
Care of Pregnant and Postpartum Patients in the Emergency Department

Disclaimer

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Background

- **Complications from pregnancy can happen over the course of pregnancy, during delivery, and up to one year after the end of pregnancy**
 - These complications, which include cardiovascular conditions such as cardiomyopathy; hypertensive emergencies such as preeclampsia, eclampsia, and stroke; and conditions related to mental health such as suicide and overdose, can be life-threatening
- **State maternal mortality review committees, which gather detailed information to better understand the drivers of maternal deaths, have reported missed opportunities to identify pregnancy-related emergencies in non-obstetric settings**

Establishment of a State Maternal Mortality Review Board (MMRB)

August 2019 – enactment of Public Health Law 2509 provided the authority for the MMRB

The law requires the Board to:

- Have at least 15 members
- Be comprised of multi-disciplinary experts who serve and are representative of the racial, ethnic and socioeconomic diversity of the women and mothers of this state
 - Members to serve a three-year term
- Meet two times a year or more frequently as deemed necessary by the Department to complete timely case review

NYS MMRB Composition

Multi-disciplinary experts who serve and are representative of the racial, ethnic and socioeconomic diversity of the women and mothers of this state



Purpose of Review Board

Vision

- No New York State family or community suffers a loss of a mother due to a preventable pregnancy-associated death

Mission

- To increase awareness and knowledge of the issues surrounding pregnancy-associated deaths and to promote change among individuals, communities, and health care systems to reduce the numbers of deaths

Goals of the MMRB

- To conduct a timely, comprehensive, multidisciplinary review of all pregnancy-related and select pregnancy-associated deaths within two years of the date of death
- To identify and prioritize actionable recommendations to prevent future deaths



MMRB Focus

- **Board provides a multidisciplinary review of each maternal death through an assessment of:**
 - Causes of death
 - Factors leading to death
 - Preventability
 - Opportunities for intervention- Board identifies what actions, if implemented, might have changed the course of events for this death and recommends action for the prevention of future deaths

MATERNAL MORTALITY AND MORBIDITY ADVISORY COUNCIL (MMMAC)

Established in 2019

Comprised of multidisciplinary experts and lay persons knowledgeable in the fields of maternal mortality, women's health, and public health

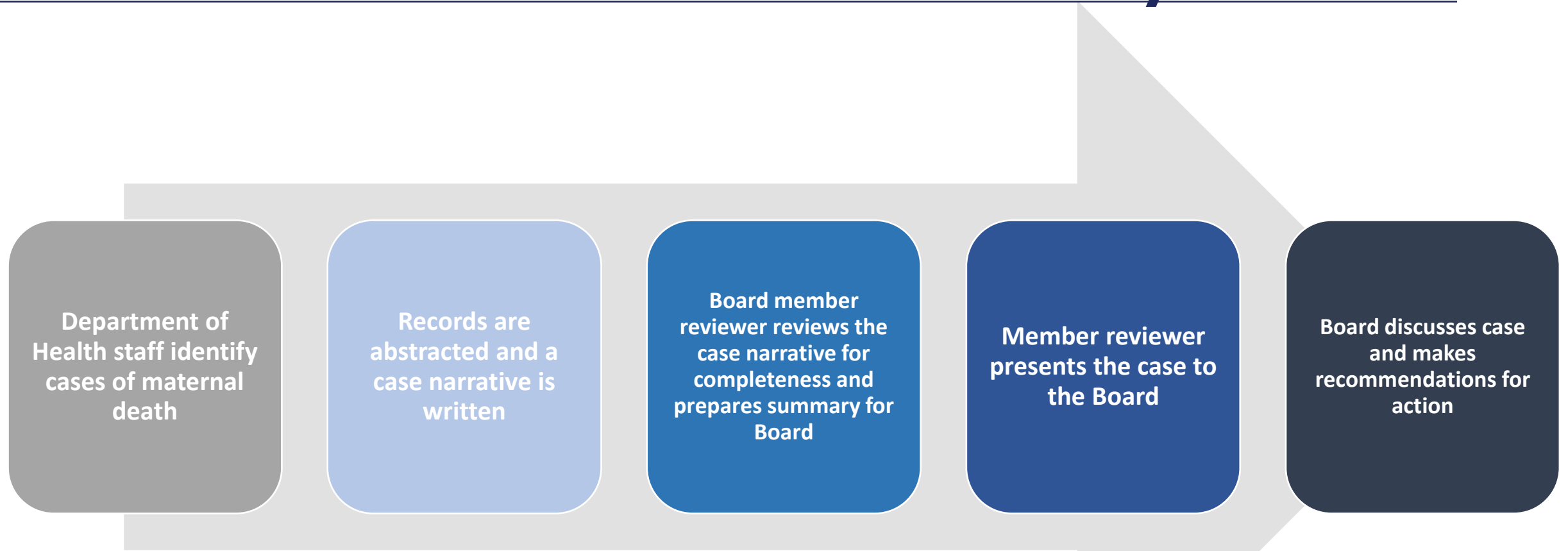
Reviews the findings and recommendations of the MMRB to identify social determinants and other issues known to impact maternal health outcomes

The MMMAC develops recommendations on policies, best practices, and strategies to prevent maternal mortality and morbidity



Department
of Health

New York State Maternal Mortality Review



Pregnancy-Associated Mortality Definitions

Pregnancy-Related Death:
the death of a woman during pregnancy 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 physiologic effects of pregnancy.

Pregnancy-Associated but Not Related Death: the death of a woman during pregnancy or within one year of the end of pregnancy from a cause that was not causally related to the pregnancy.

Pregnancy-Associated but Unable to Determine Relatedness: the death of a woman while pregnant or within one year of pregnancy, due to a cause that could not be determined to be pregnancy-related or not pregnancy-related.

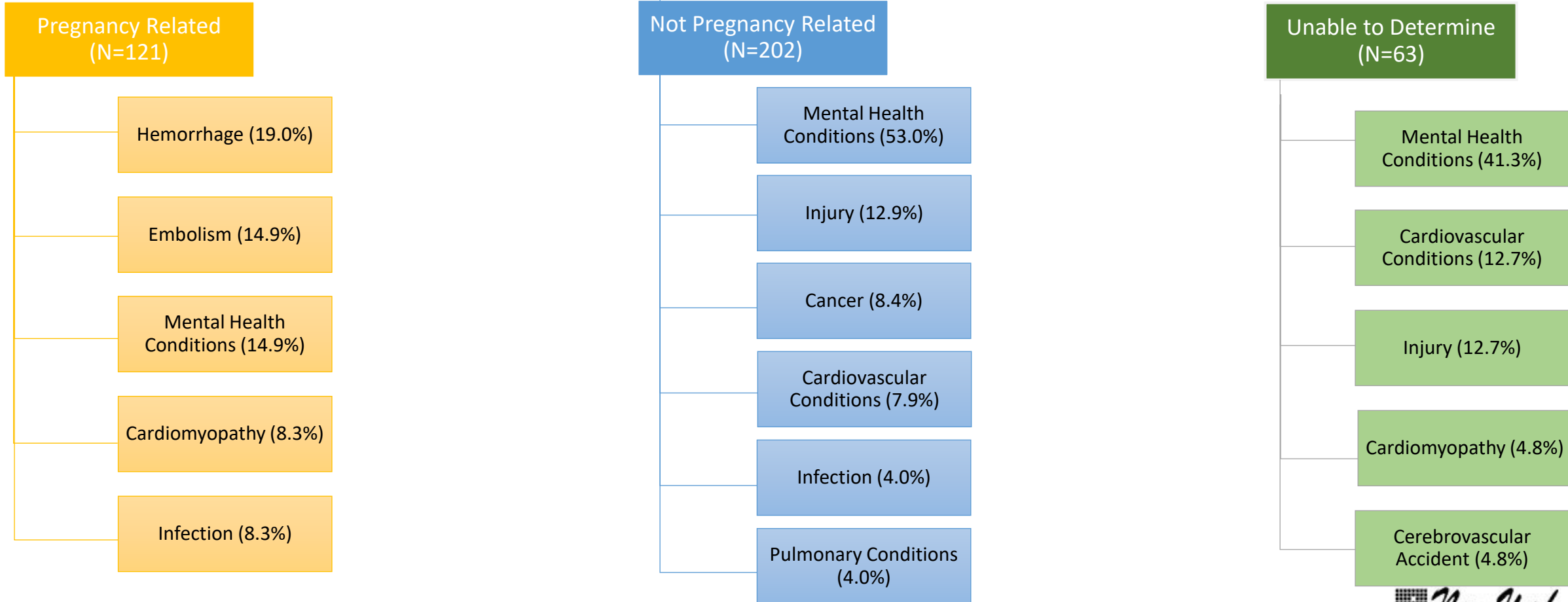
- Examples:
- Hemoperitoneum/shock with ectopic pregnancy
 - Uterine rupture

- Examples:
- Accidental overdose 26 weeks postpartum
 - Head injury from car accident while pregnant




- Examples:
- Sudden cardiac arrest with unknown cause in pregnancy/postpartum

Top Underlying Causes of Death for Pregnancy-Associated Deaths by Relationship to Pregnancy, 2018-2020

Pregnancy Associated
(N=386)



Distribution of Timing of Death in Relation to Pregnancy, 2018–2020

	While Pregnant 	Within 42 Days 	43 Days to 1 Year 
Pregnancy-Related (N=121)	23.1%	48.8%	28.1%
Other Pregnancy-Associated (Not Related or Unable to Determine Relatedness) (N=264)	23.4%	14.3%	61.9%

Note: One case died within the past year but, timing of death was unknown.

Data Source: New York State Maternal Mortality Review

Preventability of the Death and Chance to Alter the Outcome Among Pregnancy-Related Deaths, 2018–2020

Preventability	N (%)	Chance to Alter Outcome (N)			
		Good	Some	None	Unable to Determine
Preventable	89 (73.6%)	36	53	0	0
Not Preventable	22 (18.2%)	0	0	20	2
Unable to Determine	10 (8.3%)	0	0	0	10
Total	121	36	53	20	12

Data Source: New York State Maternal Mortality Review

Pregnancy-Related Mortality Ratio, 2018-2020

New York State's overall pregnancy-related mortality ratio (PRMR) for 2018-2020 was 18.5 deaths per 100,000 live births (18.2 in 2018, 19.0 in 2019, and 18.3 in 2020)

Summary: Pregnancy-Related Mortality Ratio, 2018-2020

Black, non-Hispanic women had the **highest** pregnancy-related mortality ratio:

- Among all races
- For every education level
- For every Body Mass Index (BMI) level
- For both vaginal and cesarean deliveries
- For both Medicaid and private insurance

Higher mortality ratios were observed among women:

- Aged 40 years or older at the time of their death
- Who received Medicaid
- Who gave birth via cesarean section
- Who lived in New York City

Summary: Board Determination on Circumstances Surrounding Pregnancy-Related Deaths, 2018-2020

The Board judged discrimination to be a probable or definite circumstance in 47.1% of all pregnancy-related deaths and 60% of Black, non-Hispanic pregnancy-related deaths.

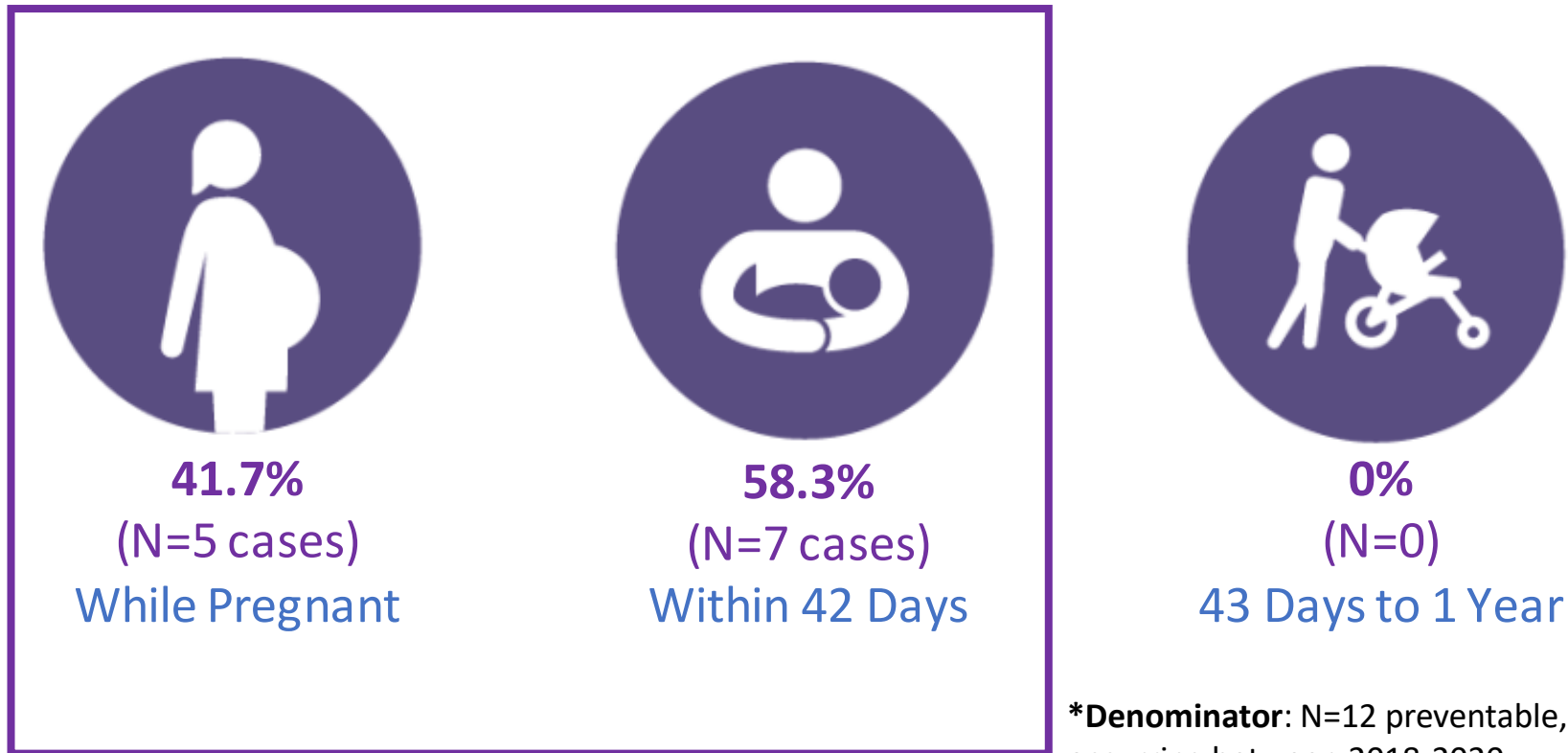
Obesity and mental health conditions were each considered a likely or certain circumstance in 24.0% of pregnancy-related deaths.

ED Recommendations for Preventable, Pregnancy Related Cases in New York 2018–2020 Case Review

- Of the individuals in NYS who experienced a pregnancy-related death from 2018–2020, a **majority** had at least one ED visit within one year of the end of pregnancy.
- Of the **121 pregnancy-related cases** between 2018–2020, **89 were deemed preventable**
- NYS & NYC MMRBs issued ED recommendations in **12 cases (~13%)** of those 89 preventable, pregnancy-related cases
- **24 ED recommendations** were issued for those 12 cases

Preventable, Pregnancy-Related Cases with ED Recommendations by Timing of Death

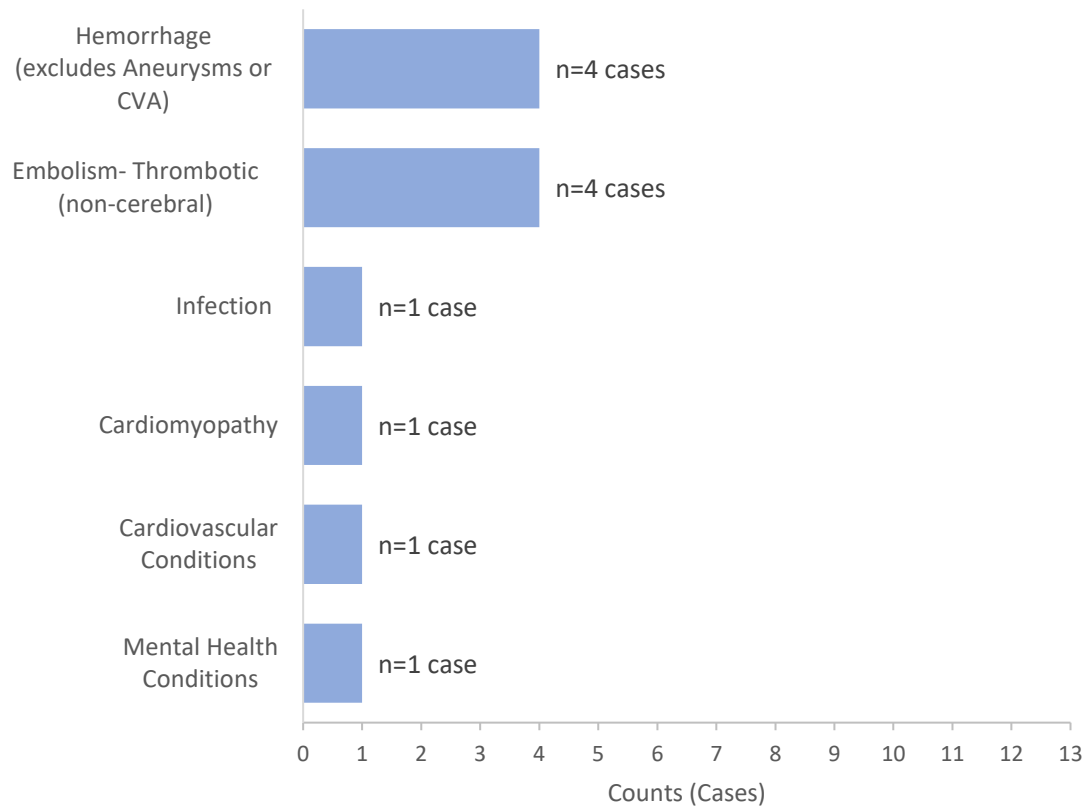
- ED recommendations were issued for 2018-2020 preventable, pregnancy-related cases where death occurred either during or within 42 days of the end of pregnancy.



*Denominator: N=12 preventable, pregnancy-related cases occurring between 2018-2020

Cases with ED Recommendations by Cause of Death (2018-2020)

Cases with ED Recommendations by Cause of Death (2018-2020)*



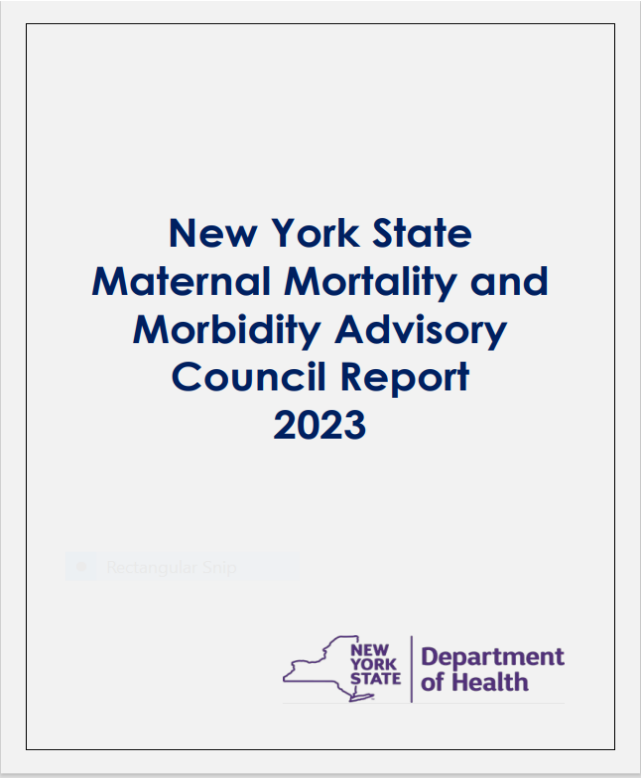
- MMRBs issued ED recommendations for cases with a range of causes of death, primarily **hemorrhage and embolism**

MMRB and MMAC Reports

[New York State Maternal Mortality Review Report, 2018-2020 \(ny.gov\)](https://www.ny.gov/new-york-state-maternal-mortality-review-report-2018-2020)



[Maternal Mortality and Morbidity Advisory Council Report, 2023 \(ny.gov\)](https://www.ny.gov/maternal-mortality-and-morbidity-advisory-council-report-2023)



NYS Maternal Morbidity and Mortality Review Board Recommendation:

- The Department should convene a multidisciplinary group of key interested parties to develop standard guidance on implementation of a maternity medical home model that prioritizes people with chronic conditions. In addition, New York State should provide funding to support a pilot project of the maternity medical home model.

NYS Maternal Morbidity and Mortality Review Board Recommendation:

- The Department should develop an anti-racism and anti-discrimination framework in health care systems, with a focus on eliminating inequities in maternal mortality among those most impacted by disparities, particularly Black and Native American communities.

NYS Maternal Morbidity and Mortality Review Board Recommendation:

- The Department, American College of Obstetricians and Gynecologists District II, and partners should develop an emergency room bundle for the care of pregnant and postpartum people, including a plan for dissemination and provider education.

New York State Maternal Mortality and Morbidity Advisory Council Recommendation:

The American College of Emergency Physicians (ACEP) and American College of Obstetricians and Gynecologists (ACOG) should establish both clinical care and patient experience guidelines for the emergency department that prioritize pregnancy and the postpartum period to establish equitable and respectful care, in collaboration with the American College of Nurse-Midwives (ACNM); Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN); Academy of Family Physicians (AAFP); American Academy of Emergency Medicine (AAEM); etc.

Case #1 – Improved Care Coordination

32yo G4P1121

4 weeks prior to pregnancy:

- Visit to the ED for asthma exacerbation
- ED: NRM @ 15L/min; VBG with pH <7
- Inpatient Course: Required BiPAP in ICU, discharged with steroids and albuterol, Spiriva, and Advair, referral to pulmonology

At 24 weeks gestation:

- Called EMS for SOB
- ED: RR: 23, BP 129/85, HR 97, SpO2 96%; Improved with nebulizer treatment
 - Noted that patient is smoking 1-2 cigarettes per day, could not afford Advair or Spiriva was only using albuterol HFA and nebulizer
- At Discharge:
 - Consulted pharmacy about which oral steroids to prescribe; no discussion about affordability or change in inhaled steroids
 - No discussion/emphasis on risk of severe, poorly managed asthma to patient and fetus
 - Documentation absent on if patient was attending outpatient specialist appointments

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

Case #1 – Improved Care Coordination

32yo G4P1121

Sentinel Event

- At 25 weeks gestation (one week after ED visit), EMS called for person in cardiac arrest
- Arrived at ED with CPR in progress after almost 60 minutes of CPR in the field, intubated and s/p multiple rounds of epinephrine
- C/S by OB in ED Resuscitation Room
- Pupils were fixed and dilated, and patient was pronounced

Autopsy cause of death: **Acute and Chronic Asthma**

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

Case #1 – Improved Care Coordination

Key Points:

Improve care coordination during the ED visit

Risk assessment of chronic diseases that can worsen in pregnancy and affect pregnancy outcomes

Access to affordable medications (controller inhalers) that would affect pregnancy outcomes

Coordination with specialists at the time of the ED visit, including Obstetrics and Pulm/IM to decrease time to appointments

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

Case #2 – Teamwork in Critical Diagnoses

28yo G2P2002

Had routine OB care

Sentinel Event – 34 weeks gestation

- Patient's mother called 911 for a seizure
 - Arrived to ED by ambulance, spontaneously breathing but unresponsive
 - History provided by mother:
 - 1 week of intermittent headache attributed to tooth pain, worsening over last 2 days, associated with vomiting and seizure-like activity. Patient was confused before seizure.
- VS: HR 84 RR 18 BP 119/56 SpO2 100% on RA; Mental status: Responds slowly to questions, sometimes inappropriate answers, sleepy
 - Patient seen by ED attending who transferred care to OB without exam (direct admit to L&D)
 - ED mentioned need for immediate head CT, but patient went to the floor without receiving it

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

Case #2 – Teamwork in Critical Diagnoses

28yo G2P2002

Sentinel Event (continued)

- Received to OB floor, induction of labor started
- Patient became confused, had multiple seizures, and became unresponsive over the course of 2 hours
- STAT C/S performed when patient became unresponsive
- CT Scan performed 4 hours after presentation to ED

CT Scan performed and showed **AV malformation with massive SAH and cerebral edema**

- Neurosurgery was consulted and surgery performed, but patient did not recover

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

Case #2 – Teamwork in Critical Diagnoses

Key Points:

Balance between complete ED evaluation for other life-threatening conditions and expedient transfer to L&D

Enhance integrative and simultaneous evaluation in the Emergency Department when appropriate

Allow for maintenance of differential diagnosis and critical care screening and assessment

Develop collaborative triage protocols when appropriate

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

Case #3 – ED Interventions to Enhance Care

27 yo G5P1031

6 months prior to death

- Presented to ED for STI check, abdominal pain, and vaginal bleeding
- LMP 21 days prior
- Reported being sexually active with multiple partners and not using contraception though did not desire pregnancy
- NEGATIVE pregnancy test
- Discharged with pending GC/CT results, no other follow-up documented including contraception

1.5 months prior to death

- Presented to ED for burning with urination, nausea, and diarrhea
- LMP “Today”; no pregnancy test administered
- Discharged with antibiotics and Pyridium

1 day prior to death

- Presented to outside urgent care for abdominal pain and vaginal bleeding
- Was not evaluated but told to present to ED
- Patient chose not to present to ED
- At this time, patient was not even aware they were pregnant

Case #3 – ED Interventions to Enhance Care

27 yo G5P1031

Sentinel Event

- 911 called for difficulty breathing
- Patient in cardiac arrest upon EMS arrival
- ROSC achieved in the ED
- STAT US: Free fluid; Labs concerning for DIC
- OB consult: Concern for ruptured ectopic pregnancy

OR findings: 2L hemoperitoneum, ruptured ectopic pregnancy, right fallopian tube

Patient was found to have fixed and dilated pupils after surgery

- Cause of Death: Hemorrhagic shock

Case #3 – ED Interventions to Enhance Care

Key Points:

Capitalize on opportunities to intervene if patient does not intend to become pregnant. Develop screening protocols to better identify those who need pregnancy tests.

Discuss contraception and refer to family planning/clinic/provider

Increases in ED wait times are pushing patients to seek care at urgent care clinics which can impact ED care and OB patient's care

Develop a protocol for hospital-based urgent care clinics for females of reproductive age with vaginal bleeding and abdominal pain

These cases represent a composite case of a fictitious patient to incorporate key aspects of Emergency Department care that was identified in actual cases

ACOG/ACEP Tools

In response to these trends, ACOG and CDC* launched a multiyear initiative to address these findings by working to develop tools and resources to help practitioners identify and manage these pregnancy-related emergencies.

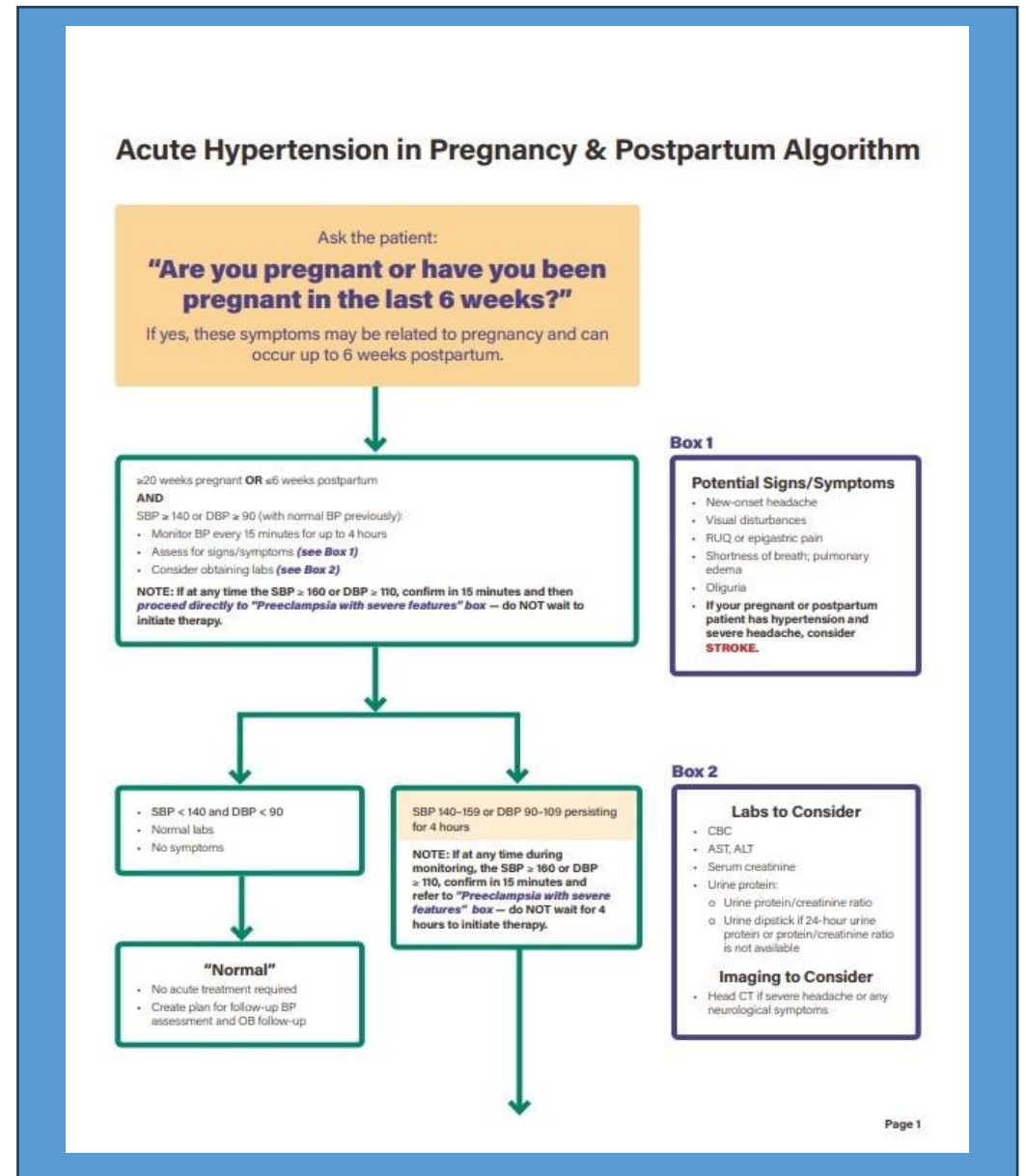
- **ACOG National Tools Developed by:**

- American College of Obstetricians and Gynecologists (ACOG)
- American Academy of Emergency Nurse Practitioners (AAENP)
- American College of Emergency Physicians (ACEP)
- Emergency Nurse Association (ENA)
- Society of Emergency Medicine, Physicians Assistants

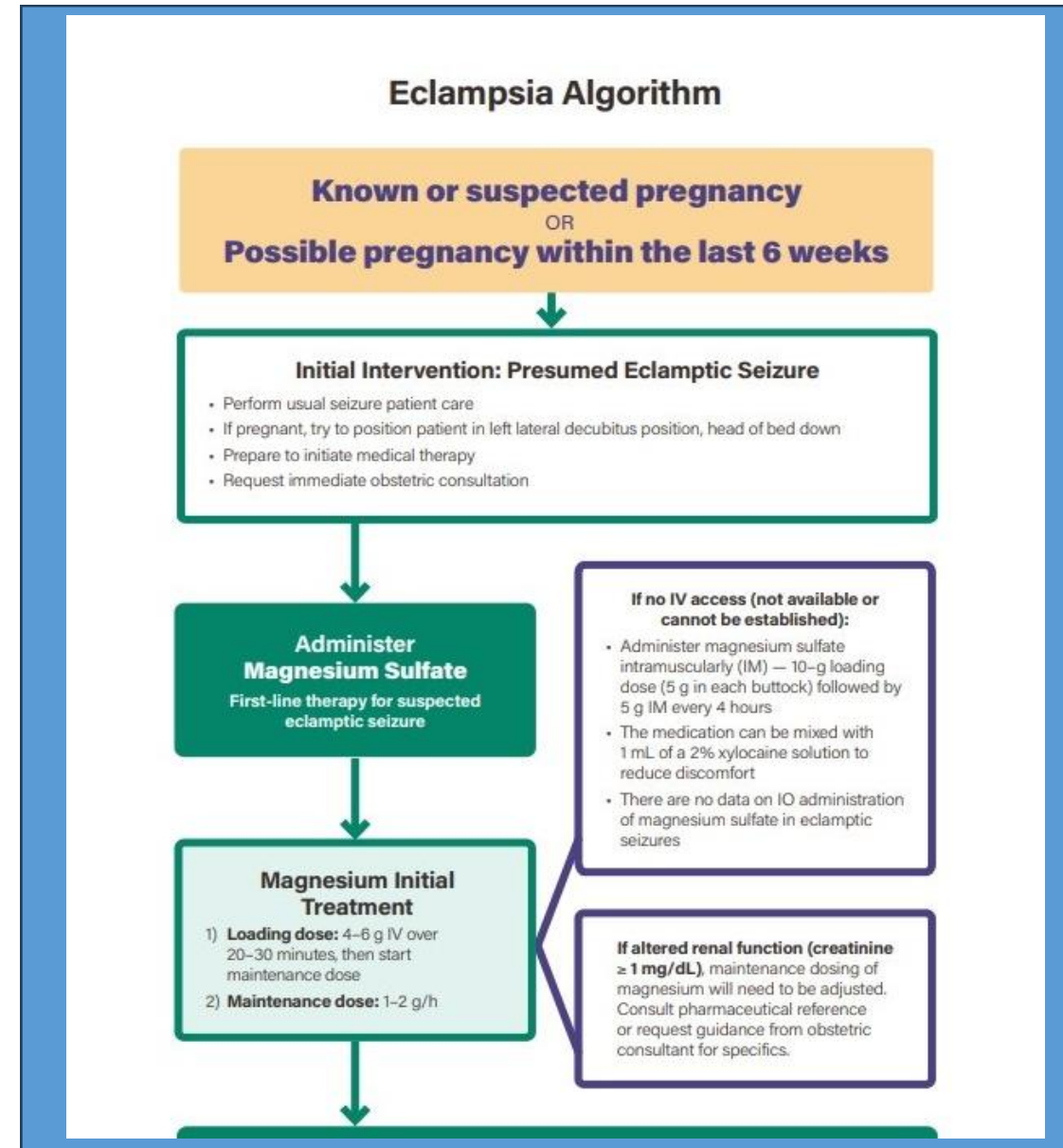
ACOG/ACEP: OB Emergencies Pregnancy Sign



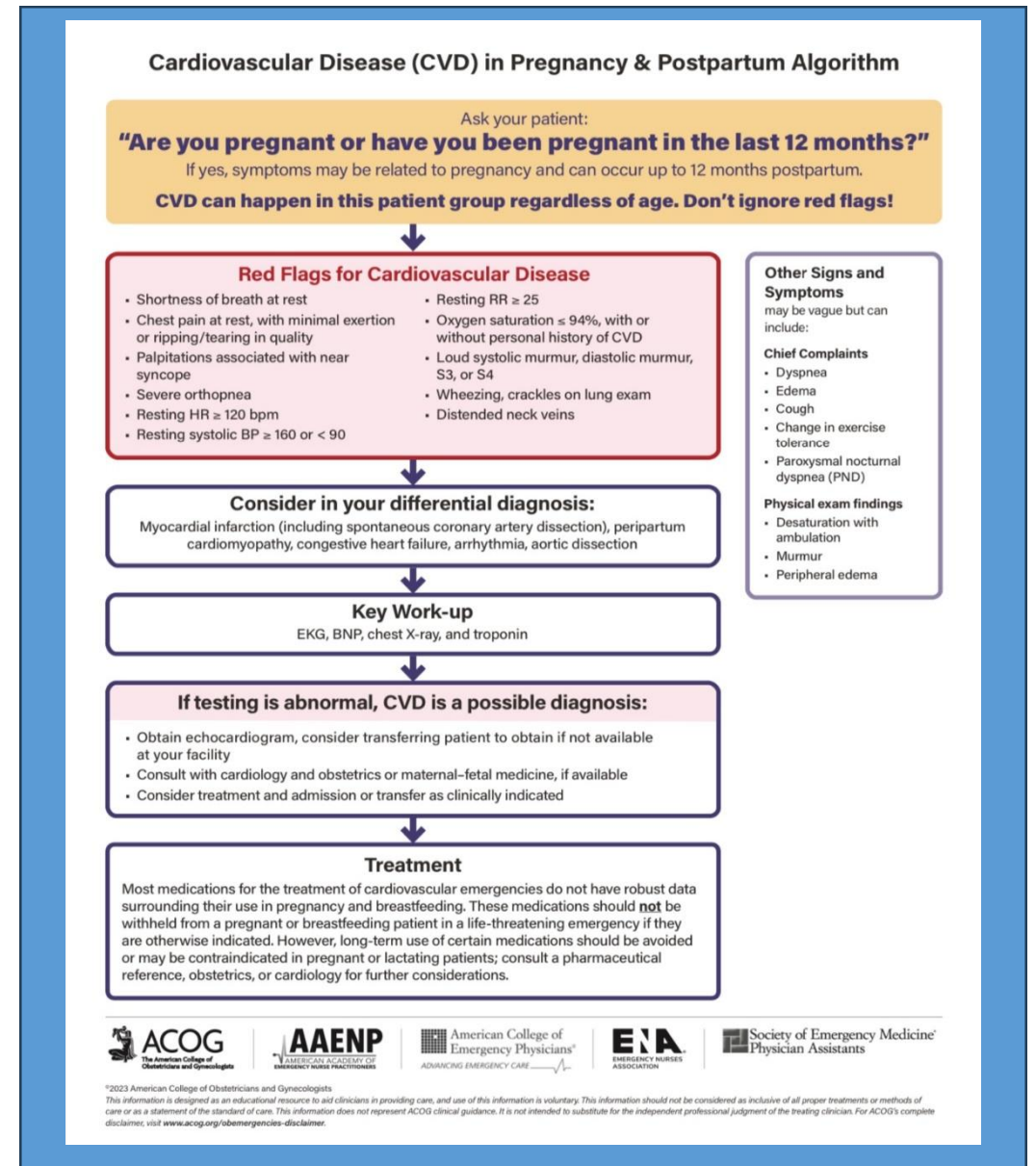
ACOG/ ACEP Algorithm: Acute Hypertension in Pregnancy & Postpartum Algorithm



ACOG/ ACEP Algorithm: Eclampsia Algorithm



ACOG/ ACEP Algorithm: Cardiovascular Disease (CVD) in Pregnancy & Postpartum Algorithm



Trauma Informed Care

- **Trauma informed care is an organization change process that required all individuals, practices, and protocols, and environments to engage in universal precautions for trauma**
 - Organizations that use trauma-informed approach fully integrate awareness of individuals, historical, racial and systemic trauma into all aspects of functioning to provide environments for everyone that intentionally reduce the likelihood of further harm and allow opportunity for healing and growth.

Respectful Care

- **Provide Education and Training to Healthcare Professionals on Health Equity and Respectful Care**
 - Healthcare professionals can be trained in trauma-informed care, implicit bias, and antiracism.
 - Optimize approaches to clinical care and increase awareness of patient groups who are vulnerable to discrimination based on:
 - Race
 - Ethnicity
 - Education level
 - Insurance coverage
 - English language proficiency
 - Other identities and factors that can affect care

Respectful Care

- Engage in open, transparent, and empathetic communication with pregnant and postpartum people and their identified support networks to understand diagnosis, options, and treatment plans.
 - Healthcare professionals must convey information to patients and their support networks in an understandable and patient-centered manner.
 - In some emergency scenarios, shared decision making may not be feasible. In instances in which medical treatment is limited to one option, healthcare professionals may need to use compassionate persuasion informed consent, or informed refusal to guide care.

Respectful Care

- **Provide Trauma-Informed Care for Patients, Their Identified Support Network, and Staff**
 - Provide immediate and long-term responses to trauma are unique to each patient and can negatively affect health outcomes.
 - Support and services should be evidence-based and foster patient engagement, empowerment, and collaboration.

Respectful Care

- ED settings may develop appropriate, actionable strategies to provide TIC for pregnant and postpartum patients.
- As EDs are critical entry points for care, teams may implement routine and universal screening for traumatic experiences.
- As a patient screens positive, teams may provide resource listings, educational materials, and other supports to facilitate referrals in care.

NYS Birth Equity Improvement Project (NYSBEIP)

Goal: New York State birthing facilities will identify how individual and systemic racism impacts birth outcomes at their facility and will take actions to improve both the experience of care and perinatal outcomes of Black birthing people in the communities they serve.

- January 2021 project launch
- 64 NYS birthing facilities participating



Our Respectful Care Commitments

Our Respectful Care Commitments to Every Birthing Person



- 1 **Treating you with dignity and respect** throughout your hospital stay.
- 2 **Introducing ourselves** and our role on your care team, to you and your support persons, upon entering the room.
- 3 **Learning your goals for delivery and postpartum:** What is important to you for labor and birth? What are your concerns regarding your birth experience? How can we best support you?
- 4 **Working to understand you,** your background, your home life, and your health history so we can make sure you receive the care you need during your birth and recovery.
- 5 **Recognizing your prior experiences with health care** may affect how you feel during your birth. We will strive at all times to provide safe, equitable, and respectful care.
- 6 **Communicating effectively** across your health care team to ensure the best care for you.
- 7 **Partnering with you for all decisions** so that you can make choices that are right for you.
- 8 **Practicing active listening** to ensure that you and your support persons are heard.
- 9 **Being ready to hear any concerns** or ways that we can improve your care.
- 10 **Valuing personal boundaries and respecting your dignity and modesty** at all times, including asking your permission before entering a room or touching you.
- 11 **Making sure you are discharged after delivery with an understanding of postpartum warning signs,** where to call with concerns, and with postpartum follow-up care visits scheduled.
- 12 **Discharging you with the skills, support, and resources** to care for yourself and your baby.
- 13 **Protecting your privacy** and keeping your medical information confidential.



Supporting Respectful Care for All Birthing People
The New York State Perinatal Quality Collaborative (NYSPOC), an initiative led by the New York State Department of Health, aims to provide the best, safest, and most equitable care for pregnant and postpartum people and infants in New York State. This is accomplished by collaborating with birthing hospitals and centers, perinatal care providers, professional organizations, and other key stakeholders to improve outcomes through the translation of evidence-based guidelines to clinical practice.

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The information on this poster was adapted from the Illinois Perinatal Quality Collaborative (IPQC).

8/22

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Thank You
