2023 Obstetric Emergency Readiness COL Offering #2

Simulations for Obstetric Readiness in Non-obstetric Settings + Strategies for Remote Drills and Simulations

Thursday, April 13, 2023

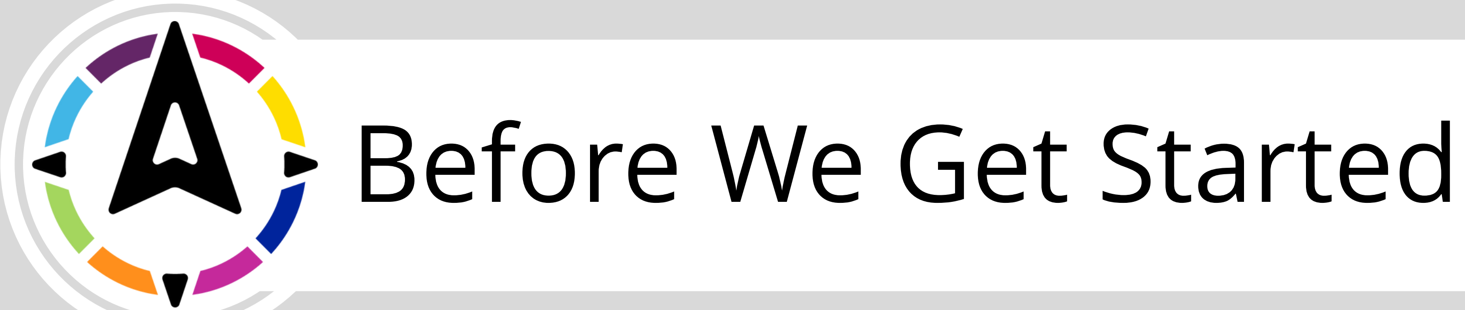
3:00 – 4:30PM EST

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

The Alliance for Innovation on Maternal Health is a national, cross-sector commitment designed to support best practices that make birth safer, improve maternal health outcomes, and save lives.

You can find more information at saferbirth.org.

This program is supported by a cooperative agreement with the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number UC4MC28042, Alliance for Innovation on Maternal Health. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

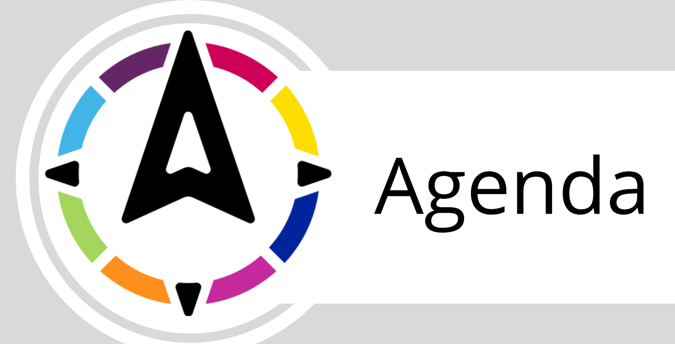


Before We Get Started

- You are **muted** upon entry to the call.
- **You will have the ability to unmute** yourself during Q&A times.
- We encourage participants to **remain muted** to reduce background noise.
- If you are experiencing technical difficulties, please chat an AIM staff member or **email aim@acog.org**

This presentation will be recorded.

Both the slides and recording will be available on the AIM COLS 2022-2023 Webpage and shared in the follow-up newsletter.



Agenda

1. Welcome
2. Upcoming AIM Events and Resources
3. Speaker Presentations: Jeff Quinlan, Jill Henkle, Kokila Thenuwara, Jaimee Robinson
4. Q&A Activity
5. Closing

Simulations for OB Readiness in Non-OB Settings

Dr Jeff Quinlan MD, FAAFP
Jill Henkle RNC-OB, C-EFM
Kokila Thenuwara MD, MBBS,MME,MHCDS

Support acknowledgement:

HRSA State Maternal Health Innovation Program

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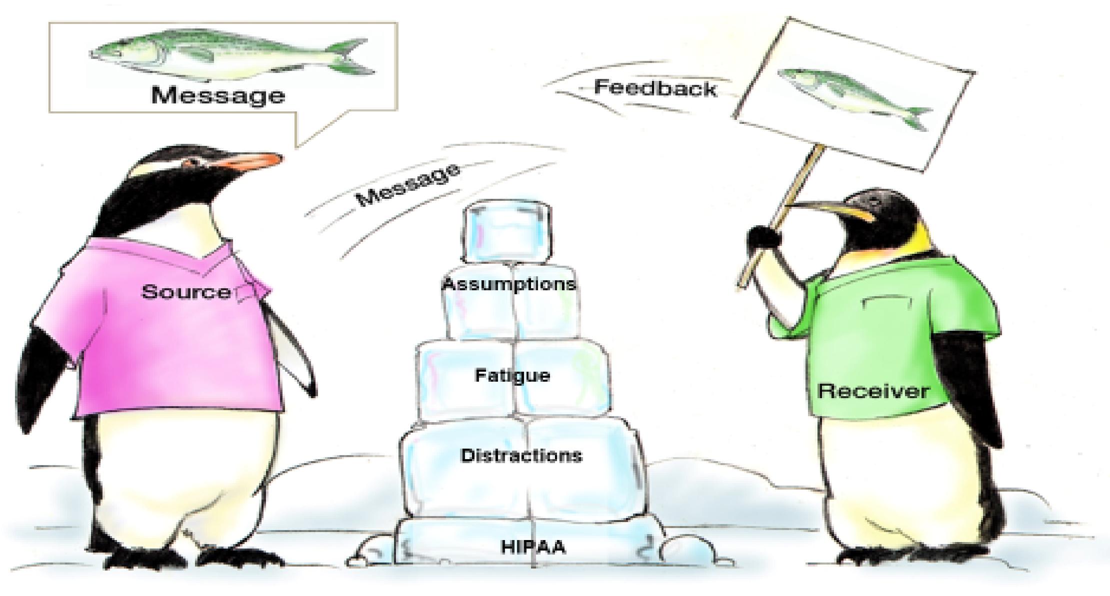

Agency for Healthcare Research and Quality. TeamSTEPPS: team strategies and tools to enhance performance and patient safety. 2018. Available at https://www.ahrq.gov/teamstepps/index.html.

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Miracle on the Hudson

- Team had never flown together
- FAA Policies
  - Preflight training and drills
  - Each crew member knew their own role
- Clear Communication
  - Pilot
  - Crew members
  - Passengers
  - Ground control
  - Rescuers
- Everyone contributed

- Result: **All 155 people on board survived!**

The Joint Commission

- Communication failures were a root cause in 50-80% of sentinel events
- #1 cause of serious events in hospitals
- In perinatal care, they lead to:
  - 48% of maternal sentinel events
  - 70% of perinatal sentinel events

The Joint Commission. Sentinel Event Data: Root Causes by Event Type 2004 - 2014. Available at http://www.jointcommission.org.

“A Team of Experts Does Not Make an Expert Team”

- Emergency Medicine teams are often large and complex
- The care team is rarely the exact same people day after day
- Example:
  - 5 emergency medicine physicians
  - 4 family physicians
  - 10 registered nurses
  - 2 respiratory therapists
  - 6 laboratory technicians
  - 20 EMTs/paramedics

= 48,000 different possible teams

Miller KK, Riley W, Davis S, Hansen HE. In situ simulation: a method of experiential learning to promote safety and team behavior. *J Perinat Neonatal Nurs*. 2008;22(2):105-113

Practice is Key

- High functioning team:
  - US Airways team that landed Flight 1549
  - Practiced what to do in an emergency
- Practicing team training leads to:
  - High functioning team
  - Improved patient outcomes

- Beth Israel Deaconess Medical Center
  - Implemented L&D team training
  - Weighted Adverse Outcome Score and Maternal Severity Index improved 50%
- Fairview Health System in Minneapolis
  - improved obstetric outcomes with in-situ team training

Riley W, Davis S, Miller K, Hansen H, Sainfort F, Sweet R. Didactic and simulation nontechnical skills team training to improve perinatal patient outcomes in a community hospital. *Jt Comm J Qual Patient Saf*. 2011;37(8):357-364; Mann S, Marcus R, Sachs B. Lessons from the cockpit: How team training can reduce errors on L&D. *Contemp Ob Gyn*. 2006;51(1):34-45.

Teamwork Improves Outcomes

- Between 2000 and 2020
  - US maternal mortality ratio (MMR) increased from 18.8 to 23.8
  - Excludes California and Texas
- Between 2003 and 2020
  - California MMR decreased from 21.5 to 12.8
  - Patient safety bundles thought to play an important role

MacDorman MF, Declercq E, Cabral H, Morton C. Recent Increases in the U.S. Maternal Mortality Rate: Disentangling Trends From Measurement Issues. *Obstet Gynecol*. 2016;128(3):447-455; California Maternal Quality Care Collaborative. 2018. Available at https://www.cmqcc.org/.

The Health Care Team

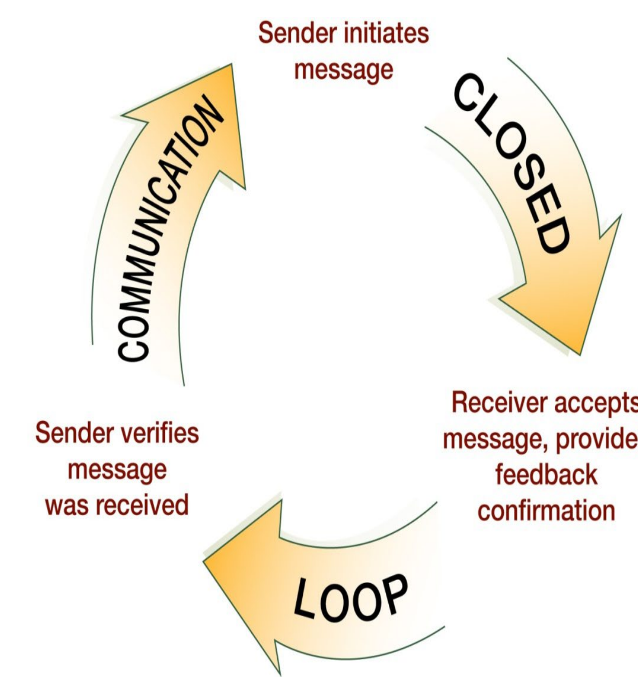
- A well-functioning team improves patient satisfaction
  - Good communication
  - Birth attendant readily available
  - Consultant willing to assist in a timely manner
  - Team member contributions are respected and encouraged
- A well-functioning team prepares for obstetric emergencies by practicing simulations

Characteristics of Highly Effective Teams

- Shared mental models
- Clear roles and responsibilities
- Clear, valued, and shared vision
- Managed performance outcomes
- Strong team leadership
- Regular practice of debriefing and feedback
- Strong sense of collective trust and confidence
- Cooperate and coordinate
- Optimize resources

Closed-Loop Communication (Check Back)

- Example:
  - A nurse midwife requests 10 units of intramuscular oxytocin after delivery of the anterior shoulder
  - The patient’s nurse repeats back that the nurse midwife has requested 10 units of intramuscular oxytocin after delivery of the anterior shoulder (confirmation that the message was received and understood)
  - The midwife closes the loop by confirming that is what was requested



Shared Mental Model

- Patient safety is compromised when all team members are not on the same page
- Shared mental model is facilitated by:
  - Situational awareness
  - Standardized language
  - Closed-loop communication

Briefings, Huddles, and Debriefings

- Briefings are team meetings **before** patient care
- Huddles are meetings of patient care teams **during** care
- Debriefings occur **after** patient care

Purpose of Debriefing

- Improves medical management
- Encourages teamwork
- Identifies systems issues
- Sample Debriefing Questions
  - What went well and why?
  - What could have gone better and why?
  - What would we do differently next time?

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Simulated Learning

- Options for location:
  - Simulation lab
  - L&D and Emergency Medicine units
- Facilitates:
  - Multidisciplinary and interprofessional teams
  - Practice when patient lives are not at risk
- Improved with:
  - Video recording
  - Debriefing

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Simulations for OB Readiness in Non-OB Settings

Jill Henkle RNC-OB C-EFM

Disclosures

- I have no financial disclosures to make
- I am passionate about providing education and the importance of simulation to ED’s in non birthing hospitals

Objectives

- Describe the importance and value of conducting OB-related simulations and drills with ED Professionals

WHY???

Four categories for access to maternity care

- **Maternity Care Desert**
  - A county was classified as a maternity care desert if there were no hospitals providing obstetric care, no birth center, no OB/GYN and no certified nurse midwives

- **Low Access to Maternity Care Services**
  - If there was one or less hospital offering OB service and fewer than 60 OB providers per 10,000 births, and the proportion of women without health insurance was 10% or greater

Maternity Care Deserts Report | March of Dimes

Maternity Care Deserts

Table 1: Definitions of maternity care deserts and access to maternity care

Definitions	Maternity care deserts	Low access to maternity care	Moderate access to maternity care	Full access to Maternity Care
Hospitals and birth centers offering OB Care	zero	<2	<2	>2
OB Providers (OB/GYN, CNM) per 10,000 Births	zero	<60	<60	≥60
Proportion of women 18-64 without health insurance*	any	≥10%	<10%	any

Notes: OB/GYN = obstetrician/gynecologists; CNM = certified nurse midwives *U.S. average is approximately 11%. Source: Kaiser Family Foundation https://www.kff.org/womens-health-policy/fact-sheet/womens-health-insurance-coverage-fact-sheet/

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Maternity Care Deserts Report | March of Dimes

Figure 1: Maternity Care Deserts, 2020

More than 146,000 babies were born in maternity care deserts

More than 2,2 million women of childbearing age live in maternity care deserts

Maternity Care Access

Maternity Care Deserts (1119)

Low Access to Care (373)

Moderate Access to Care (223)

Access to Maternity Care (1427)

[Maternity Care Deserts Report | March of Dimes]

12. Emergency facilities maintain immediate access to equipment, supplies, and medications necessary to
properly assist with precipitous birth, resuscitative hysterotomy, and postpartum complications.
13. Responses to obstetric emergencies are practiced and rehearsed by interprofessional teams in the
emergency setting.

period, it is common for
ngs for emergent and
7). The overall number of
xceeds the hospital birth
f Women's Health,

Care of a pregnant or postpartum
specialized education, training, a
are not routinely acquired by eme
communication a
essential.

enacted in mock drills and
simulations to prepare for emergency care of
patients.However, obstetric emergencies, such as
ectopic pregnancy, precipitous birth, postpartum
hemorrhage, hypertensive crisis, postpartum
depression/psychosis, cardiac arrest, and
resuscitative hysterotomy are rarely rehearsed

ENA-AWHONN-Consensus-Statement-Final-11.18.2020.pdf

Focus on Delayed Postpartum Preeclampsia and Eclampsia in the Emergency Department

Key Principles

1. The most important first step when women present to the emergency department (ED) is to **identify whether they are or have been pregnant in the last 6 weeks**. If yes, assess immediately. Emergency department personnel should be familiar with the risk factors and

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Among women who died from pregnancy-related causes, two-thirds received care in an ED at some time in the prenatal or postpartum period, with nearly 40% having more than two visits to the ED.[2]

[Improving Health Care Response to Hypertensive Disorders of Pregnancy | California Maternal Quality Care Collaborative (cmqcc.org)]

How are Rural ED's Affected?

- 65% of responding hospitals were located 30 miles or more from a hospital with OB Services
- 28% reported having emergency rooms births in the past year
- 32% Unanticipated adverse birth outcomes
- 22% delay in urgent transport for a pregnant patient

Kozhimannil KB, Interrante JD, Tuttle MS, Gilbertson M, Wharton KD. Local Capacity for Emergency Births in Rural Hospitals Without Obstetrics Services. J Rural Health. 2021 Mar;37(2):385-393. doi: 10.1111/jrh.12539. Epub 2020 Nov 17. PMID: 33200829.

SAVE YOUR LIFE:

Get Care for These POST-BIRTH Warning Signs

Most women who give birth recover without problems. But any woman can have complications after giving birth. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.

POST-BIRTH WARNING SIGNS

Call 911 if you have:	❑ Pain in chest ❑ Obstructed breathing or shortness of breath ❑ Seizures ❑ Thoughts of hurting yourself or someone else
Call your healthcare provider if you have: (If you can't reach your healthcare provider, call 911 or go to an emergency room)	❑ Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger ❑ Incision that is not healing ❑ Red or swollen leg, that is painful or warm to touch ❑ Temperature of 100.4°F or higher ❑ Headache that does not get better, even after taking medicine, or bad headache with vision changes

Tell 911 or your healthcare provider: "I gave birth on ______ and I am having ______."

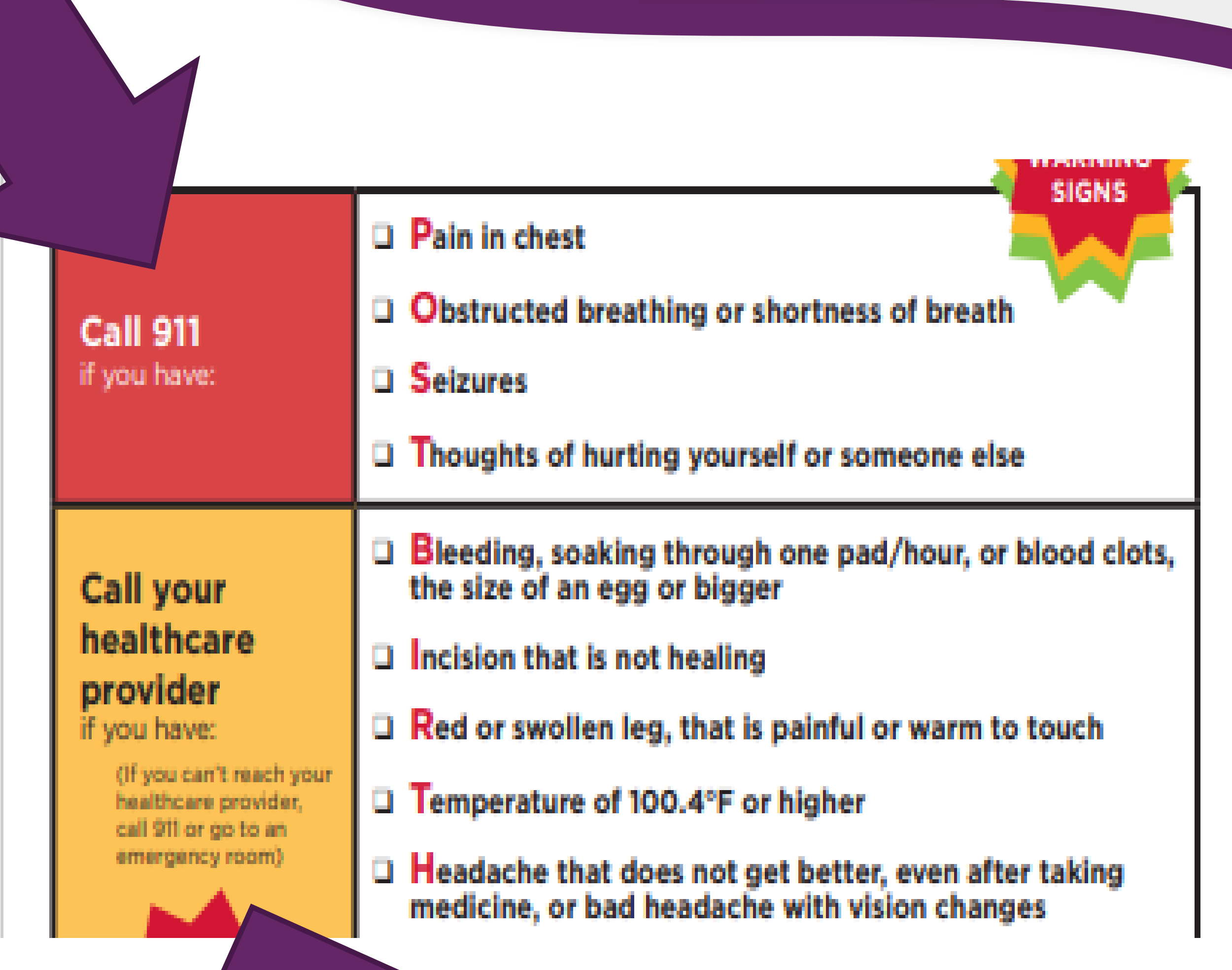
These post-birth warning signs can become life-threatening if you don't receive medical care right away because:

GET HELP

My Healthcare Provider/Clinic: ______ Phone Number: ______

Hospital Closest To Me: ______

AWHONN


SIGNS

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pbwssylhandoutenglish.pdf (awhonn.org)

Transportation

Lack of money/vehicle
No one to drive

Insurance

Non insured
Underinsured

EMTALA

Guarantees care regardless of ability to pay

Know Your Rights (EMTALA) (cms.gov)

Undocumented

ED providers are integral to the health of this population

wjem-20-791.pdf (nih.gov)

Weather

Distance

> 30 miles from nearest delivering hospital

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In Person ER OB Trainings

Contact Nicole-Anderson@uiowa.edu to schedule a visit at your facility

Virtual Trainings

Training information can be found on the IMQCC Events page

Simulation Consultants

Simulation subject matter experts available for consult

[Obstetrics Emergency Department Simulation Training Program | Iowa State University Extension and Outreach Iowa Maternal Quality Care Collaborative (imqcc.org)]

Thank you!

jill-henkle@uiowa.edu

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Emergency Department Readiness: Choice of simulation scenarios

Kokila Thenuwara MBBS MD MME MHCDS
April 13th 2023

Our learners- Emergency Department(ED) personnel

- Manage emergencies of a wide range of populations.
- EDs without obstetrics (OB) units, manage few OB patients, rather infrequently.
- May not have an in-depth knowledge of managing obstetric patients
- Do not have additional expertise and resources of in-house Obstetric (OB)Units.
- These EDs are often found in rural and low resource settings

ER Needs Assessment: Questions asked

- Demographics
  - Trauma level
  - Last time their facility offered OB services
  - Where they would transfer OB patient and how long for transfer
- OB patients visiting ED
  - Number of OB patients (pregnant or postpartum) seen per year.
  - Reason for OB patient visit
- Resources
  - Supplies available in ER to care for OB patient
  - Medications available (hypertensive, postpartum hemorrhage, preterm labor)
- Baseline training of staff
  - Does staff have NRP certification
  - Familiar with AWHONN POST BIRTH warning signs
  - Familiar with AIM bundles
  - Familiar with pre-eclampsia and onset timing
  - Type of training they would like to have from our team

Needs Assessment Findings

Question: What part of the OB patient walking into your ED is the most daunting, scary or unsettling for you and your team?

What about Postpartum Patients?

Pregnancy-Related Deaths

Postpartum is a high-risk period for adverse maternal events

Leading underlying causes of pregnancy-related deaths

Davis NL, Smoots AN, Goodman DG. Pregnancy-Related Deaths: Data from 14 U.S. Maternal Mortality Review Committees, 2008-2017. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Department of Health and Human Services; 2019.

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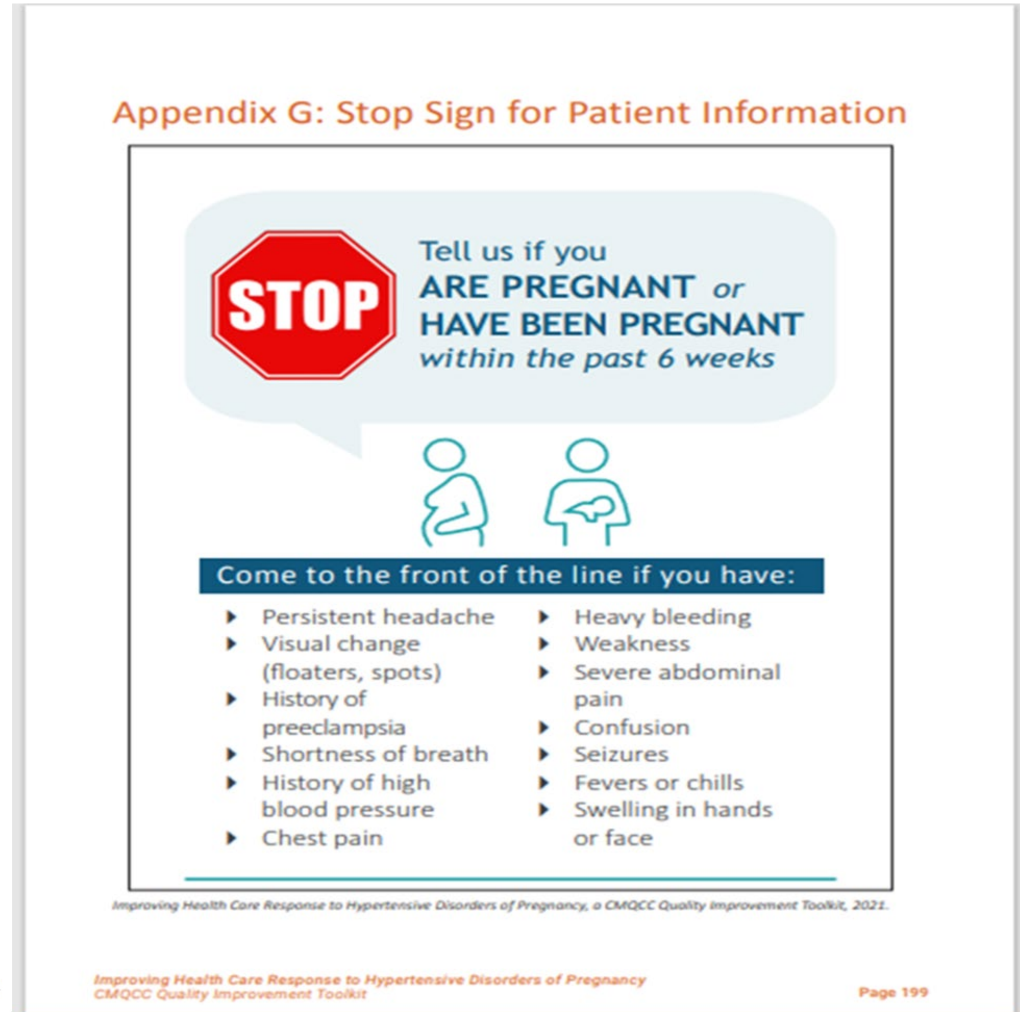
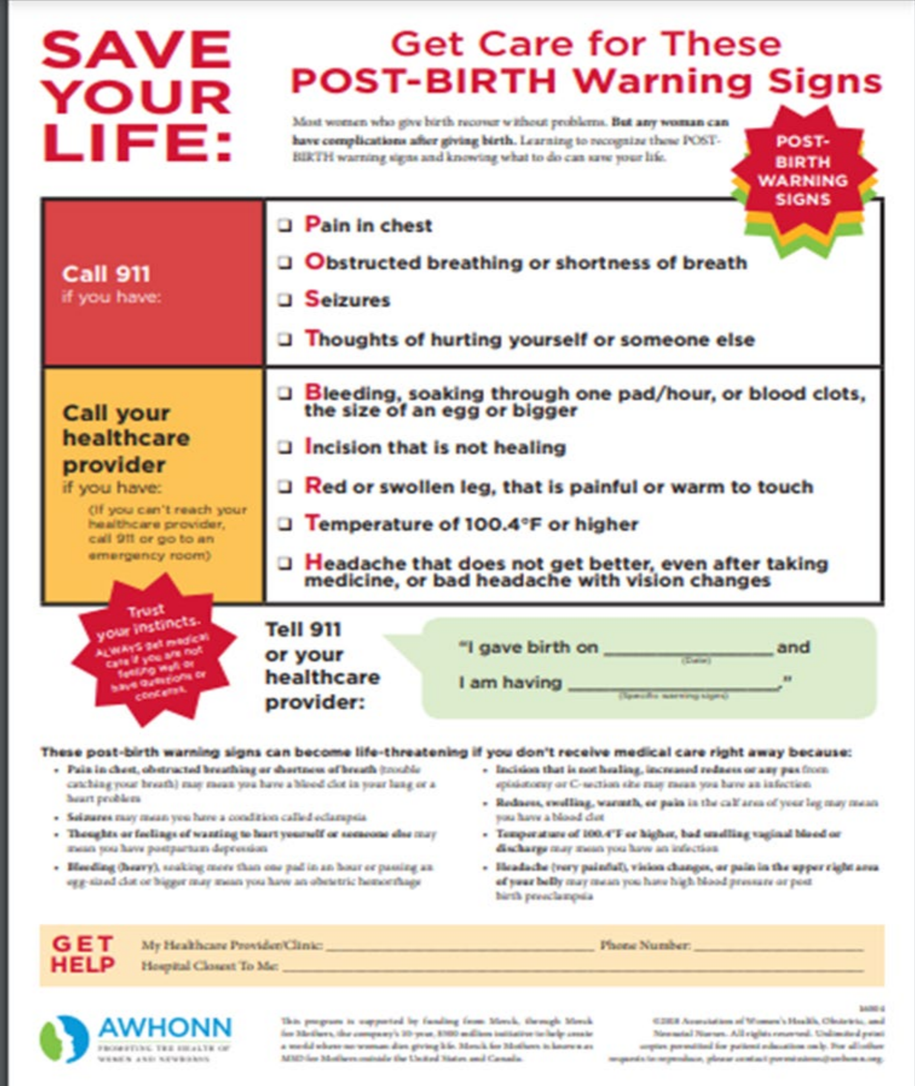
Postpartum Care Cannot be Ignored





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Didactics

- Physiological changes in pregnancy
- Maternal Early Warning Signs
- Post Partum Warning Signs
- Transfers
- Triage
- Trauma
- Management 3rd Stage of Labor
- Cardiovascular complications in pregnancy
- Postpartum Hemorrhage
- Hypertensive Disorders of Pregnancy
- Sepsis
- Implicit Bias and Culturally responsive Care
- History of Racism in Gynecology

Prioritization of implementation

Precipitous Delivery

Postpartum Hemorrhage

Postpartum Hypertension

Eclampsia

Implementation structure

Skills stations

- Delivery and active management of third stage of labor
- Medication Station (uterotonics and TXA)
- QBL vs EBL

Simulation

- Precipitous delivery
- Postpartum Hemorrhage

Skills station

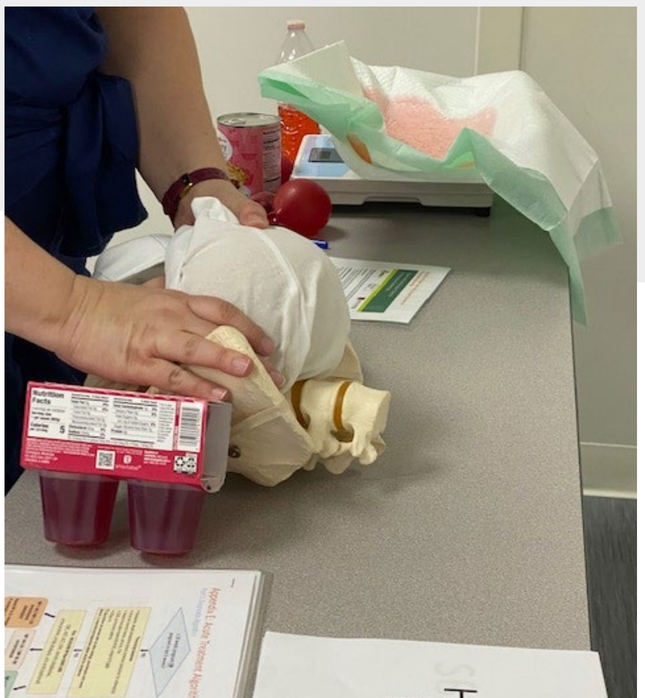
- Medication station (Antihypertensives and Mg)
- Recognition of hypertensive disorders (jeopardy)

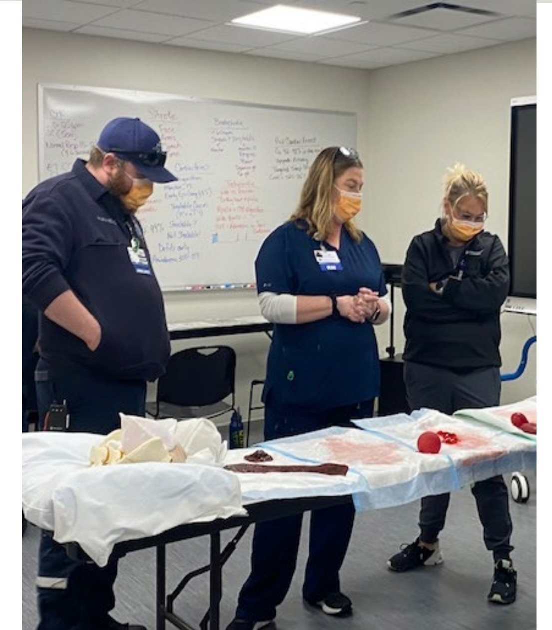
Simulation

- Preeclampsia and eclamptic seizure

Birthing Simulator

High fidelity simulator





Skills Stations

Henry County (Mt Pleasant Iowa)
April 13th, 2022

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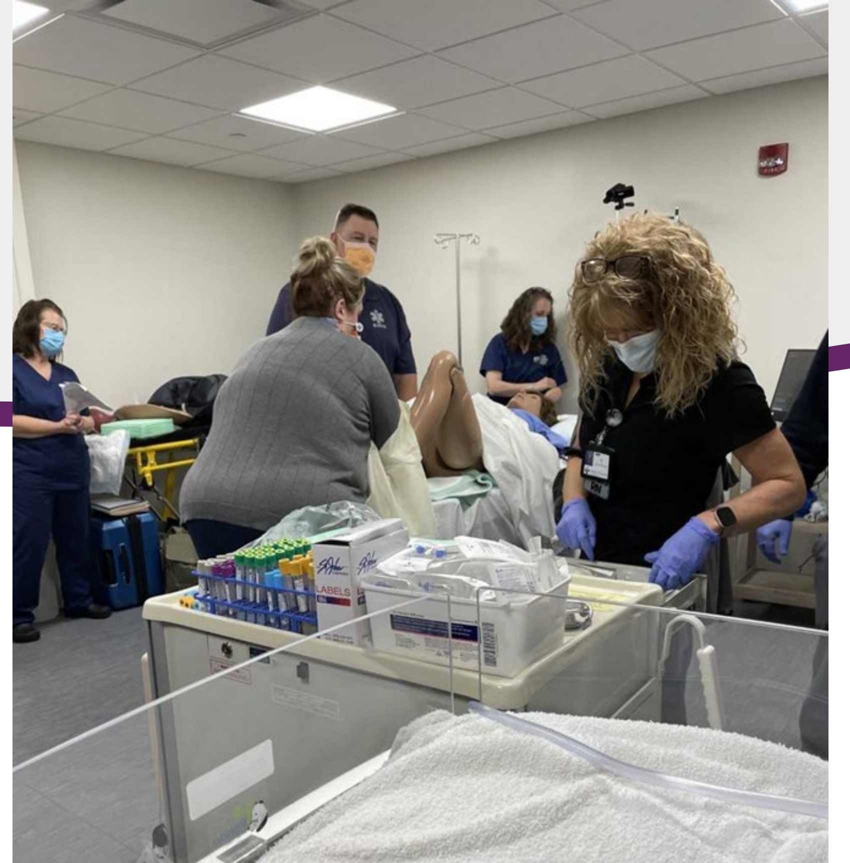


Team Simulation

Photographs used with permission

Summary

- Learner needs
- Facility needs and resources
- Emphasized post-partum
- Didactics to Improved fundamentals
- Common complications
- Skills stations
- Team simulations

Everything OB

EMS Simulation Training

Jaimee Robinson, MSN, RN, RNC-OB, NPD-BC, C-EFM, C-ONQS
Inova Loudoun Hospital

Background

- EMS providers represent a vital link in the system providing care to OB patients
- EMS providers are called to assess:
  - Pregnancy complications
  - Medical complications while pregnant
  - Pregnant trauma patients
  - Newborns
- EMS must:
  - Understand pregnancy changes in anatomy & physiology
  - Know the complications that can arise in medical and trauma cases
  - Possess ability to tailor the assessment and treatment to the pregnant patient's needs

Image by BRUNA BRUNA from Pixabay

Pre-Hospital Management Principles

1. Definitive care might not be possible in the field
2. Appropriate care of the patient provides the most appropriate care for the fetus
3. Be prepared for the unexpected 2nd (or third!)

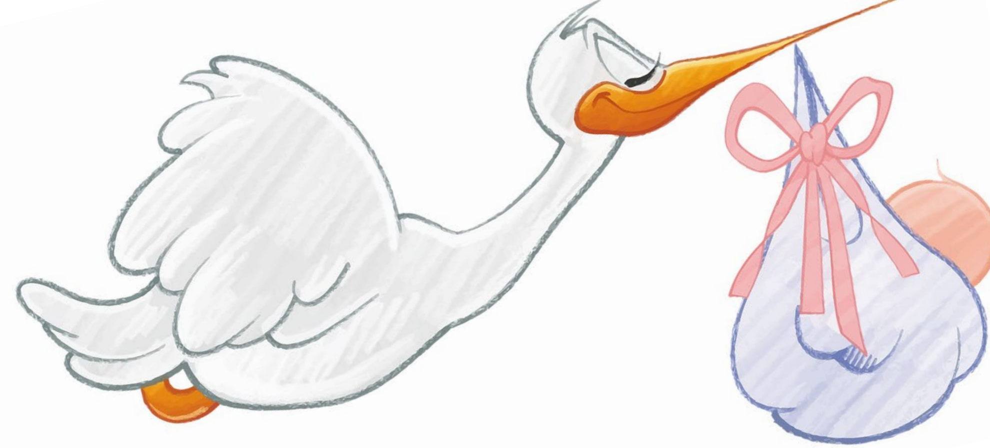


Image from OpenClipart-Vectors from Pixabay

Everything OB

- Hospital-led initiative providing obstetrical training for EMS providers
- Led by:
  - Obstetricians
  - RNs (L&D, NICU, Postpartum, Trauma)
- 3 hour workshop focusing on beyond the basics of OB
  - 2 discussion sessions
  - 5 clinical simulation sessions

Everything OB

Lecture (1 hour)

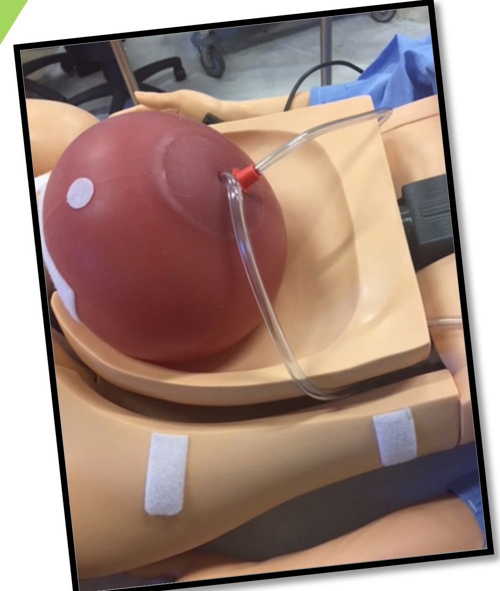
- Physiological Changes in Pregnancy
- Pregnancy-Related Complications
- Pregnant Trauma Patient
- ACLS Modifications

Simulation (20 min stations)

- Vaginal Delivery, Nuchal & Prolapsed Cord
- Postpartum Hemorrhage
- Vaginal Breech Delivery
- Shoulder Dystocia
- Normal Newborn Care & Neonatal Resuscitation

Image from https://site.pishposhbaby.com/blog/2013/09/02/labor-day-pun-intended/

Simulations- Use Their Equipment



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The Kirkpatrick Model

Image from salesforlife.com

Satisfaction

- "Outstanding! Motivated instructors, great information. I leave here a better man!"
- "One of the best continuing ed classes I've attended! Not just the same old outdated info they teach us in EMS Class!"
- "Very good info and great group of nurses and Dr's. This should be part of ALL EMS training."
- "I recommend having this course again! I would highly encourage my crew members to attend."

Satisfaction:
Did the learners enjoy the training?

Learning

- Improved Confidence
- Pretest 47.8%
- Posttest 89.6%

Learning:
Did knowledge transfer occur?

Impact

Image by Ray Shrewberry from Pixabay

Impact:
Did the learners behavior change as a result of the training?

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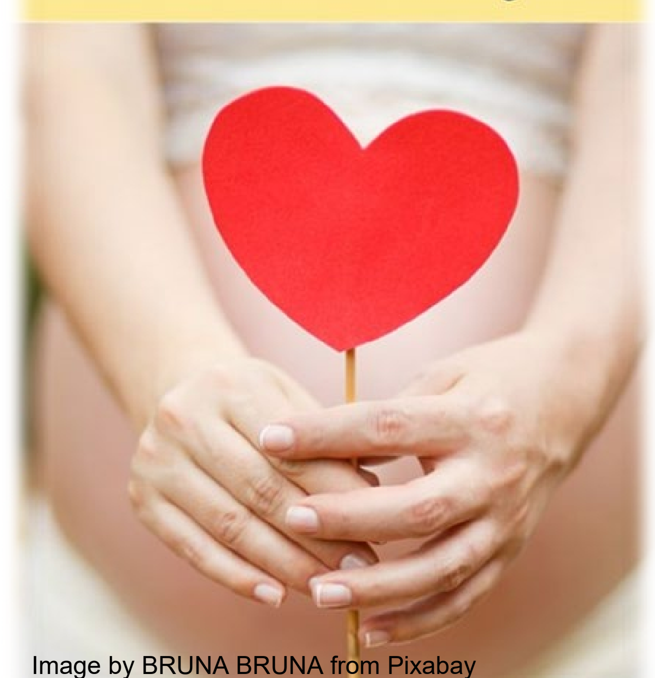
Results



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