STAMPP-*htn*

Systematic Treatment And Management of PostPartum *hypertension*

Clinical guidelines and protocols

Hospital level initiatives for management of postpartum hypertension

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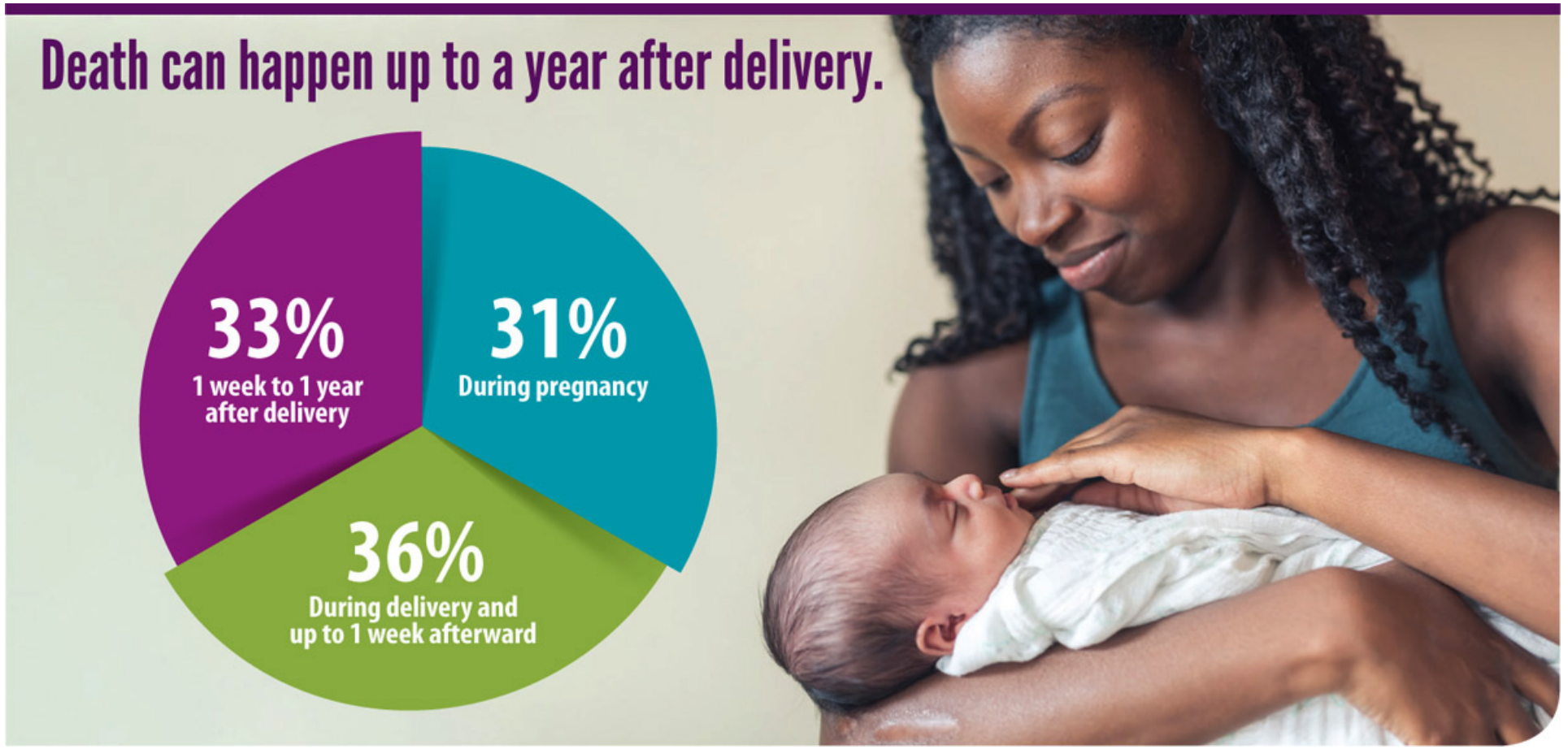
Professor and Section Chief
Maternal Fetal Medicine
Obstetrics and Gynecology
Texas Summit PQC
02/11/2021

Funding : Department of OB/GYN, CLI Board, Women's Board, Omron

AT THE FOREFRONT
UChicago Medicine


Death can happen up to a year after delivery.
33%
1 week to 1 year after delivery
31%
During pregnancy
36%
During delivery and up to 1 week afterward

CDC 2019

Problems at the level of the hospital

- At the time of admission and discharge
  - General lack of knowledge among patients about long term effects of preeclampsia
  - No organized effort for education to patients
  - Discharge instructions not universally given
  - No dedicated postpartum clinic for easy access to care
- Problems with readmissions in ED
  - Identifying post partum patients
  - Incorrect Treatment of PP HTN
  - Poor knowledge about definition of severe for PPHTN
  - Calling medicine or cardiology instead of OB
  - Delayed transfer to L/D
  - Delay in recognition and treatment of severe PPHTN
- No standardized management for readmissions for PPHTN

STAMPP HTN team

- Colleen Duncan, RN
- Macaria Solache- RN
- Jamila Pleas, RN
- Melissa Benesh , FBC
- Natali Horab, DCAM
- Elizabeth Delgado, RN
- Samantha D Reyes- Fellow
- Sunitha Suresh- Fellow
- Sarah Hiemberger- MSIII
- Melissa KurilofF-MS II
- Victoria Oladipo- MS II
- Courtney Amegashie MS II
- Ngozi Nwabueze – MS I
- Kavia Khosla MS IV
- Heba Naseem, RA
- Harjot Kaur, RA
- Funding:
  - CLI /Women’s Board/Omron

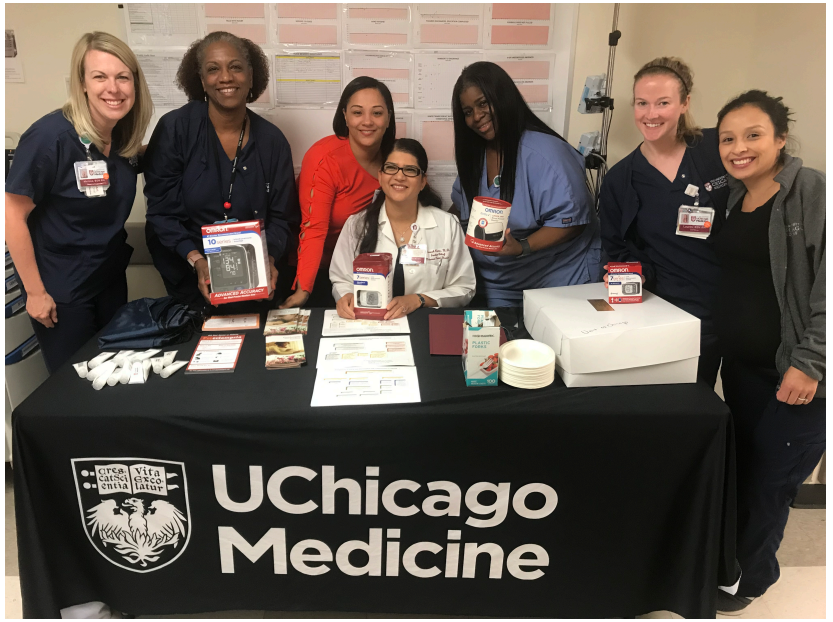
Goals

- ✓ Improve knowledge among providers and patients
- ✓ Appropriate and timely management of HTN
- ✓ Reduced rates HTN related complications
- ✓ Improve rates of PP follow up
- ✓ Appropriate management of readmissions for HTN
- ✓ Improve long term BP control
- ✓ Follow up with cardiology

Sustainability/ Future

- Nurses involvement
- Education of all care providers (annual competency training, world preeclampsia day, facebook live, webinars)
- Data collection to show quality improvement
- Future Funding

Teamwork



STAMPP-HTN program

- FBC Video- Care network
- Nursing- FBC
  - Written instructions- EVS
  - Tear pad
  - Bracelets
  - BP cuff and monitors
  - Preeclampsia discharge checklist
  - Postpartum preeclampsia care
- Standardized all protocols
  - Management of PP HTN
  - PPHTN clinics
  - Readmissions
  - ED workflow

https://www.youtube.com/watch?v=hVPxFZDEFZI

Protocols for management for PPHTN

PP HTN clinic and Cardiology F/U

Postpartum Preeclampsia Care

Postpartum preeclampsia is high blood pressure or hypertension. It can develop after the baby is born, often between 48 hours and 6 weeks after delivery. It can happen whether or not a woman had high blood pressure or preeclampsia during pregnancy. Postpartum preeclampsia is serious. If not treated quickly it may result in death.

Know Preeclampsia Symptoms

- A headache that will not go away
- Visual changes (see spots or flashing lights)
- Breathlessness (difficulty breathing)
- Swelling of the face, legs, or hands
- Sudden weight gain
- Epigastric pain: pain right below your ribs in the area of your upper abdomen.
- "Just not feeling right". Being worried or nervous for no reason.

Know Your Risks

- Seizures
- Stroke
- Organ Damage
- Death

Get Follow Up Care

Your 1 week preeclampsia **Follow-Up Appointment** is on: _____

Take Your Blood Pressure Prescribed Medications

1. _____
2. _____
3. _____
4. _____

Watch Your Blood Pressure at Home

- Take at least 2 readings a day: One in the morning before taking your medication and one in the evening. Record all results.
- Take your blood pressure monitor to your 1 week clinic appointment. The doctor will review your stored blood pressures in your blood pressure monitor.

Know Your Blood Pressure Numbers

	Systolic BP (top number)		**Diastolic BP** (bottom number)
Normal	**Less than 140**	**and**	**Less than 90**
Hypertension	**140 to 160**	**or**	**90 to 110**
Hypertension Crisis	**More than 160**	**or**	**More than 110**

How to Get Help

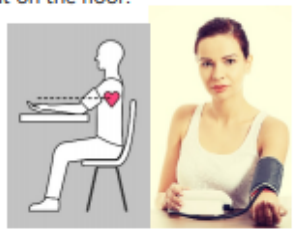
- For a medical emergency call 911.
- If your blood pressure top number is 160 or greater or the bottom number is 110 or greater, call your doctor right away and go to Labor and Delivery.
- **Call the Postpartum Hypertension Clinic (773) 702-6118**. Duchossois Center for Advanced Medicine (DCAM 3H) 5758 South Maryland Ave, Chicago, IL 60637

Blood Pressure Instructions and Log

Your Name:

Take at least 2 readings a day: One in the morning before taking your medication and one in the evening. Record all results.

- Do not smoke, exercise, drink caffeine or alcohol for 30 minutes before taking blood pressure.
- Use the restroom before sitting down to take your blood pressure.
- Sit at a table, in a chair with a back and keep your feet flat on the floor.
- Rest in a chair for at least 5 minutes before taking your blood pressure.
- Do not talk, read or listen to music while you are taking your blood pressure. Relax and stay still.
- Keep legs uncrossed and feet flat on the floor.
- Take your blood pressure and record the values below.



Date	Time	Blood Pressure	Heart Rate		Date	Time	Blood Pressure	Heart Rate

THE UNIVERSITY OF CHICAGO BIOLOGICAL SCIENCES

First Trimester

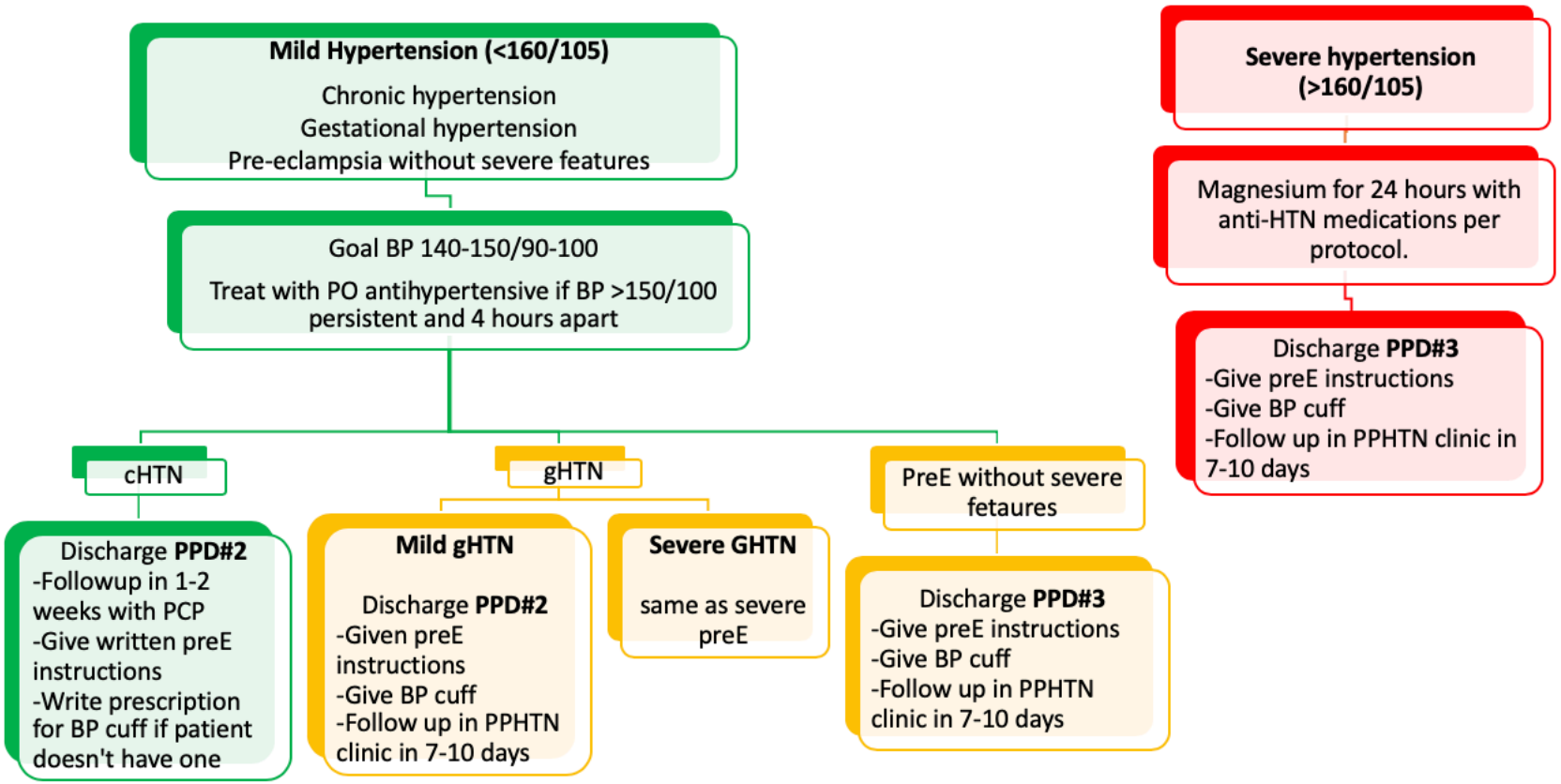
After 20 weeks

Postpartum

Education to patients

Standardized protocols for management of PPHTN

Management of BP's postpartum and discharge after delivery- IMMEDIATE PP



ALL patients with gHTN or PreE

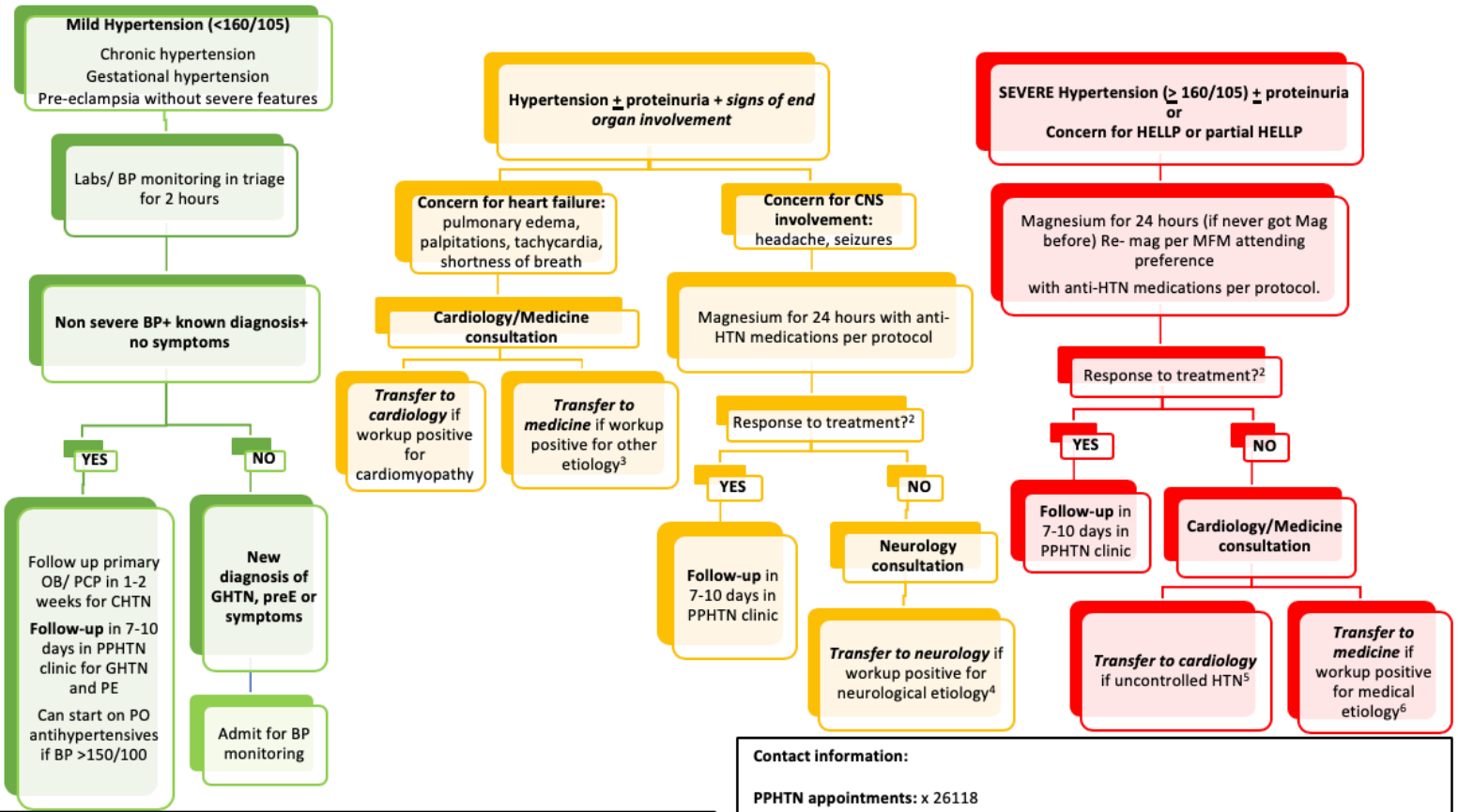
- **Watch the preE video on the care network**
- **Give written preE instructions- tearpad sheet**
- **Give BP cuff**
- **Follow up in PPHTN clinic in 7-10 days**

READMISSIONS

The **PRICE** study: **P**re-eclampsia **R**eadmission **I**npatient **C**are **E**valuation

Postpartum hypertension (>140/90) measured twice at least 4 hours apart, between delivery and six weeks postpartum

All patients should be admitted to MFM



[1]All patients admitted with post-hypertension should have at least 24 hours of BP monitoring, with exception being certain chronic hypertensives.
Treat BP if > 150/100 if persistent or 4 hours apart with PO antihypertensives

[2]Response to treatment should be defined by at least 12 hours of blood pressures <150/100 prior to discharge.

[3] Examples of etiologies that would be appropriate for ***transfer to medicine***: thyrotoxicosis, pheochromocytoma arterial stenosis, adrenal tumors

[4]Examples of etiologies that would be appropriate for ***transfer to neurology:*** intracranial process, stroke, non-eclamptic seizures

[5] Examples of appropriate ***transfer to cardiology:*** inability to control blood pressures despite high doses of Procardia and Labetalol OR requiring IV anti-hypertensive drip

[6] Examples of appropriate ***transfer to medicine:*** if workup positive for HUS, TTP, exacerbation of lupus, acute fatty liver

Contact information:

PPHTN appointments: x 26118
Cardiology outpatient appointments: x 29461
Cardiology consult: x 3547
Dr. Tamar Polonsky pager: x 9189

ALL patients with GHTN or PreE

- **Watch the preE video on the care network**
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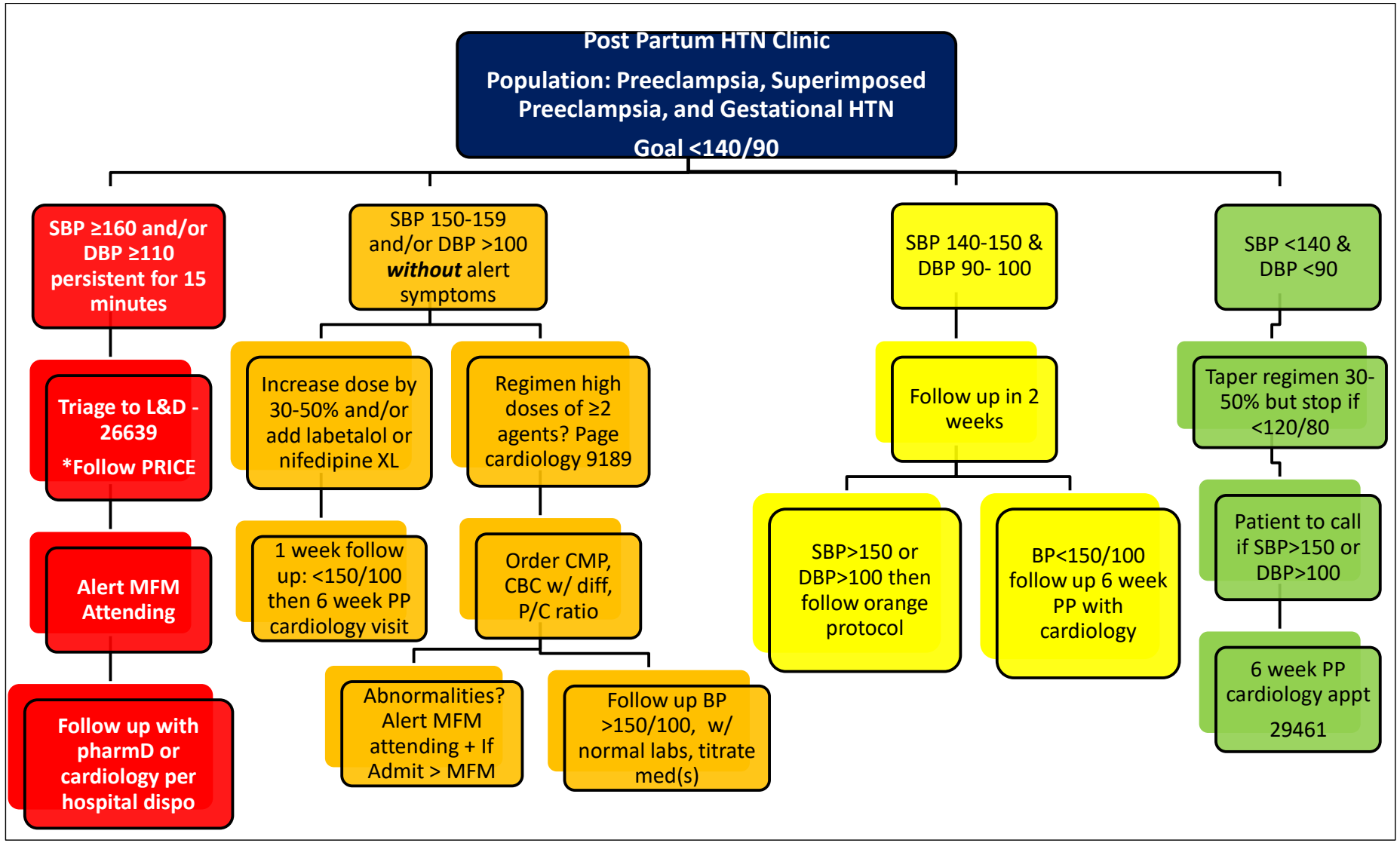
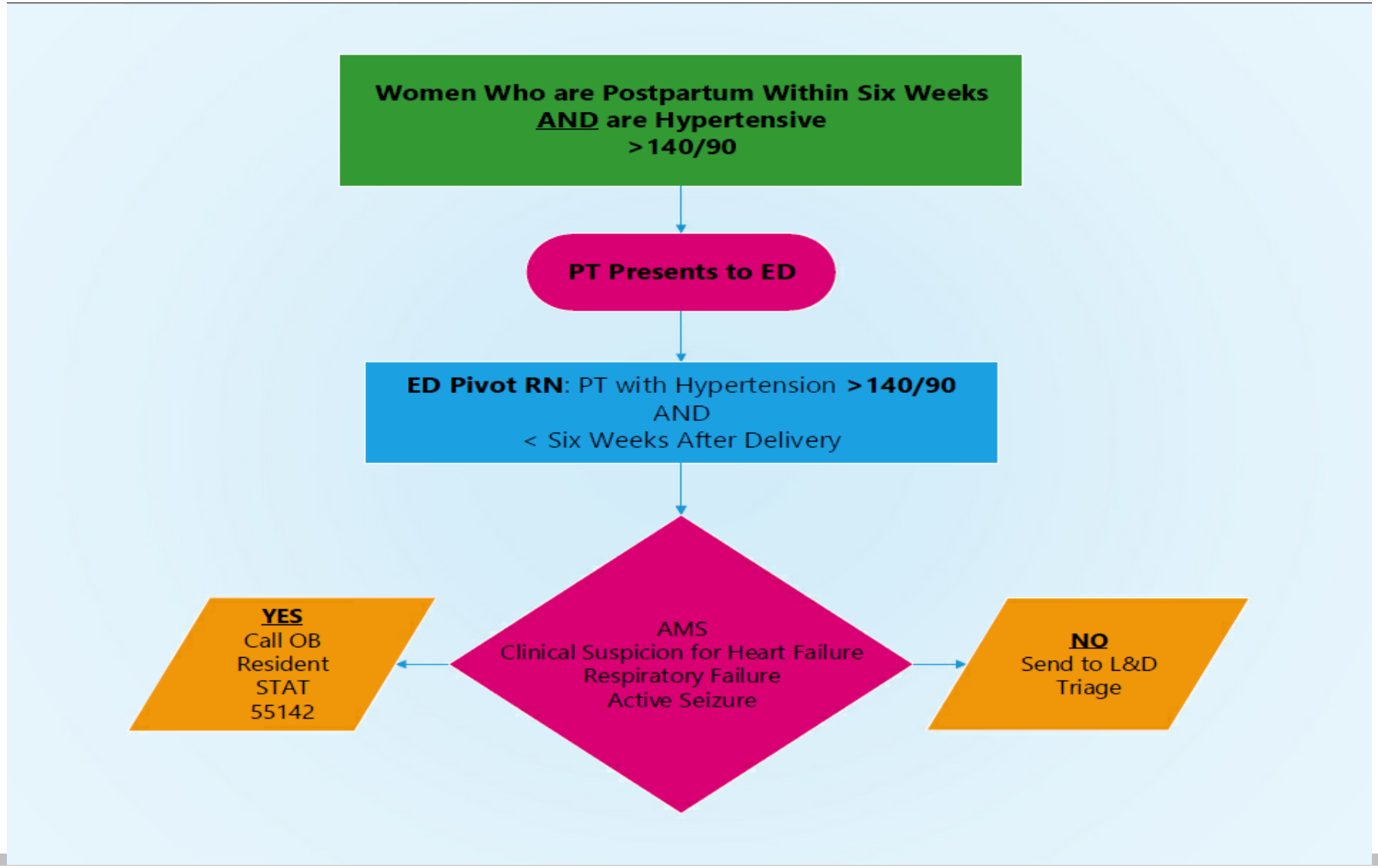
PPHTN clinics

- Follow up in PPHTN clinic
  - Appointments before discharge
  - Standardized Protocol for treatment of HTN
  - Patient to be sent to L/d for severe HTN
  - Long term follow up with cardiology


Post Partum HTN Clinic
Population: Preeclampsia, Superimposed Preeclampsia, and Gestational HTN
Goal <140/90
SBP ≥160 and/or DBP ≥110 persistent for 15 minutes
Triage to L&D - 26639
*Follow PRICE
Alert MFM Attending
Follow up with pharmD or cardiology per hospital dispo
SBP 150-159 and/or DBP >100 without alert symptoms
Increase dose by 30-50% and/or add labetalol or nifedipine XL
1 week follow up: <150/100 then 6 week PP cardiology visit
Regimen high doses of ≥2 agents? Page cardiology 9189
Order CMP, CBC w/ diff, P/C ratio
Abnormalities? Alert MFM attending + If Admit > MFM
Follow up BP >150/100, w/ normal labs, titrate med(s)
SBP 140-150 & DBP 90- 100
Follow up in 2 weeks
SBP>150 or DBP>100 then follow orange protocol
BP<150/100 follow up 6 week PP with cardiology
SBP <140 & DBP <90
Taper regimen 30-50% but stop if <120/80
Patient to call if SBP>150 or DBP>100
6 week PP cardiology appt
29461

What's the workflow for the ED nurse?

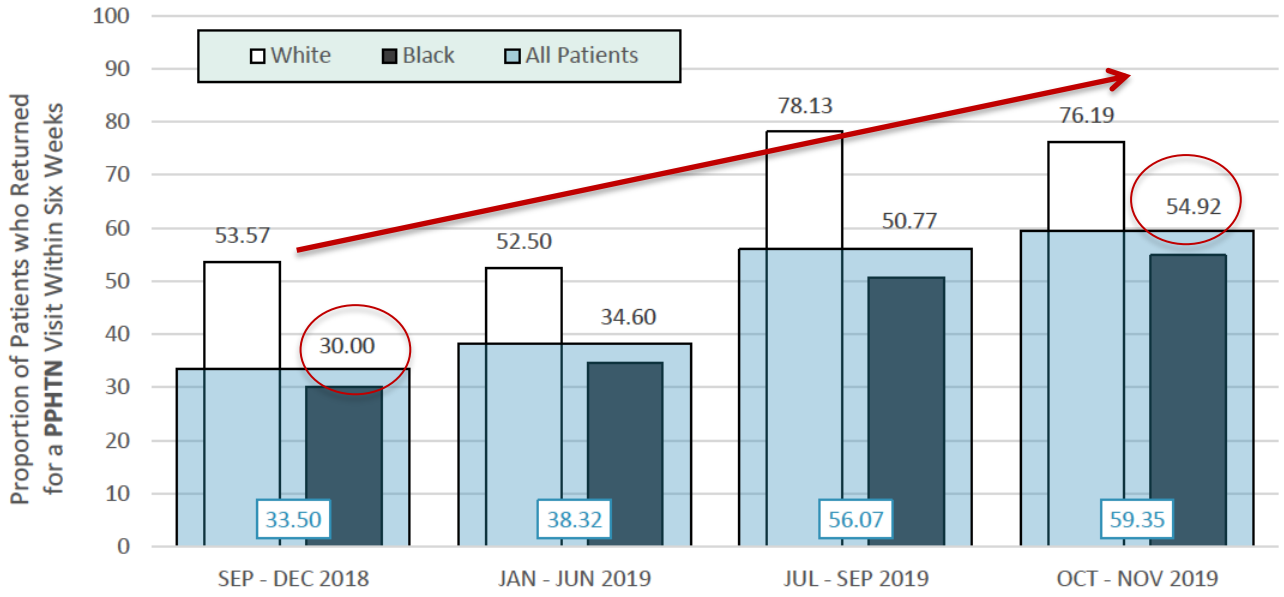


RESULTS

Improvement of PP follow up and reduction in PP-BP among patients enrolled in STAMPP HTN program

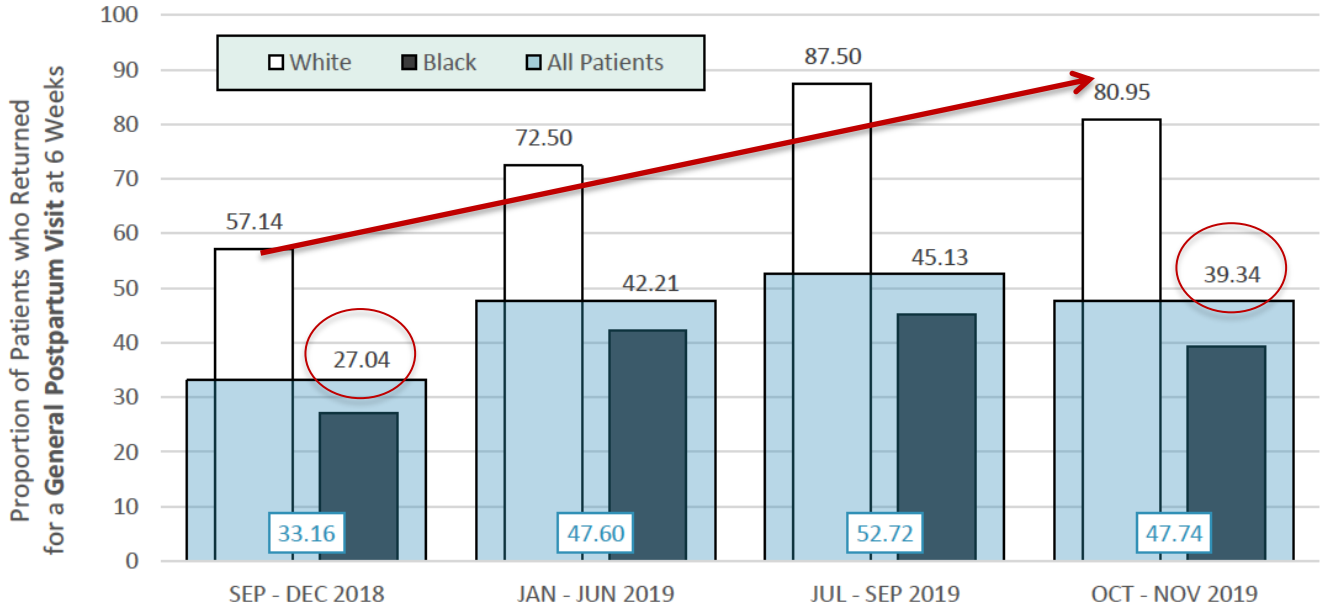
	Entire Cohort *N = 926*
Maternal Age, years	28 (24, 33)
Nulliparous	485 (52.38)
Medicaid Insurance	609 (65.77)
Race	
Black/African American	740 (79.91)
White	121 (13.07)
Gestational Age, weeks	38.43 (37.00, 39.43)
Diagnosis	
Preeclampsia	367 (39.89)
Gestational Hypertension	338 (36.74)
Superimposed Preeclampsia	101 (10.98)
Chronic Hypertension	114 (12.39)
Mode of Delivery	
Cesarean	314 (33.91)
Vaginal	574 (61.99)
Total Length of Stay (days)	4 (3, 4)

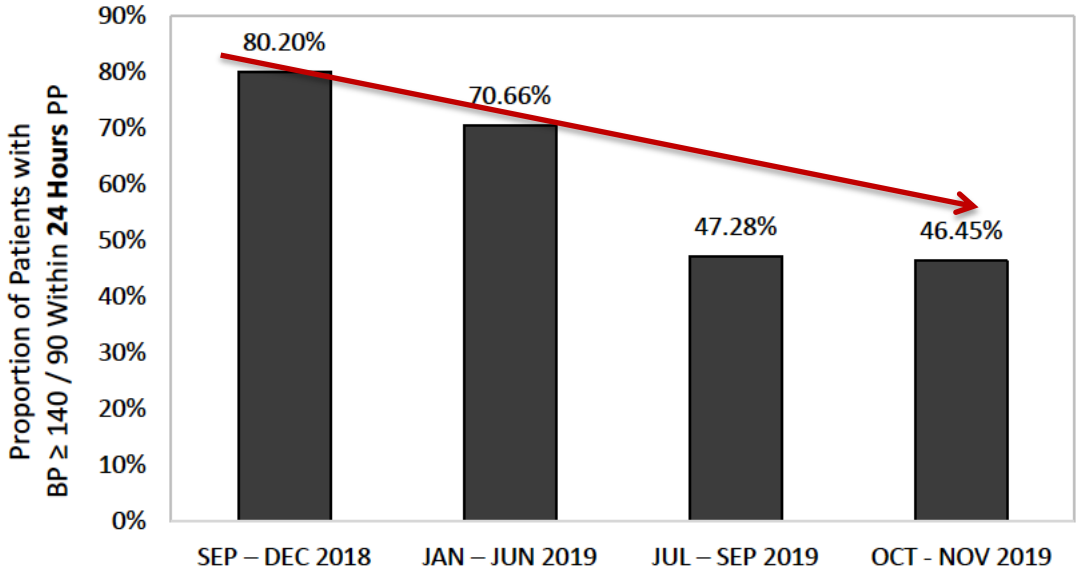
Data is presented as n (%) or median (quartile 1, quartile 3) depending on variable type.



Significant improvement in the rates of PP follow up even at 6 weeks

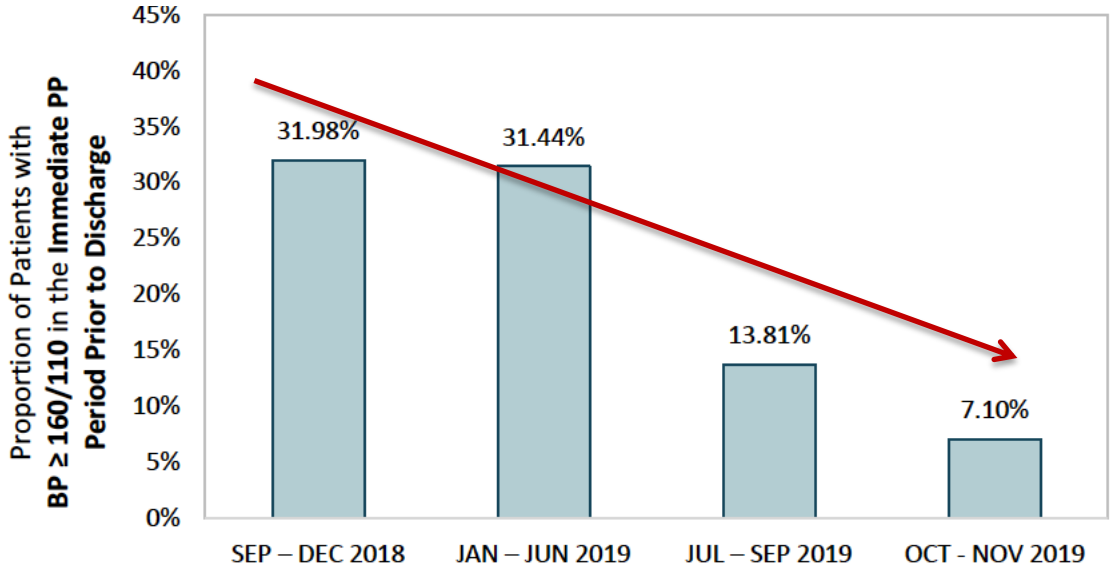
Equal improvement to rates of PP HTN follow up- 23% increase in both black and White women

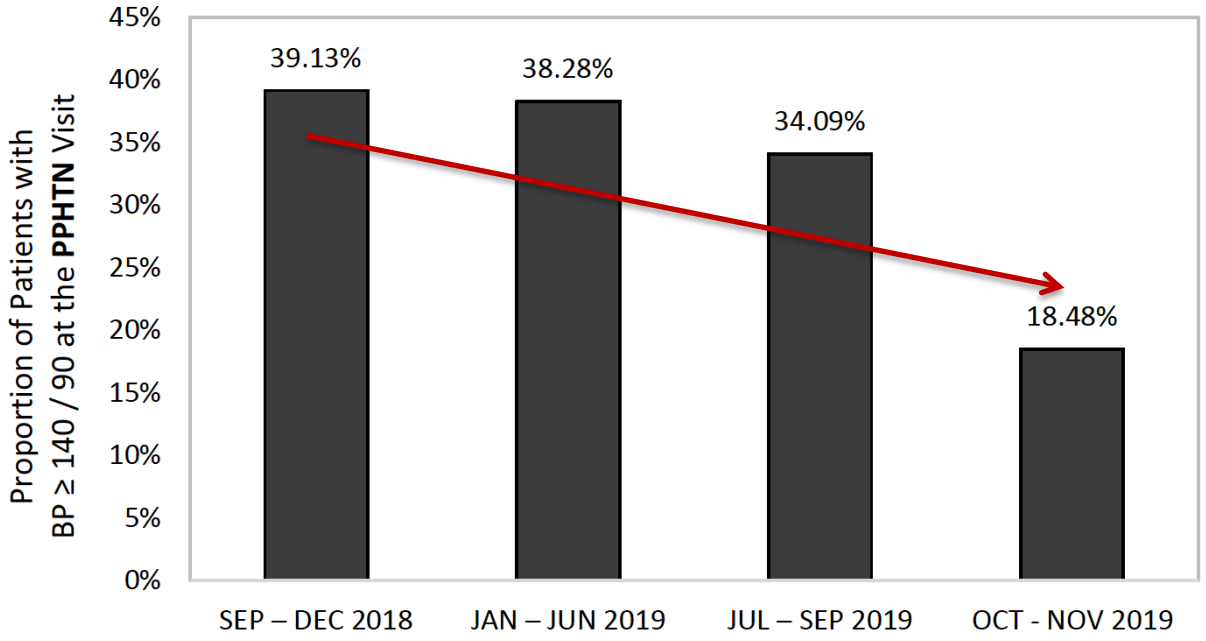




Significant reduction in BP's immediate PP

Significant reduction in severe HTN immediate PP





Significant reduction in BP's at PPHTN visit

Significant reduction in BP's at 6-week PP visit

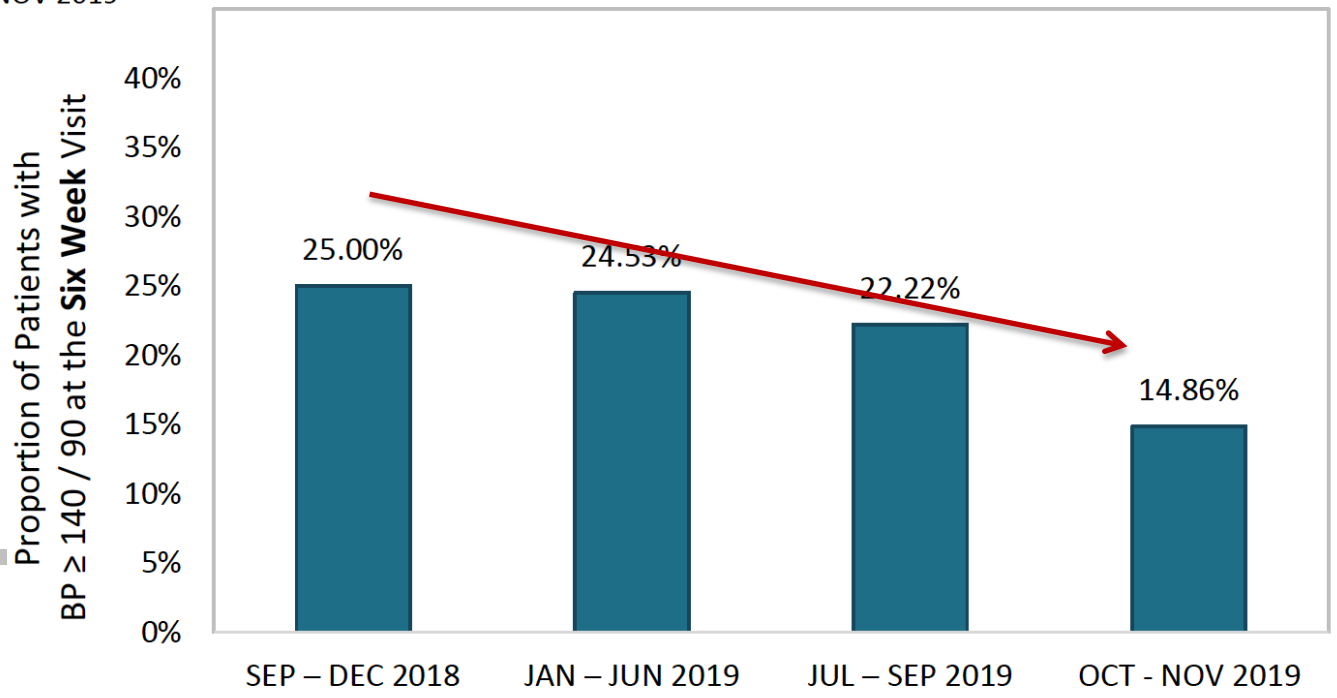


Table . Blood Pressure During the Postpartum Hypertension Visit Stratified by Time Period for BLACK WOMEN ONLY					
Postpartum Hypertension Follow Up	SEP – DEC 2018 N = 66	JAN – JUN 2019 N = 128	JUL – SEP 2019 N = 134	OCT - NOV 2019 N = 92	P–Value
First Postpartum Hypertension Visit Blood Pressures, mmHg – ALL PATIENTS					
Systolic Blood Pressure	137 (129, 143)	136 (126, 146)	134 (125, 142)	131 (122, 136)	0.02
Diastolic Blood Pressure	83 (76, 89)	83 (77, 92)	80 (74, 87)	79 (72, 86)	0.03
Patients with Blood Pressure ≥ 140 / 90	20 (40.00)	39 (42.86)	37 (37.76)	13 (19.40)	0.02
Data is presented as median (quartile 1, quartile 3), or n (%) depending on data type and distribution.					

Future directions at UCM

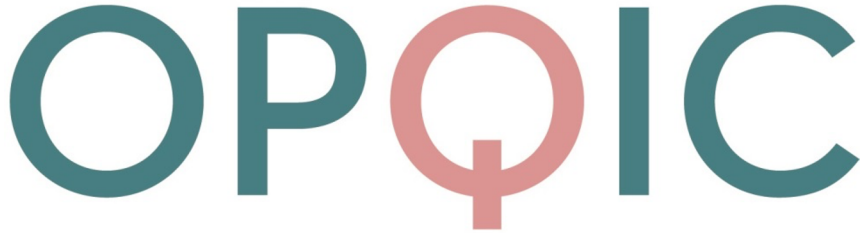
- Racial awareness- recognize that a large obstetrical population is AA and need programs specially for our patient population
- All metrics of improvement should be checked against race
- Plan to evaluate effects of the program on other metrics such as additional medical or emergency department visits, medication use and adjustments, frequency of severe HTN, continued engagement with the health care team
- Culturally-informed, guideline-concordant motivational and educational messaging and dialog for PPHTN self-management.
- Telehealth/remote patient monitoring (RPM) to further improve the f/u rates, compliance and control of BP's postpartum

THANK YOU

- Thoughts
- Questions

OKLAHOMA PERINATAL QUALITY

IMPROVEMENT COLLABORATIVE



Creating a culture of excellence, safety and equity in perinatal care

https://opqic.org/

Quality Improvement Approaches to Improve Outcomes in Women with Peripartum Hypertensive Disorders and address racial/ethnic disparities (Panel)

BARBARA O'BRIEN MS, RN, Oklahoma Perinatal Quality Improvement Collaborative

NICOLE PURNELL, MoMMA's Voice Coalition

SAROSH RANA, MD, MPH, The University of Chicago

Moderator: **CARLA F. ORTIQUE, MD,** Texas Children's Hospital

Objectives

1. Highlight the impact of maternal hypertensive disorders on maternal morbidity and mortality in the United States and Texas
2. Review long term risks of maternal hypertensive disorders on long-term maternal health
3. Explore evidence-based approaches to address disparities in care and outcomes in women with peripartum hypertensive disorders
4. Define best practices for provision of unbiased and equitable patient centered care for women with peripartum hypertensive disorders

Standardization of Practice

Timely Treatment of Severe HTN

INTERIM UPDATE

ACOG
The American College of Obstetricians and Gynecologists

ACOG PRACTICE BULLETIN

Clinical Management Guidelines for Obstetrician–Gynecologists

NUMBER 222

(Replaces Practice Bulletin No. 202, December 2018)

Committee on Practice Bulletins—Obstetrics. This Practice Bulletin was developed by the American College of Obstetricians and Gynecologists' Committee on Practice Bulletins—Obstetrics in collaboration with Jimmy Espinoza, MD, MSc; Alex Vidaeff, MD, MPH; Christian M. Pettker, MD; and Hyagriv Simhan, MD.

INTERIM UPDATE: The content of this Practice Bulletin has been updated as highlighted (or removed as necessary) to include limited, focused editorial corrections to platelet counts, diagnostic criteria for preeclampsia (Box 2), and preeclampsia with severe features (Box 3).

Gestational Hypertension and Preeclampsia

Hypertensive disorders of pregnancy constitute one of the leading causes of maternal and perinatal mortality worldwide. It has been estimated that preeclampsia complicates 2–8% of pregnancies globally (1). In Latin America and the Caribbean, hypertensive disorders are responsible for almost 26% of maternal deaths, whereas in Africa and Asia they contribute to 9% of deaths. Although maternal mortality is much lower in high-income countries than in developing countries, 16% of maternal deaths can be attributed to hypertensive disorders (1, 2). In the United States, the rate of preeclampsia increased by 25% between 1987 and 2004 (3).

INTERIM UPDATE

The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

ACOG COMMITTEE OPINION

Number 767

(Replaces Committee Opinion Number 692, September 2017)

Committee on Obstetric Practice

This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Committee on Obstetric Practice in collaboration with committee members Yasser Y. El-Sayed, MD, and Ann E. Borders, MD, MSc, MPH.

INTERIM UPDATE: This Committee Opinion is updated as highlighted to align with the American College of Obstetricians and Gynecologists' guidance on gestational hypertension, preeclampsia, and chronic hypertension in pregnancy.

Emergent Therapy for Acute-Onset, Severe Hypertension During Pregnancy and the Postpartum Period

ABSTRACT: Acute-onset, severe systolic hypertension; severe diastolic hypertension; or both can occur during the prenatal, intrapartum, or postpartum periods. Pregnant women or women in the postpartum period with acute-onset, severe systolic hypertension; severe diastolic hypertension; or both require urgent antihypertensive therapy. Introducing standardized, evidence-based clinical guidelines for the management of patients with preeclampsia and eclampsia has been demonstrated to reduce the incidence of adverse maternal outcomes. Individuals and institutions should have mechanisms in place to initiate the prompt administration of medication when a patient presents with a hypertensive emergency. Treatment with first-line agents should be expeditious and occur as soon as possible within 30–60 minutes of confirmed severe hypertension to reduce the risk of maternal stroke. Intravenous labetalol and hydralazine have long been considered first-line medications for the management of acute-onset, severe hypertension in pregnant women and women in the postpartum period. Although relatively less information currently exists for the use of calcium channel blockers for this clinical indication, the available evidence suggests that immediate release oral nifedipine also may be considered as a first-line therapy, particularly when intravenous access is not available. In the rare circumstance that intravenous bolus labetalol, hydralazine, or immediate release oral nifedipine fails to relieve acute-onset, severe hypertension and is given in successive appropriate doses, emergent consultation with an anesthesiologist, maternal–fetal medicine subspecialist, or critical care subspecialist to discuss second-line intervention is recommended.

Obstetrics & Gynecology, June 2019

Maternal Morbidity and Mortality: *Original Research*

Systolic Hypertension, Preeclampsia-Related Mortality, and Stroke in California

Amy E. Judy, MD, MPH, Christy L. McCain, MPH, Elizabeth S. Lawton, MHS, Christine H. Morton, PhD, Elliott K. Main, MD, and Maurice L. Druzin, MD

OBJECTIVE: To describe the clinical characteristics of stroke and opportunities to improve care in a cohort of preeclampsia-related maternal mortalities in California.

METHODS: The California Pregnancy-Associated Mortality Review retrospectively examined a cohort of preeclampsia pregnancy-related deaths in California from 2002 to 2007. Stroke cases were identified among preeclampsia deaths, and case summaries were reviewed with attention to clinical variables, particularly hypertension. Health care provider– and patient-related contributing factors were also examined.

RESULTS: Among 54 preeclampsia pregnancy-related deaths that occurred in California from 2002 to 2007, 33 were attributed to stroke. Systolic blood pressure exceeded 160 mm Hg in 96% of cases, and diastolic blood pressure was 110 or higher in 65% of cases. Hemolysis, elevated liver enzymes, and low platelet count syndrome was present in 38% (9/24) of cases with available laboratory data; eclampsia occurred in 36% of cases. Headache was the most frequent symptom (87%) preceding stroke. Elevated liver transaminases were the most common laboratory abnormality (71%). Only 48% of women received antihypertensive treatment. A good-to-strong chance to alter outcome was identified in stroke cases 66% (21/32), with delayed response to clinical warning signs in 91% (30/33) of cases and ineffective treatment in 76% (25/33) cases being the most common areas for improvement.

CONCLUSION: Stroke is the major cause of maternal mortality associated with preeclampsia or eclampsia. All but one patient in this series of strokes demonstrated severe elevation of systolic blood pressure, whereas other variables were less consistently observed. Antihypertensive treatment was not implemented in the majority of cases. Opportunities for care improvement exist and may significantly affect maternal mortality.

(Obstet Gynecol 2019;133:1151–9)
DOI: 10.1097/AOG.0000000000003290

Hypertensive disorders of pregnancy are a major

Obstetrics & Gynecology February, 2021

OPEN

Original Research

Semiautonomous Treatment Algorithm for the Management of Severe Hypertension in Pregnancy

Courtney Martin, DO, James Pappas, MD, Kim Johns, DNP, Heather Figueroa, MD, Kevin Balli, MD, and Ruofan Yao, MD, MPH

OBJECTIVE: To evaluate whether implementation of a semiautonomous treatment algorithm was associated with improved compliance with American College of Obstetricians and Gynecologists guidelines for rapid administration of antihypertensive therapy in the setting of sustained severe hypertension.

METHODS: This was a single-center retrospective cohort study of admitted pregnant and postpartum patients treated for severe hypertension between January 2017 and March 2020. The semiautonomous treatment algorithm, which included vital sign monitoring, blood pressure thresholds for diagnosis of severe hypertension, and automated order sets for recommended first-line antihypertensive therapy were implemented between May 2018 and March 2019. The primary outcomes were the administration of antihypertensive therapy within 15, 30 and 60 minutes of diagnosis of severe hypertension. Comparisons were made between the preimplementation, during implementation, and postimplementation groups using χ^2. Analysis was limited to the first episode of severe hypertension treated. Statistical significance was defined as $P<.05$.

RESULTS: In total, there were 959 obstetric patients treated for severe hypertension, with 373 (38.9%) treated preimplementation, 334 (34.8%) during implementation, and 252 (26.2%) after implementation. Treatment of severe hypertension within 15 minutes was 36.5% preimplementation, 45.8% during implementation, and 55.6% postimplementation ($P=.001$). Treatment within 30 minutes was 65.9% in the preimplementation group, 77.8% during implementation, and 79.0% in the postimplementation group ($P=.004$). There was no difference in percentage of patients treated within 60 minutes (86.3% before, 87.7% during and 92.9% after implementation, $P=.12$).

CONCLUSION: Implementation of a semiautonomous treatment algorithm for severe hypertension was associated with a higher percentage of pregnant and postpartum patients receiving the first dose of antihypertensive therapy within 15 and 30 minutes. Implementation of similar algorithms for this and other obstetric indications may decrease time to appropriate therapy and help improve care equity.

(Obstet Gynecol 2021;137:211–7)

DOI: 10.1097/AOG.0000000000004235

See related editorial on page 209.

From the Departments of Obstetrics and Gynecology and Patient Safety and Reliability, Loma Linda University School of Medicine, and Loma Linda University Children's Hospital, Loma Linda, California.

The authors thank Carissa Cianci, RN, Christopher Lin, PharmD, Robert Ruiz,

Obstetrics & Gynecology February, 2021

OPEN

Current Commentary

Racial and Ethnic Disparities in Reproductive Health Services and Outcomes, 2020

Madeline Y. Sutton, MD, MPH, Ngozi F. Anachebe, MD, PharmD, Regina Lee, MD, and Heather Skanes, MD

Racial and ethnic disparities in women's health have existed for decades, despite efforts to strengthen women's reproductive health access and utilization. Recent guidance by the American College of Obstetricians and Gynecologists (ACOG) underscores the often unacknowledged and unmeasured role of racial bias and systemic racial injustice in reproductive health disparities and highlights a renewed commitment to eliminating them. Reaching health equity requires an understanding of current racial–ethnic gaps in reproductive health and a concerted effort to develop and implement strategies to close gaps. We summarized national data for several reproductive health measures, such as contraceptive use, Pap tests, mammograms, maternal mortality, and unintended pregnancies, by race–ethnicity to inform health-equity strategies. Studies were retrieved by systematically searching the PubMed (2010–2020) electronic database to identify most recently published national estimates by race–ethnicity (non-Hispanic Black or African American, Hispanic or Latinx, and non-Hispanic White women). Disparities were found in each reproductive health category. We describe relevant components of the Affordable Care Act (ACA) and the Preventing Maternal Deaths Act, which can help to further strengthen reproductive health care, close gaps in services and outcomes, and decrease racial–ethnic reproductive health disparities. Owing to continued diminishment of certain components of the ACA, to optimally reach reproductive health equity, comprehensive health insurance coverage is vital. Strengthening policy-level strategies, along with ACOG's heightened commitment to eliminating racial disparities in women's health by confronting bias and racism, can strengthen actions toward reproductive health equity.

(Obstet Gynecol 2021;137:225–33)
DOI: 10.1097/AOG.0000000000004224

Despite significant strides in women's reproductive health, disparities in access and outcomes remain, especially for racial–ethnic minorities in the United States.[1–4] Reports document decades-long racial–ethnic disparities in several areas of reproductive health, including contraceptive use, sexually transmitted infection care and human papillomavirus vaccination among younger women aged 18–25 years,[5] reproductive cancers,[6] preterm deliveries and low-birth-weight neonates, and maternal morbidity and mortality.[7] Data suggest that the disproportionate risk for women of color for reproductive health access and outcomes expand beyond individual-level risks and include social and structural factors, such as fewer neighborhood health services, less insurance cover-

legacy of abuse and eugenics in which women of color have been disproportionately sterilized without their consent (compared with White women) as a result of explicit bigotry. Data suggest that women of color are offered LARC more often sometimes owing to implicit biases.[91] Awareness of historical and modern-day racial injustices often contribute to the lower rate of contraceptive use among Black and Hispanic women; there is a distrust by some patients that has yet to be acknowledged by many clinicians.[92] To

Maternal Mortality

Maternal mortality disparities have been documented for decades in the United States.[74] These disparities are a public health failure that have recently generated increased attention and policy shifts, especially because approximately 60% of pregnancy-related deaths are preventable.[74] Persistently, women of color have been disproportionately affected by maternal mortality; Black women and American Indian or Alaska Native women

are 3.3 and 2.5 times more likely to die from pregnancy-related causes than White women, respectively.[74] When individual recent cases were reviewed, clinician-level biases and racism often contributed to delayed or absent care that led to deaths.[75–79] Establishment of management protocols by hospitals and medical practices for the management of conditions such as postpartum hemorrhage,[80] hypertensive disorders of pregnancy, and maternal cardiovascular disease will lessen the disparate care provided to women of color, increase standardized care, and improve maternal morbidity and mortality. Such protocols are necessary in both the inpatient and outpatient arenas, at the hospital or health care system level, as well as in independent medical practices.

timely treatment and decreased morbidity and mortality (Fig. 1).

CONCLUSION

Racial–ethnic disparities in reproductive health access, services, and outcomes are prevalent and require heightened awareness and strategies to close these long-standing disparity gaps. Specifically for contraceptive access, preventing maternal deaths, and decreasing HIV infections, developing and strengthening policies and laws that include a focus on dismantling structural racism and implicit bias are crucial as part of the solution. Because race and ethnicity are social constructs, dismantling the struc-

AIM

The Alliance for Innovation on Maternal Health (AIM) is a national partnership of organizations poised to reduce severe maternal morbidity by 100,000 events and maternal mortality by 1,000 deaths by 2018. The AIM program is funded through a cooperative agreement with the Maternal and Child Health Bureau/Health Resource Services Administration.

Oklahoma is the first state to join the AIM initiative in conjunction with the OPQIC Every Mother Counts collaborative.

NEW AIM RESOURCES!

- *NEW!* AWHONN Maternal Mortality Resources
- Hemorrhage Bundle Implementation Research and Resources
- Hypertension Bundle Implementation Research and Resources

(Please note: To watch the videos below, please use Windows 10 Internet Explorer, Microsoft Edge or another web browser like Mozilla FireFox or Google Chrome.)

AIM Webcast: Treating Maternal Hypertension

https://opqic.org/aim/

HYPERTENSION IN PREGNANCY

Every Mother Counts aims to improve each hospital's readiness for, recognition of, response to and reporting of severe hypertension. This will be accomplished through the implementation of the Severe Hypertension Patient Safety Bundle. Registration is required to access the bundle for tracking purposes.

There are many links to resources that can be accessed through the bundle. Please use the resources that are listed in the bundle.

READINESS:

NEW! Hypertension Bundle Implementation Research and Resources
Severe Hypertension Patient Safety Bundle (Council on Patient Safety in Women's Healthcare)
Hypertension in Pregnancy ACOG Task Force Report
Patient Education Resource from the Preeclampsia Foundation
7 Symptoms Every Pregnant Woman Should Know Video
Hypertension Driver Diagram Appendix B
Hypertension in Pregnancy-Readiness Assessment

RECOGNITION:

Preeclampsia Early Recognition Tool (PERT)
Accurate Blood Pressure Measurement
Accurate BP Flyer
Hypertension in Pregnancy-Recognition Assessment

https://opqic.org/initiatives/emc/hypertension/

RESPONSE:

ACOG Committee Opinion 692: Emergent Therapy for Acute-Onset, Severe Hypertension During Pregnancy and the Postpartum Period
Maternal Mental Health Resources
AIM FAQ Topic: Treatment for Acute Onset Severe HTN (by Elliot Main)
Preeclampsia Toolkit (CMQCC)
Hypertension in Pregnancy-Response Assessment
Patient, Family, and Staff Support (Council on Patient Safety in Women's Healthcare)

REPORTING:

Severe Maternal Morbidity Facility Review Forms (Council on Patient Safety in Women's Healthcare)

ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

Updates to the AIM Data Collection Plan

This document details updates to the AIM Data Collection Plan's metrics for the AIM Severe Hypertension in Pregnancy and Obstetric Hemorrhage patient safety bundles, including changes to the AIM Data Center to support these updates.

Severe Hypertension in Pregnancy

Original Metric

P4: Report Numerator/Denominator
Denominator: Women with persistent (twice within 15 minutes) new-onset severe hypertension, excludes women with an exacerbation of chronic hypertension
Numerator: Among the denominator, cases who were treated within 1 hour with IV Labetalol, IV Hydralazine, or PO Nifedipine

Updated Metric

P4: Report Numerator/Denominator
Denominator: Birthing patients with acute-onset severe hypertension that persists for 15 minutes or more, including those with preeclampsia, gestational or chronic hypertension
Numerator: Among the denominator, birthing patients who were treated within 1 hour with IV Labetalol, IV Hydralazine, or PO Nifedipine (see ACOG CO #767). The 1 hour is measured from the first severe range BP reading, assuming confirmation of persistent elevation through a second reading.

Rationale

We updated P4 to align with ACOG Committee Opinion #767, which provides standardized guidance for treating pregnant people and those in the postpartum period with acute-onset severe hypertension.

Changes to the AIM Data Center

The original language for metric P4 will be changed in the AIM Data Center to that of the updated metric.

BELIEVE IT

TREAT IT

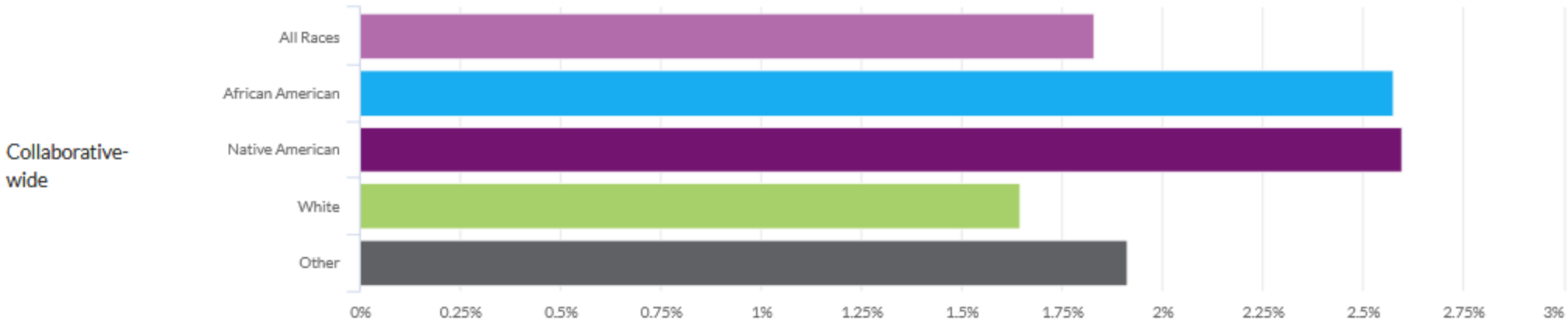
https://safehealthcareforeverywoman.org/

Oklahoma

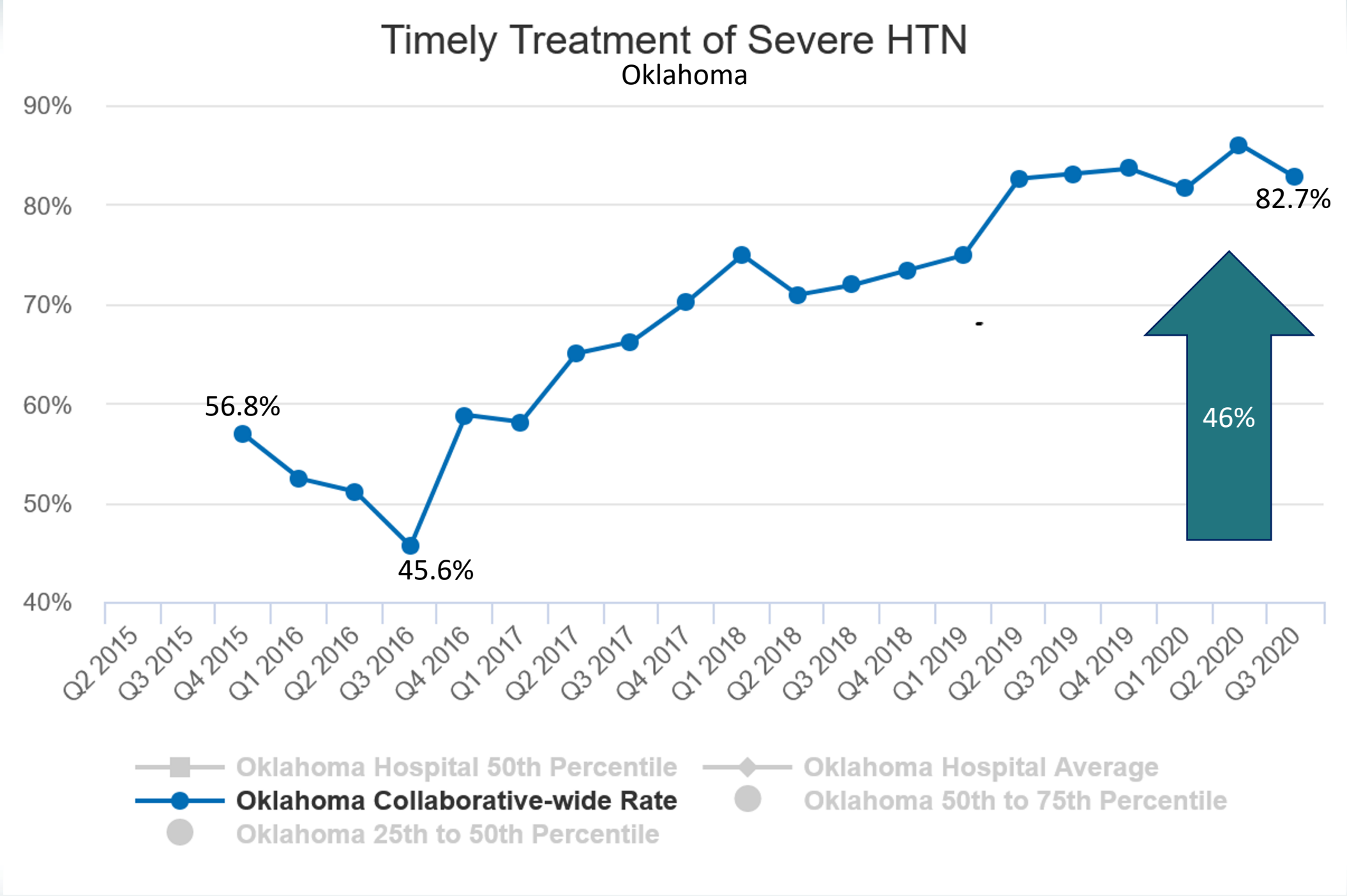
Aggregate CSV | Annual CSV

Comparison | Trendline | **Race-Based** | Outliers

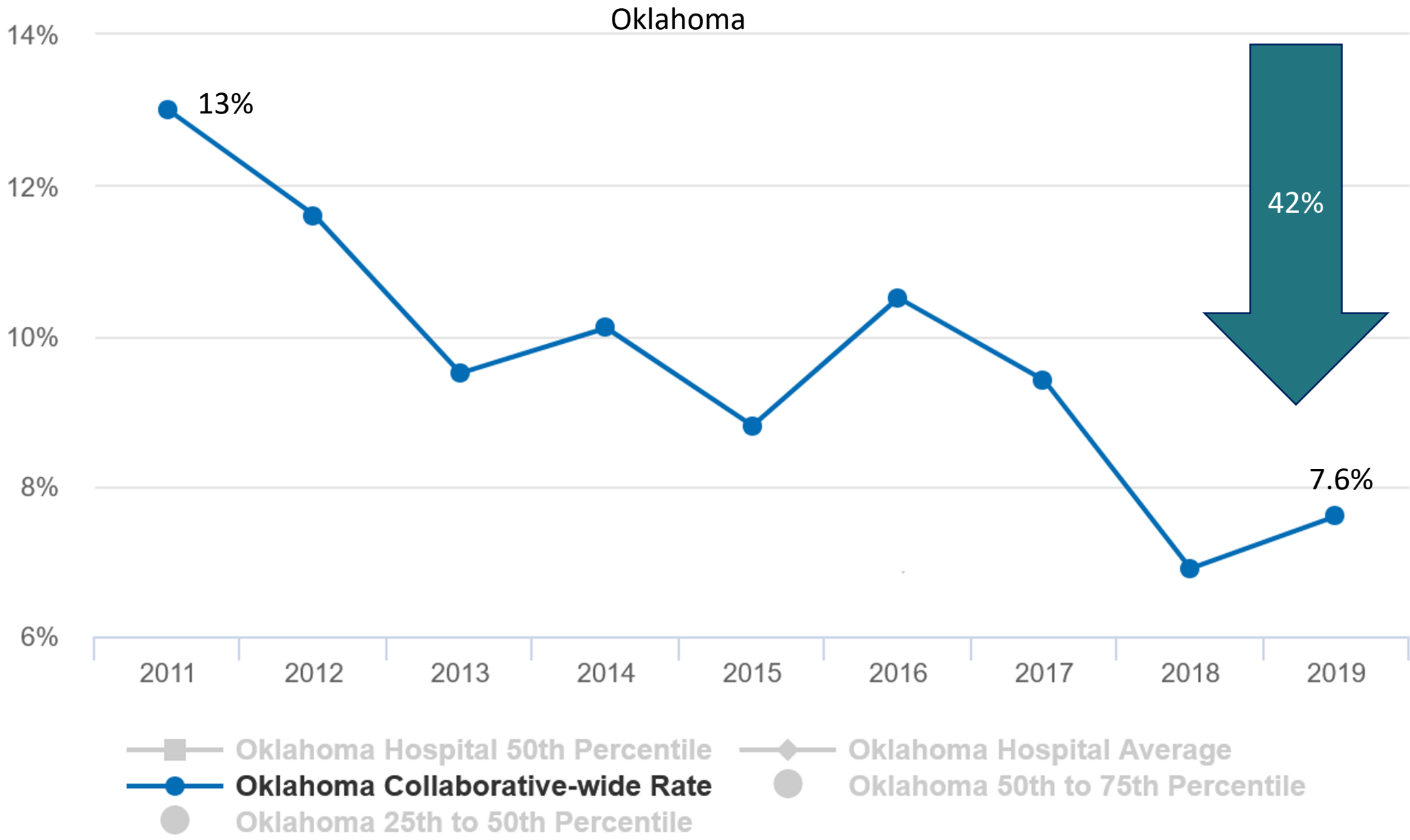
Severe Maternal Morbidity By Race (Q1 2011 - Q4 2019)

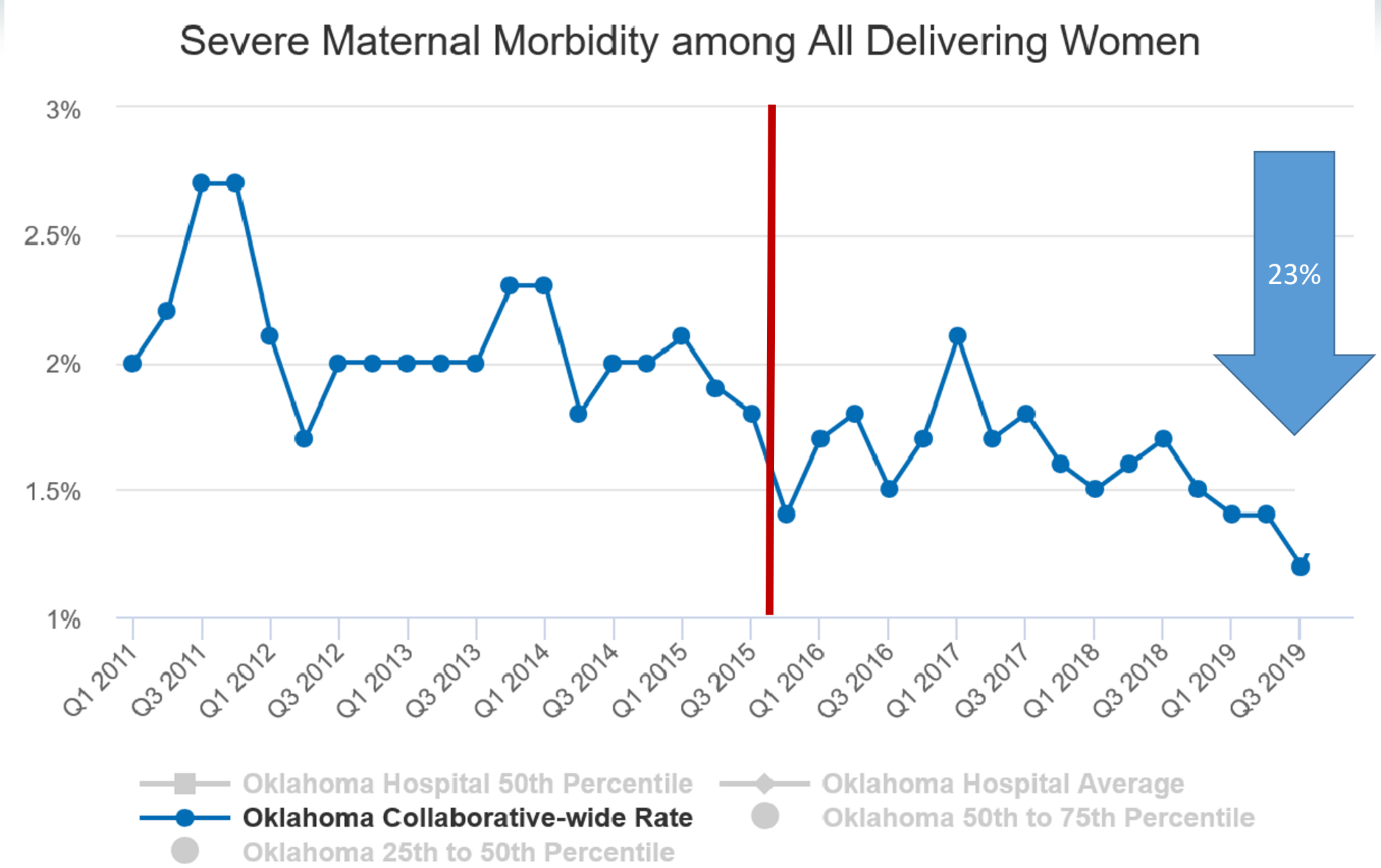


Outcome measure data source: Oklahoma Discharge Public Use Data file, Health Care Information Division, Oklahoma State Department of Health


Timely Treatment of Severe HTN
Oklahoma
90%
80%
70%
60%
50%
40%
56.8%
45.6%
82.7%
46%
Q2 2015
Q3 2015
Q4 2015
Q1 2016
Q2 2016
Q3 2016
Q4 2016
Q1 2017
Q2 2017
Q3 2017
Q4 2017
Q1 2018
Q2 2018
Q3 2018
Q4 2018
Q1 2019
Q2 2019
Q3 2019
Q4 2019
Q1 2020
Q2 2020
Q3 2020
Oklahoma Hospital 50th Percentile
Oklahoma Hospital Average
Oklahoma Collaborative-wide Rate
Oklahoma 50th to 75th Percentile
Oklahoma 25th to 50th Percentile

Severe Maternal Morbidity among Preeclampsia Cases





AIM Data Portal – Oklahoma hospital discharge data

LISTENING TO WOMEN AND FAMILIES

Sarah Johnson
OPQIC Maternal Peer Navigator

ADDED MATERNAL PEER NAVIGATOR TO STAFF MARCH, 2020

OPQIC

Three Areas of Focus

- Amplify patient voice in our work and partners' work

- Educate providers, partners and community through her story
  - In partnership with the CDC's Hear Her Campaign
  - Hospital presentations
  - Partners Presentations
  - Community presentations

- Create patient network to share in this work

“Often, all it takes to help someone is to sincerely listen.”

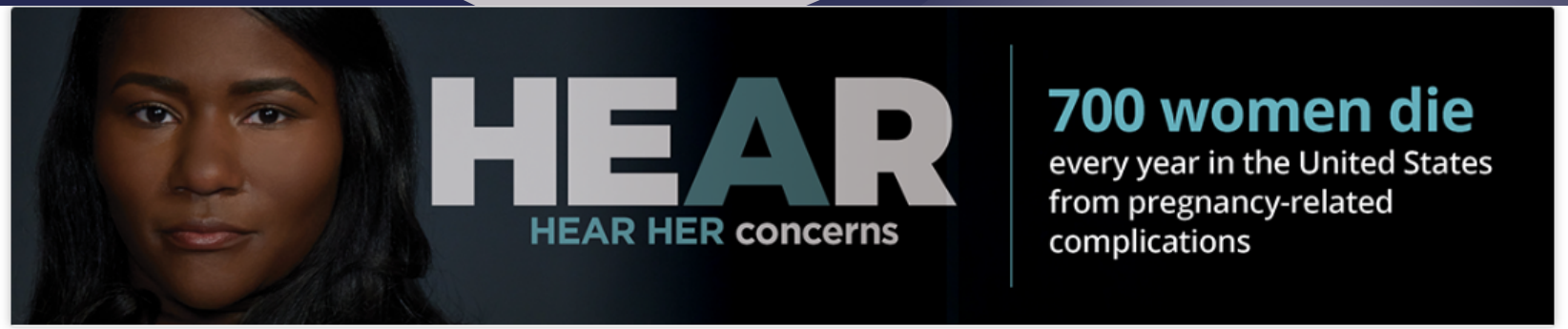
OPQIC

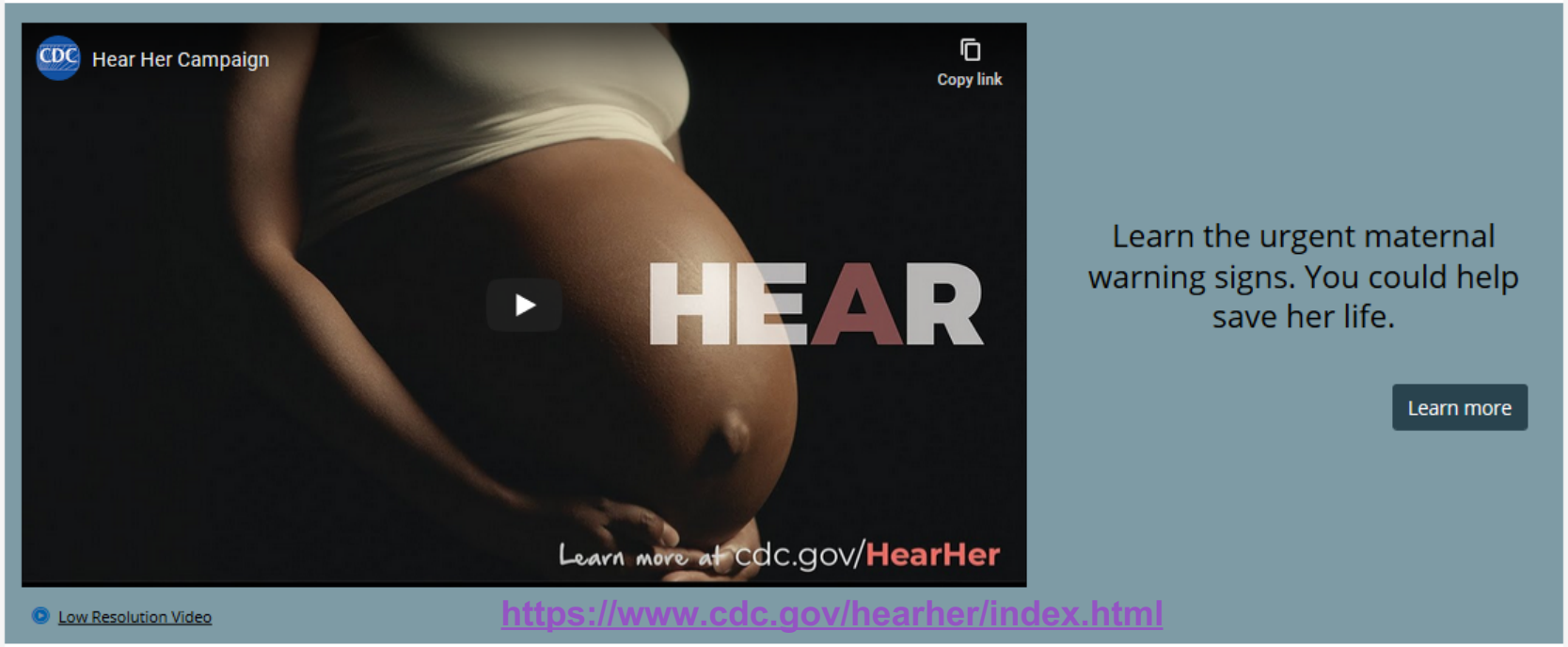
How We Can Prevent the Deadly Ds: Denial, Dismissal, Delay

- **EMPOWER** Patients
  - Standardized education on maternal warning signs/post-birth warning signs
    - Begin early, reinforce during PNC and at birth hospitalization and discharge
- **PARTNER** with patients to encourage a collaborative relationship
  - Create a safe, inviting communication environment
- **LISTEN** to Women
  - Provider's duty to listen, investigate, take action, provide information and/or reassurance

EMPOWERING WOMEN AND FAMILIES THROUGH EDUCATION AND PARTNERSHIP

CDC HEAR HER Campaign





https://www.cdc.gov/hearher/index.html

Pregnant & Postpartum Women

Information for pregnant women and women who gave birth within the last year.

Partners, Friends & Family

Information for the partners, friends, and family of pregnant and postpartum women.

Healthcare Providers

Information for healthcare providers who care for pregnant or postpartum women.

About the Campaign
Overview of CDC's **Hear Her** campaign.

Urgent Maternal Warning Signs
Know the urgent maternal warning signs and symptoms during pregnancy and up to a year after giving birth.

Pregnancy-Related Deaths in the United States
Information and data on pregnancy-related deaths in the United States.

Campaign Resources
Download videos, social media content and images, and more.

Hear Personal Stories of Pregnancy-Related Complications

This project is supported through a partnership with the CDC Foundation and funding from Merck through its Merck for Mothers Program.

https://www.cdc.gov/hearher/index.html

URGENT MATERNAL WARNING SIGNS

If you have any of these symptoms during or after pregnancy, contact your health care provider and get help right away. If you can't reach your provider, go to the emergency room.

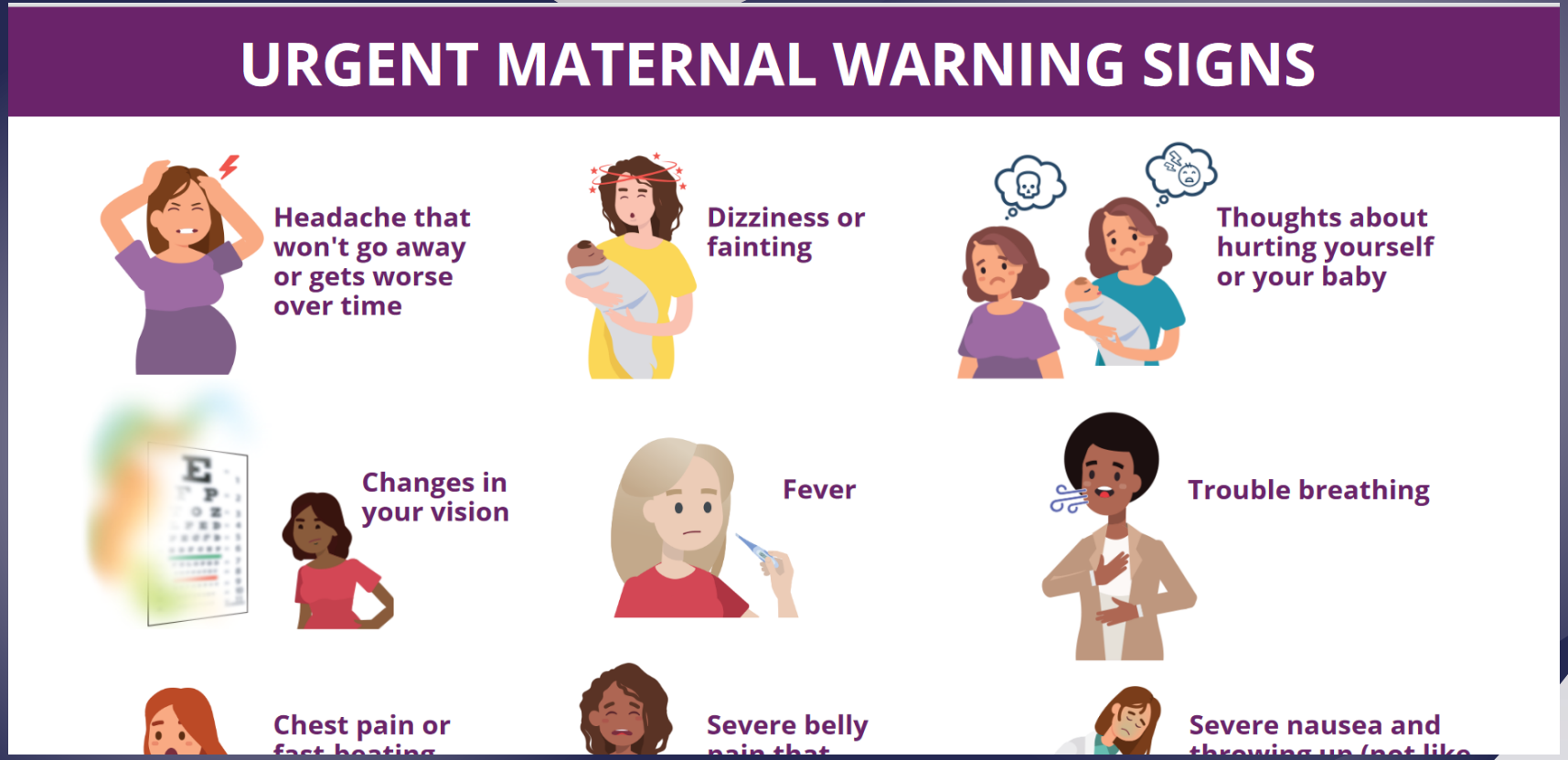
- Headache that won't go away or gets worse over time
- Dizziness or fainting
- Thoughts about hurting yourself or your baby
- Changes in your vision
- Fever

- Trouble breathing
- Chest pain or fast-beating heart
- Severe belly pain that doesn't go away
- Severe nausea and throwing up (not like morning sickness)
- Baby's movements stopping or slowing during pregnancy

- Vaginal bleeding or fluid leaking during pregnancy
- Vaginal bleeding or fluid leaking after pregnancy
- Swelling, redness, or pain of your leg
- Extreme swelling of your hands or face
- Overwhelming tiredness

https://safehealthcareforeverywoman.org/

Council on Patient Safety in Women's Health Care



www.safehealthcareforeverywoman.org

Urgent Maternal Warning Signs
https://safehealthcareforeverywoman.org/council/patient-safety-tools/urgent-maternal-signs/

https://www.cdc.gov/hearher/index.html

AWHONN Post-Birth Warning Signs Education Program

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:

- ❑ **P**ain in chest
- ❑ **O**bstructed breathing or shortness of breath
- ❑ **S**eizures
- ❑ **T**houghts 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)

- ❑ **B**leeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger
- ❑ **I**ncision that is not healing
- ❑ **R**ed or swollen leg, that is painful or warm to touch
- ❑ **T**emperature of 100.4°F or higher
- ❑ **H**eadache that does not get better, even after taking medicine, or bad headache with vision changes

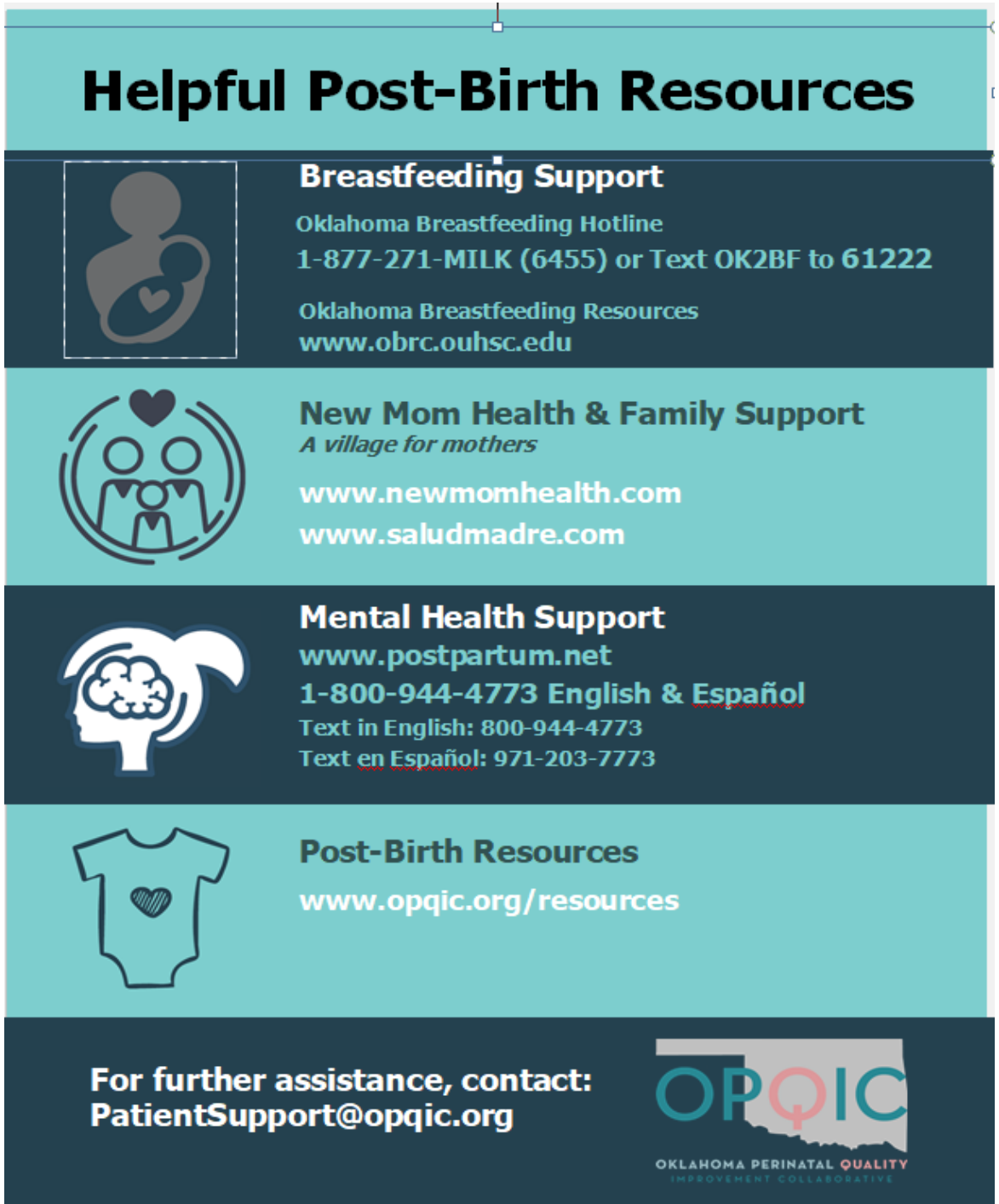
Trust your instincts. ALWAYS get medical care if you are not feeling well or have questions or concerns.

Tell 911 or your healthcare provider:

"I gave birth on _____ (Date) and I am having _____ (Specific warning signs)."

https://awhonn.org/education/hospital-products/post-birth-warning-signs-education-program/

DRAFT Patient Resources Flyer



DRAFT Clinical Summary

OKLAHOMA PERINATAL QUALITY IMPROVEMENT COLLABORATIVE

Clinical Summary

Patient Name			
Date of Delivery			
Hospital		**Phone**	
Type of Birth	☐ Vaginal ☐ Cesarean Comments:	**Blood Type**	

Complications

☐ Obstetric Hemorrhage ☐ Severe Hypertension/Preeclampsia
☐ Venous Thromboembolism ☐ Other:

Patient Information

Mom	Pregnancy Outcome ☐ Live Birth ☐ Stillbirth ☐ NICU		
Baby	GA (in weeks)	Birthweight	Length

Clinical Summary

Surgery	*Date*		
	Type		
	Organs removed		
Blood Transfusion	*Type of Blood Products*	☐ Red Blood Cells ☐ Platelets ☐ Plasma	
	Number of units	___ Red Blood Cells ___ Platelets ___ Plasma	
Imaging Tests	☐ Yes ☐ No	*Date*	
		Type	
		Result	
Interventional Radiology	☐ Yes ☐ No	*Date*	
		Type	
		Result	
Medical Treatments			

Follow-up

Clinician Name		**Phone**	
Other		**Phone**	

For further information, please contact the Hospital Medical Record Office to request your complete medical record.

Medical Records		**Phone**	

Notes

Reference: CMS Patient Clinical Summary Guidelines

11.23.15 | V1

New Patient-Facing Web Page Coming Soon!

QUESTIONS?

BARBARA-OBRIEN@OUHSC.EDU

W (405) 271-7777
C (405) 596-3846

A Tale of Two Pregnancies

2021 TCHBM Summit – February 11, 2021

MoMMA's Voices

Beyond the Chart

Cooper – December 28, 2005

23 years old

Married

Associates Degree

Fortune 100 Companies

Private insurance

$3500 deductible

Super stressful job

Lorraine – March 18, 2015

33 years old

Married – Same Spouse

Associates Degree

Fortune 500 Company

Private insurance

$5500 deductible

Same super stressful job, but managed differently

MoMMA's Voices

Cooper – Pre-pregnancy vs 31 Weeks

MoMMA's Voices

Lorraine – Pre-pregnancy vs 31 Weeks

MoMMA's Voices

Health Care Provider Team

Cooper

- Ob/Gyn starting at 8 weeks
- Midwife at 28+4 and 30+5
- Ob/Gyn starting again at 32+5
- Bedrest at 33+5
- BPP scheduled at 34+6

Lorraine

- RE until 8 weeks
- Ob/Gyn starting at 11 weeks
- MFM starting at 16 weeks
- Amnio at 36 weeks
- Scheduled c-section at 37 weeks

MoMMA's Voices

Where I got My Pregnancy Info

Cooper

- Books: What to Expect While You Are Expecting – 3rd edition
- Friends
- NOT my mom

Lorraine

- Preeclampsia.org (Almost 10 years of volunteering with the PF)
- Preeclampsia Friends
- NOT my mom

MoMMA's Voices

Medication

Cooper

- Prenatal vitamin
- Claritin for allergies
- Sudafed

Lorraine

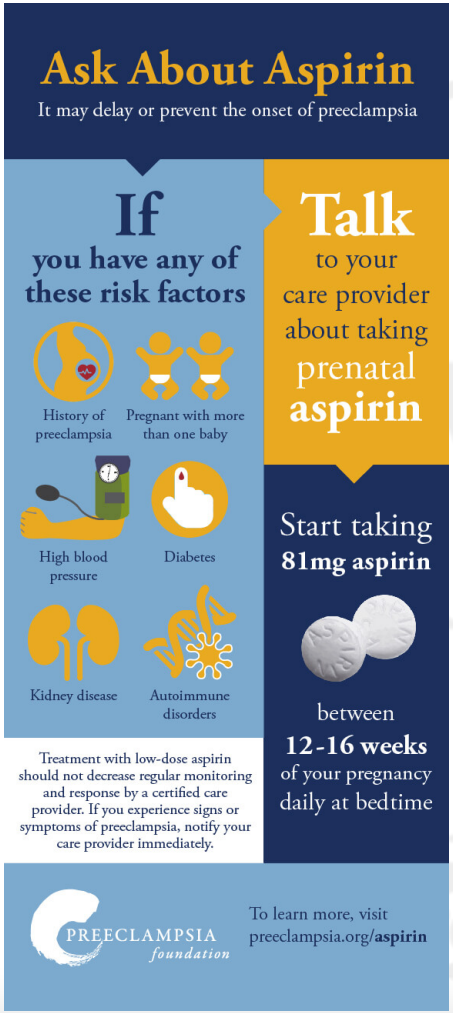
- Prenatal vitamin
- Low dose aspirin
- Labetalol
- Zoloft
- Metformin

https://www.preeclampsia.org/prenatal-aspirin

MoMMA's Voices

Ask about Aspirin

https://www.preeclampsia.org/prenatal-aspirin



MoMMA's Voices

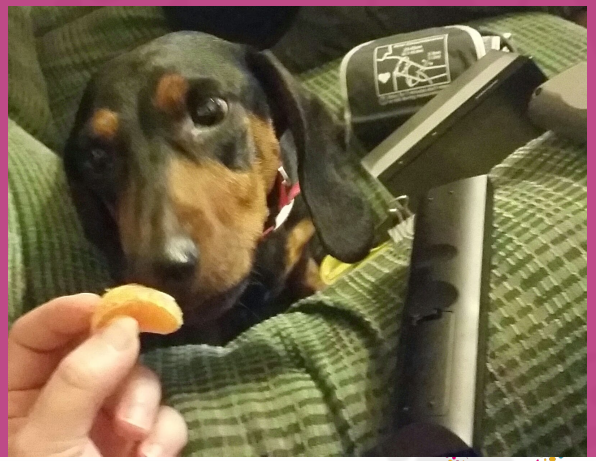
Blood Pressure Monitoring

Cooper

- Started monitoring at home around 32+5
- Couldn't afford a new cuff, got a hand-me-down
- Took BP incorrectly and inconsistently

Lorraine

- RE until 8 weeks
- Ob/Gyn starting at 11 weeks
- MFM starting at 16 weeks

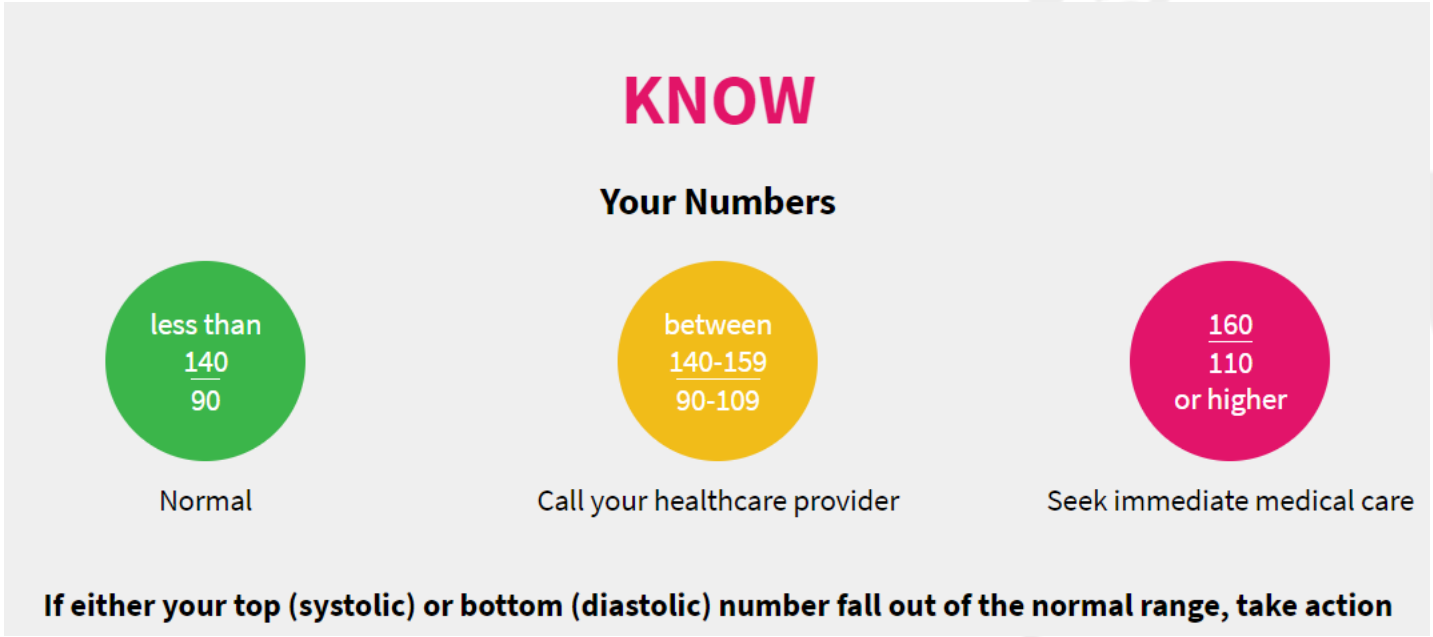


MoMMA's Voices

How to check your blood pressure

https://www.preeclampsia.org//blood-pressure

Blood Pressure Monitoring

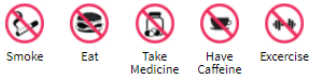


MoMMA's Voices

How to check your blood pressure (cont)

CHECK

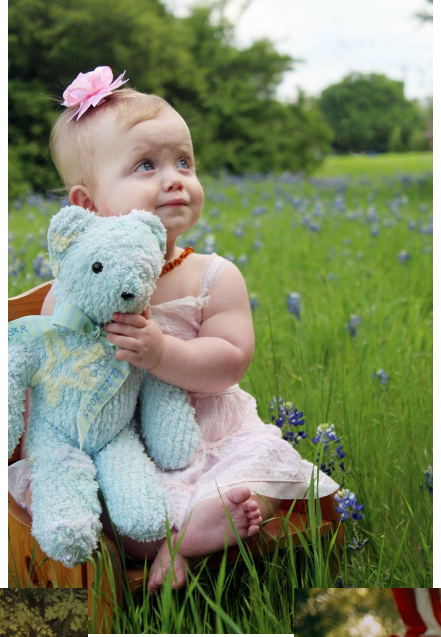
Before Taking Your Blood Pressure

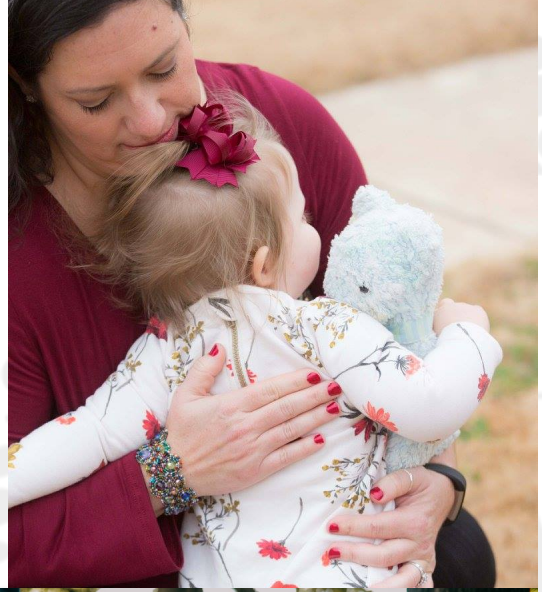
Go To The Bathroom	Sit Quietly 3-5 Minutes	Within 30 Minutes DO NOT
		 Smoke Eat Take Medicine Have Caffeine Excercise

Taking Your Blood Pressure

- sit up with your arm propped at the same level as your heart, place left bare arm through the cuff above your elbow
- tighten the cuff around your arm and secure the Velcro fastener
- press START, cuff will inflate squeezing your arm then deflate, breathe normally, don't talk
- record your numbers twice a day

MoMMA's Voices





MoMMA's
Voices

Thank you!

For more info:

www.mommasvoices.org
Nicole.Purnell@preeclampsia.org

MoMMA's Voices