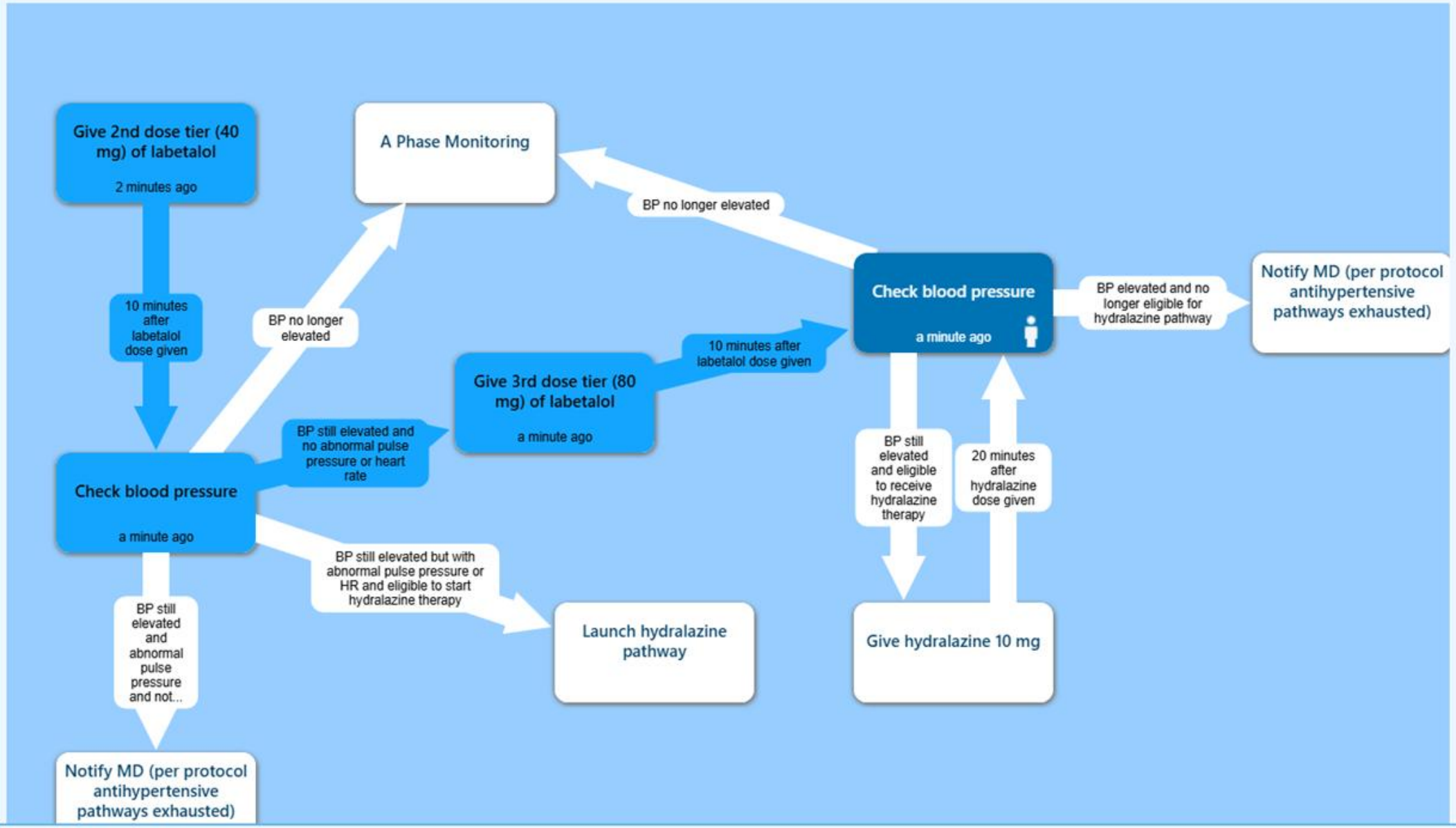
Care Path Details - Preeclampsia Cp - Labetalol Pathway

100% | Move to Step | Change Dates | Resolve | Delete | Refresh 10:24 AM | Show Advisories (0)



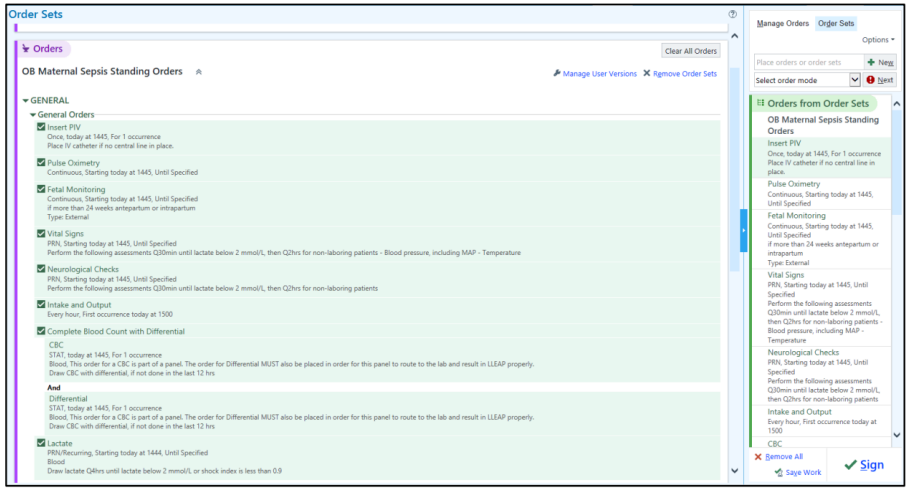
More Activities

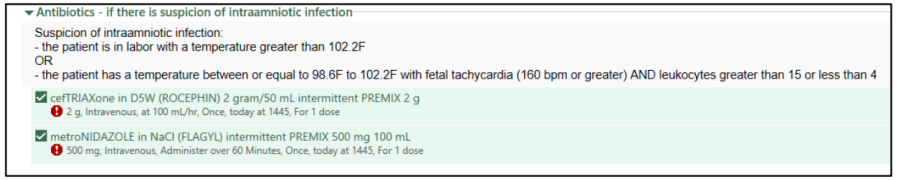
- Cancer Staging
- Unit Charge Entry
- Care Paths
- Care Teams
- Communications
- Downtime Clinical R
- Patient List Member
- Annotated Images
- Chart Central
- Document List
- Episodes of Care
- Graphs
- Growth Chart
- Health Maintenance
- Infections
- OurPractice Advisor
- Review Flowsheets
- Review Pathways
- Deliver AVS
- More
- Print Forms
- Print MAR
- Quick Disclosure
- Quick Release
- Request Outside Re
- Scans
- More
- Release Orders
- Allergies/Contraindic
- Device Data
- More

STANDING ORDERS FOR NURSING

Maternal Sepsis Standing Order Set

Once the patient meets criteria for maternal sepsis, place the Maternal Sepsis Order set with an order mode of **Per Protocol**. In the event an intraamniotic infection is suspected, the order set contains hard stops to further address orders for antibiotics.





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Strategies for interdisciplinary collaboration

Bridging the IT & Clinical Practice

User Acceptance testing

Data transparency and systems thinking changes

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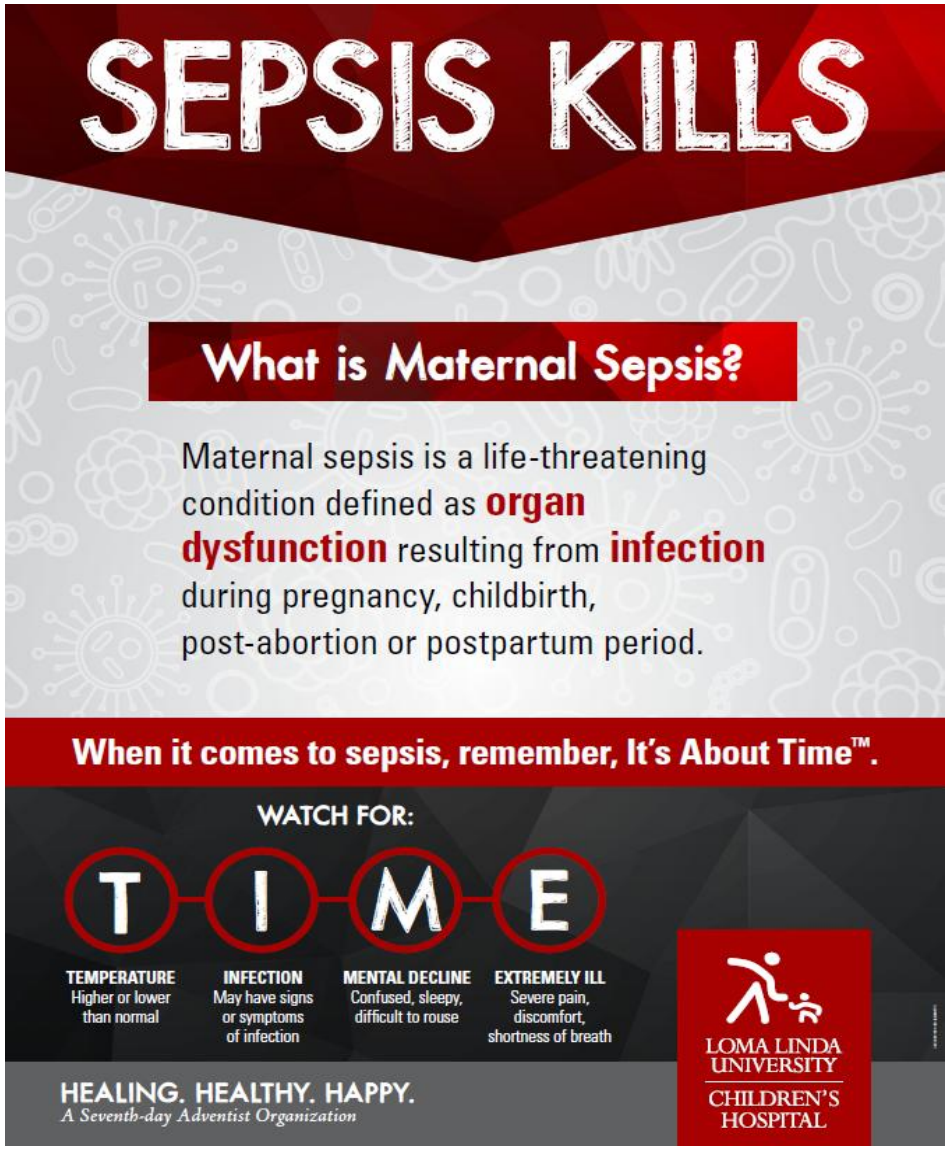
Building for Long-Term Sustainability: Implementation and Maintenance

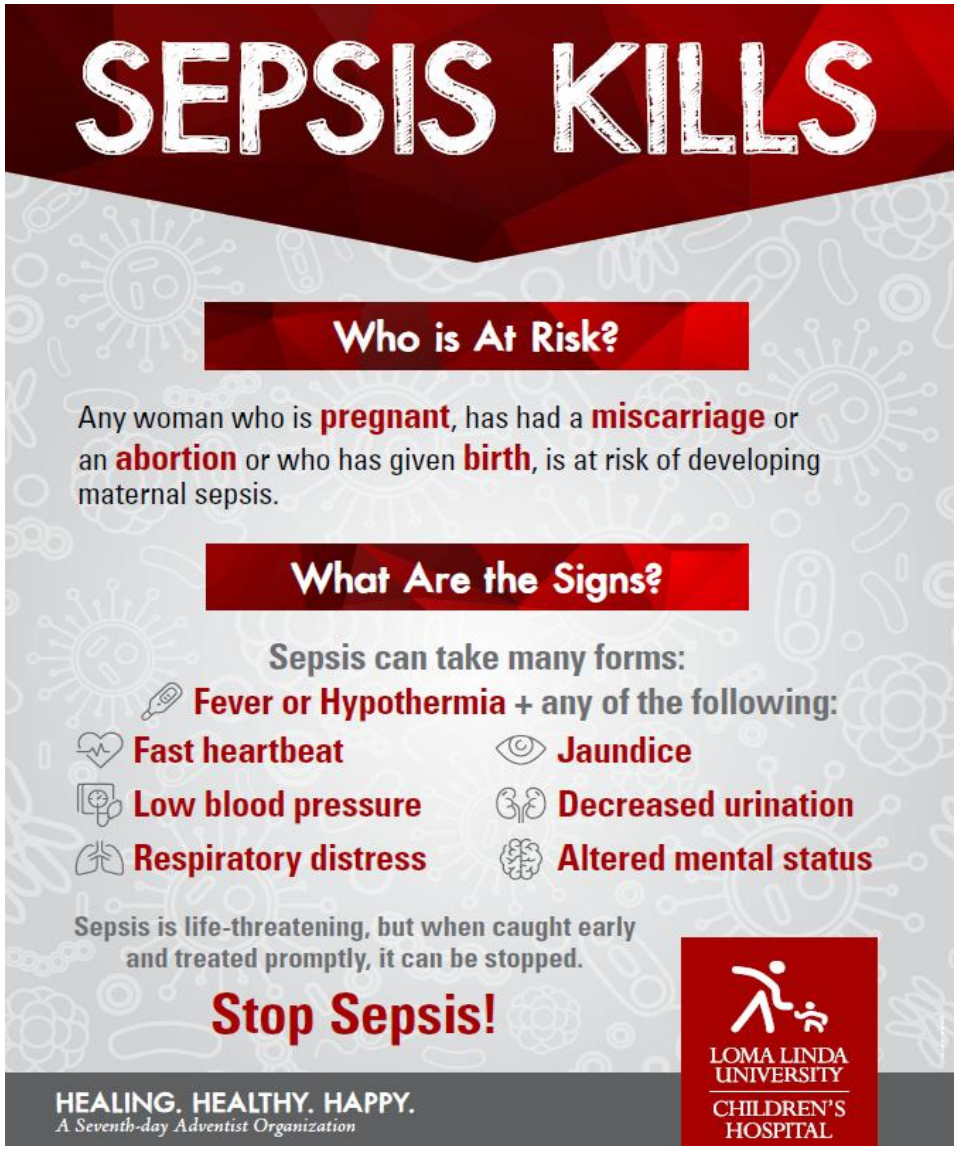
Initial education

- ✓ Institution wide campaign
- ✓ Staff meeting introduction and Q&A
- ✓ LMS module with quiz
- ✓ Simulation and champion training
- ✓ On the floor support and help line phone access 24/7
- ✓ Don't be afraid to *GO LIVE- Paint the plane as you fly!*

Maintenance

- ✓ Taskforce committee and dashboard creations
- ✓ Ensure every new hire receives education (LMS, class time discussion, simulation)
- ✓ Educational refresh schedule
  - ✓ Simulations, modules, etc.
- ✓ Partnering with other hospital teams





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CONCLUSION

Focus on the why: Reducing SMM and Maternal Mortality
Focus on our values as OBGYNs and Nurses: Appeal to these to inspire change
Garner support with administration, quality improvement, “Strike while the iron is hot”
The EMR is our best and smartest tool- but you get out what you put in
Nurse driven and EMR decision support is likely key driver for improving care delivery and possibly outcomes
Harnessing the EMR and implementing safety infrastructure is a key step towards healthcare equity

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Every delay has a cost.

Every missed signal is a moment.

Maternal safety is not about reacting faster.

It’s about designing systems that act sooner.

It starts with us.

It starts with nurse-driven care.

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Questions?

Please enter your questions in the Q&A box at the bottom of your screen.

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Thank You!

Please send any questions to obgynsafety@acog.org

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Appendices: Other Examples

STANDING ORDERS

DEPARTMENT: MATERNITY SERVICES
CATEGORY: CLINICAL MANAGEMENT
SUBJECT: PREECLAMPSIA

CODE: CH-MAT-7
EFFECTIVE: 05/2022
REPLACES: 10/2021

Standing orders will be initiated unless a similar order has already been entered by a provider.

1. For OB patients meeting the following criteria:

   1.1 Less than 60 years old AND

   1.2 Currently pregnant OR within 6 weeks postpartum AND

   With 1 value of SBP ≥160 mmHg OR DBP ≥110 mmHg

2. For patients without IV access:

   2.1 Administer nifedipine, 10 mg, PO, x1 now

   2.2 If patient does not meet any of the following criteria:
   - Past medical history or problem list diagnosis of Myasthenia Gravis
   - SpO_2 less than 92%
   - Respiratory rate greater than 24 breaths per minute
   - Received Magnesium within the past 24 hours

   a. Administer loading dose of Magnesium Sulfate, 10 g of 50% solution, IM, x1 now (2.5 g per injection, 5 g in each buttock)
   b. If patient does not meet any of the criteria in section 2.2, and creatinine level is 1 mg/dL or lower, draw serum Mg level 3 hours after loading dose
      1) If Mg level is less than 4 mMol/L and patient now has IV access:
         a) 4 hours after loading dose, begin Magnesium, 2 g/hr, IV, continuous infusion

3. If patient has IV access and meets any of the following criteria:
   - Pulse pressure (SBP minus DBP) 50 mmHg or less
   - Heart rate less than 60 bpm
   - One or more of the following diagnoses on their past medical history or problem list: CHF, cardiomyopathy, moderate persistent asthma, severe asthma
   - Oral labetalol on MAR, Med Rec or PTA meds

ACOG FOUNDATION

STANDING ORDERS

3.1 Administer hydralazine, 5 mg, IV, over 2 minutes, x1 now (do not administer if will exceed the maximum cumulative IV dose of 25 mg within 24 hours)

3.2 If patient does not meet any of the following criteria:

- Past medical history or problem list diagnosis of Myasthenia Gravis
- SpO_2 less than 92%
- Respiratory rate greater than 24/min
- Received Magnesium within the past 24 hours

a. Administer loading dose of Magnesium Sulfate, 4 g of 10 % in 100 mL solution, IV, over 20 minutes, x1 now

b. If patient does not meet any of the criteria in section 3.2, and creatinine level is 1 mg/dL or lower:

1) Begin Magnesium, 2 g/hr, IV, continuous infusion

4. If patient has IV access and does not meet any of the criteria listed in section 3:

4.1 Administer labetalol, 20 mg, IV, over 2 minutes, x1 now (do not administer if will exceed the maximum cumulative IV dose of 220 mg within 24 hours)

4.2 If patient does not meet any of the following criteria:

- Past medical history or problem list diagnosis of Myasthenia Gravis
- SpO_2 less than 92%
- Respiratory rate greater than 24/min
- Received Magnesium within the past 24 hours

a. Administer loading dose of Magnesium Sulfate, 4 g of 10 % in 100 mL solution, IV, over 20 minutes, x1 now

b. If patient does not meet any of the criteria in section 4.2 and creatinine level is 1 mg/dL or lower:

1) Begin Magnesium, 2 g/hr, IV, continuous infusion

5. Notify provider if patient met criteria for section 1. Notify Attending physician if SBP is 180 or higher. Inform provider what medications were administered, and/or what contraindications were met that patient was not able to receive medications per standing order. Ask if provider wants to initiate Preeclampsia Protocol (may take a verbal order to Initiate Preeclampsia Protocol).

PRE-ECLAMPSIA PROTOCOL

Approved by LLUCH MSEC 4/18/22

Preeclampsia Protocol

Identification and Treatment Algorithm

Inclusion Criteria (Must meet ALL of the following)

- Age ≤ 60 years
- Pregnant or within 6 weeks postpartum
- One severe range blood pressure reading
- Severe Range BP = Systolic BP ≥ 160 mmHg ***OR*** Diastolic BP ≥ 110 mmHg
- In Maternity Services units
- Has order to initiate Preeclampsia Protocol
- **Items in red have standing orders (CH-MAT-7 Preeclampsia) and do not require Initiate Preeclampsia Protocol order**

For all patients on this protocol:

- **Notify attending physician if SBP ≥ 180 mmHg at any time**
- Antihypertensive treatment and magnesium sulfate should be administered ***simultaneously***. If concurrent administration is not possible, antihypertensive treatment should be priority
- Start fetal monitoring (if applicable)
- If patient has unremitting headache or neurological symptoms notify provider to evaluate need for brain imaging
- If 24-34 weeks gestation (documented GA in LLEAP) administer antenatal corticosteroids (if not given within past 14 days) Betamethasone, 12 mg, IM, Q24 hrs x2. If patient received first dose of corticosteroid at OSH, give 2nd dose 24 hrs after prior administration.
- Apply SCDs for VTE prophylaxis
- Monitor strict I&O (Q2 hrs): *Does not require indwelling catheter*

Blood Pressure monitoring after any severe range BP and once threshold is achieved

(Threshold = Below SBP ≤160 mmHg *AND* DBP ≤110 mmHg)

- **Q10 min for 1 hour then**
- **Q15 min for 1 hour then**
- **Q30 min for 1 hour then**
- **Q1 hr for 4 hours**

Does patient meet any of the following criteria:

- Pulse pressure ≤ 50 mmHg
- Heart rate < 60 beats/min
- CHF, cardiomyopathy, moderate persistent asthma ***OR*** severe asthma on medical hx/problem list
- Oral labetalol on MAR, med rec or PTA meds

NO → **Labetalol**

IV push over 2 min
Do not exceed 220mg IV in 24 hours
If at any time pulse pressure (SBP-DBP) drops to 50 mmHg or below, or heart rate drops below 60 bpm, notify provider and switch to hydralazine pathway

Initial dose
20 mg IV push now
Notify Provider

Repeat BP in 10 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg
Give **40 mg** IV push
Notify provider

Repeat BP in 10 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg
Give **80 mg** IV push

Repeat BP in 10 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg
Move to Hydralazine pathway at 10 mg

YES → **Hydralazine**

IV push over 2 min
Do not exceed 25 mg IV in 24 hours

Initial dose
5 mg IV push now
Notify Provider

Repeat BP in 20 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg
Give **10 mg** IV push

Repeat BP in 20 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg

Obtain emergency consult from MFM, internal medicine, anesthesiology, or critical care

Move to labetalol pathway starting with *20 mg IV push* if not contraindicated

Nifedipine PO

If no IV access or exceeds max dose of IV hypertensives
Once IV access is established move to labetalol or hydralazine pathway as appropriate

Initial dose
10 mg PO now
Notify provider

Repeat BP in 20 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg
Give **20 mg** PO

Repeat BP in 20 min

SBP ≥ 160 mmHg ***OR*** DBP ≥ 110 mmHg
Give **20 mg** PO

Repeat BP in 20 min and notify provider if still unable to obtain IV access

Administer seizure prophylaxis: Magnesium Sulfate (use IV unless no IV access)

- IV: loading dose 4g 10% in 100 mL solution IV over 20 min
  *If creatinine is ≤1mg/dL, follow w/ maintenance: 2g/hr, IV continuous infusion
- IM: 10 g of 50% solution, (5g in each buttock; 2.5g/injections)
  *If Magnesium loading dose given IM, draw Mg level 3 hours later
  **If referred from Nifedipine algorithm and creatinine is ≤1: check Mg level 3 hrs after IM loading dose if <4mMol/L and has IV access start maintenance 4 hours after IM loading dose 2g/hr, IV, continuous infusion

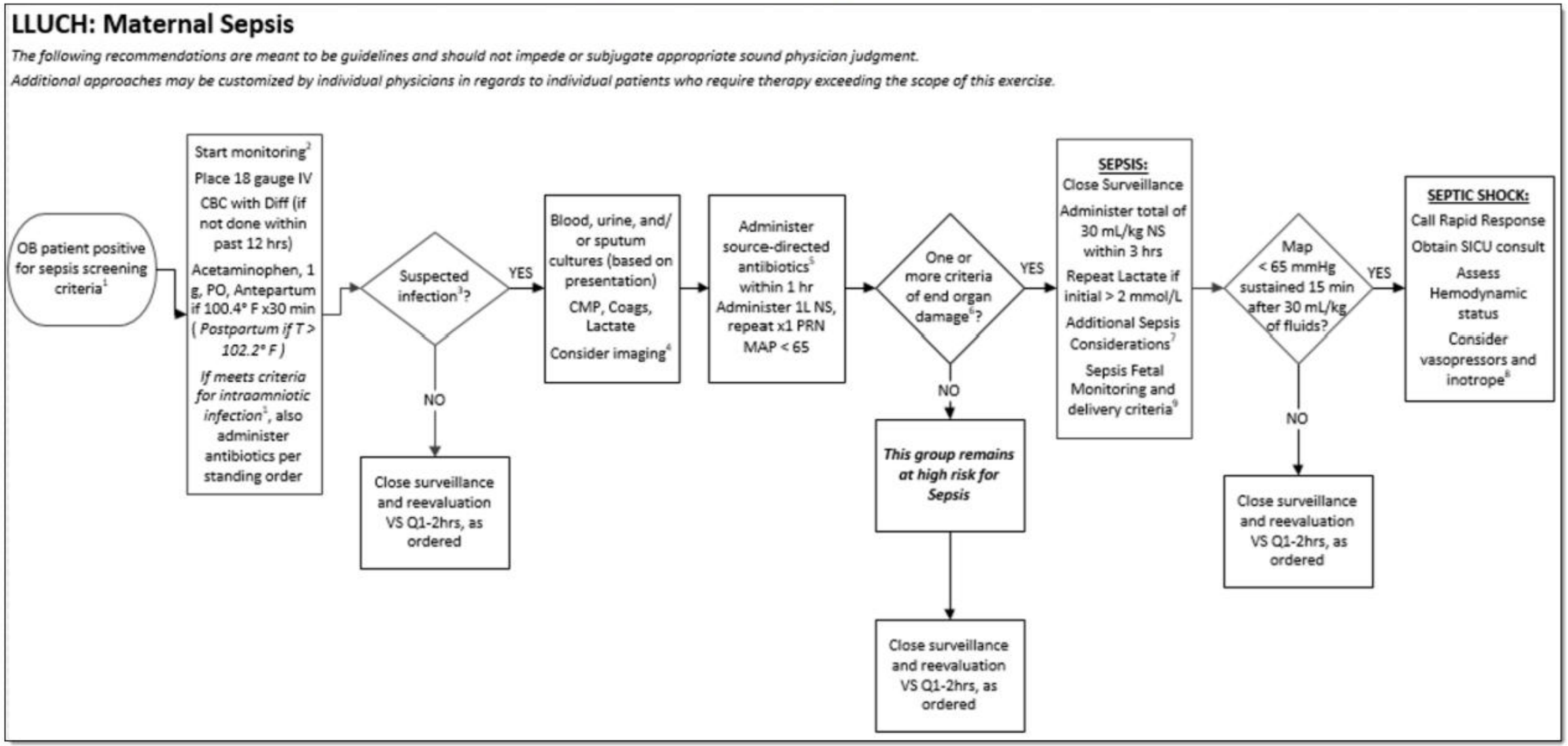
Do NOT administer Magnesium sulfate if ANY of the following apply:

- Myasthenia Gravis on PMH or problem list
- SpO2 <92%
- Respiratory rate > 24 breaths/minute
- Has received Magnesium within 24 hours

Draw Labs, if not resulted within 4 hours:

- CBC w/o diff
- PT/PTT
- Uric Acid
- Urine/Cr
- CMP
- Fibrinogen
- Type & Screen, if not resulted w/in 72 hrs

LLUCH Maternal Sepsis Diagram



Maternal Sepsis Criteria

1. Positive for at **least two** initial sepsis screening criteria within 6 hours of each other:
   - Oral Temp < 96.8° F OR ≥ 100.4° F
   - Heart Rate > 110 beats per min
   - Respiratory Rate > 24 breaths per min
   - WBC (White Blood Cells) > 15,000/mm3 OR < 4,000/mm3 OR > 10% bands
   - MAP < 65 mmHg sustained for 15 min

OR

2. Anytime a laboring patient has a temperature greater than 102.2° F (one time, without any other criteria)

OR

3. A pregnant patient has temperature is 98.6° F to 102.2° F with fetal tachycardia (160 bpm or greater) AND leukocytes greater than 15 or less than 4

Time Zero Triggers

The sepsis timer will display within in the patient's chart in storyboard.

- Time provider documented YES to '*Do you suspect infection*?' in BPA/Navigator

OR

- Time of RN Initial BPA/Abx ordered if provider has not answered '*Do you suspect infection?*'

OR

- Any time a laboring patient has a temp greater than 102.2° F (one time without any other criteria)

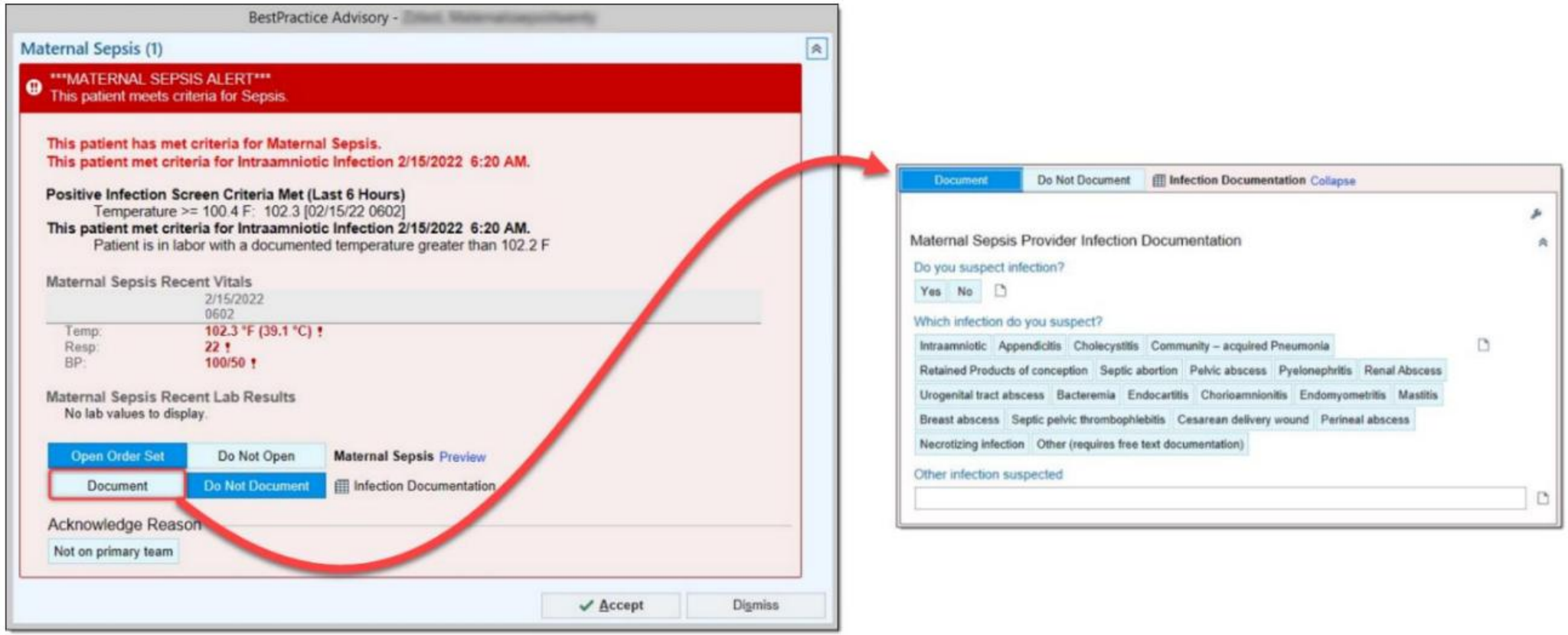
OR

- A pregnant patient has temperature is 98.6° F to 102.2° F with fetal tachycardia (160 bpm or greater) AND leukocytes greater than 15 or less than 4

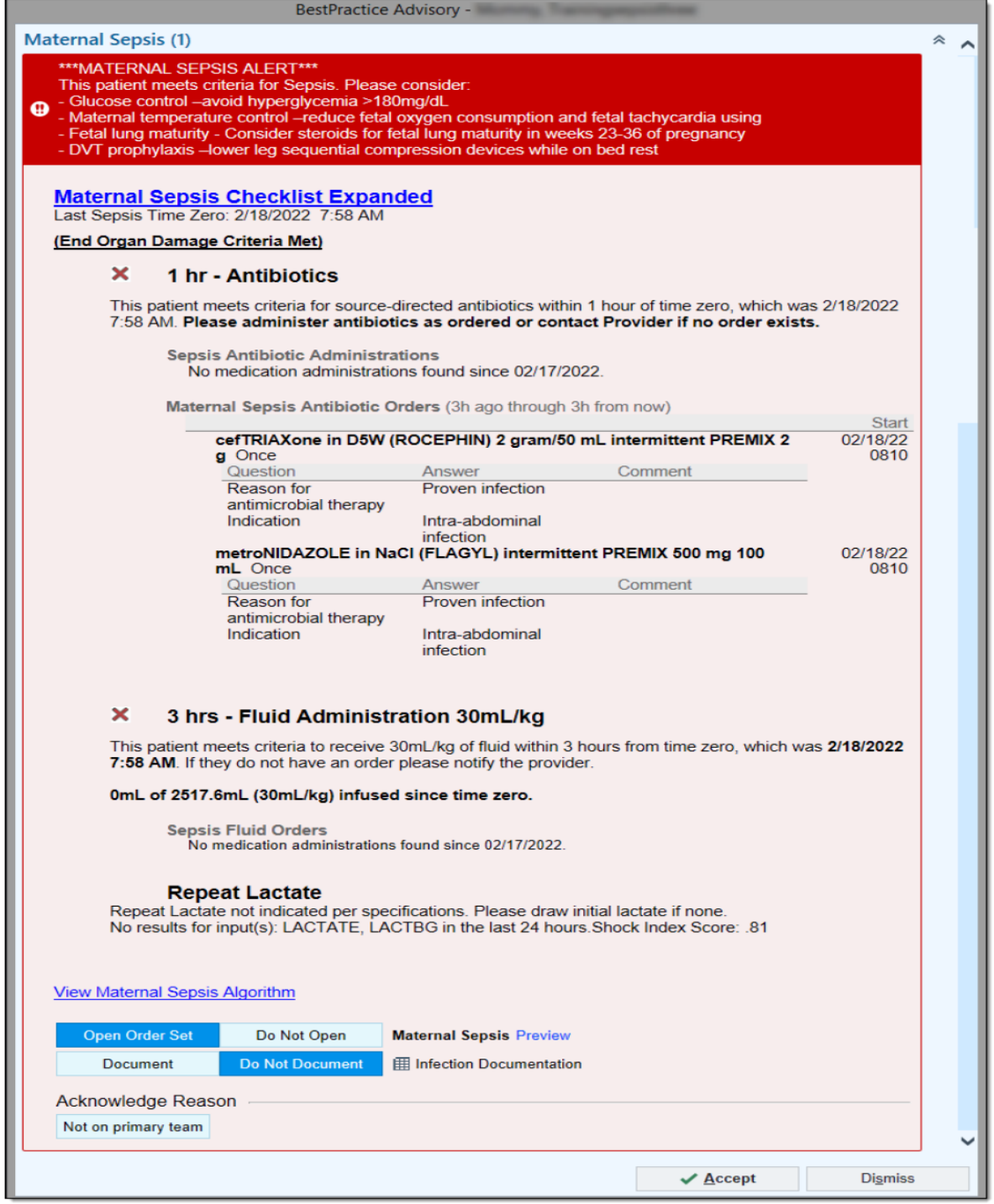
Obstetric Providers

Initial BPA for Maternal Sepsis

If the patient meets the maternal sepsis criteria as stated above, an initial Maternal Sepsis BPA will populate when opening a patient's chart or clicking on the IP Rounding BPA section. The BPA will display what criteria was met, recent vital signs and lab results if available.



SEPSIS BPA


BestPractice Advisory -
Maternal Sepsis (1)
MATERNAL SEPSIS ALERT
This patient meets criteria for Sepsis. Please consider:
- Glucose control –avoid hyperglycemia >180mg/dL
- Maternal temperature control –reduce fetal oxygen consumption and fetal tachycardia using
- Fetal lung maturity - Consider steroids for fetal lung maturity in weeks 23-36 of pregnancy
- DVT prophylaxis –lower leg sequential compression devices while on bed rest
Maternal Sepsis Checklist Expanded
Last Sepsis Time Zero: 2/18/2022 7:58 AM
(End Organ Damage Criteria Met)
1 hr - Antibiotics
This patient meets criteria for source-directed antibiotics within 1 hour of time zero, which was 2/18/2022 7:58 AM. Please administer antibiotics as ordered or contact Provider if no order exists.
Sepsis Antibiotic Administrations
No medication administrations found since 02/17/2022.
Maternal Sepsis Antibiotic Orders (3h ago through 3h from now)
Start
cefTRIAXone in D5W (ROCEPHIN) 2 gram/50 mL intermittent PREMIX 2 g Once 02/18/22 0810
Question Answer Comment
Reason for antimicrobial therapy Proven infection
Indication Intra-abdominal infection
metroNIDAZOLE in NaCl (FLAGYL) intermittent PREMIX 500 mg 100 mL Once 02/18/22 0810
Question Answer Comment
Reason for antimicrobial therapy Proven infection
Indication Intra-abdominal infection
3 hrs - Fluid Administration 30mL/kg
This patient meets criteria to receive 30mL/kg of fluid within 3 hours from time zero, which was 2/18/2022 7:58 AM. If they do not have an order please notify the provider.
0mL of 2517.6mL (30mL/kg) infused since time zero.
Sepsis Fluid Orders
No medication administrations found since 02/17/2022.
Repeat Lactate
Repeat Lactate not indicated per specifications. Please draw initial lactate if none.
No results for input(s): LACTATE, LACTBG in the last 24 hours.Shock Index Score: .81
View Maternal Sepsis Algorithm
Open Order Set
Do Not Open
Maternal Sepsis Preview
Document
Do Not Document
Infection Documentation
Acknowledge Reason
Not on primary team
Accept
Dismiss