WELCOME TO THE MONTHLY LEARNING WEBINAR

The presentation will begin shortly
General Housekeeping

• Use the chat box to register your name, facility represented and all participating team members.

• To prevent distractions, please mute all phones:
  – Please DO NOT put phones on hold to avoid playing background music we are unable to control.

• Use the chat box for questions during the presentation but please hold comments until the end of the session.

• All collaborative members want to learn from your wins and challenges so please share!
GOAL: To reduce preeclampsia maternal morbidity in Georgia hospitals

Key Driver Diagram: Maternal Hypertension Initiative

AIM: By 12/31/2021, to reduce the rate of severe morbidities in women with preeclampsia, eclampsia, or preeclampsia superimposed on pre-existing hypertension by 20%

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**Key Drivers**

- **Readiness:** Implementation of standard processes for optimal care of severe maternal hypertension in pregnancy
- **Recognition:** Screening and early diagnosis of severe maternal hypertension in pregnancy
- **Response:** Care management for every pregnant or postpartum woman with new onset severe hypertension
- **Reporting/Systems Learning:** Foster a culture of safety and improvement for care of women with new onset severe hypertension

**Interventions**

- Implement standard order sets and/or algorithms for early warning signs, diagnostic criteria, timely triage, monitoring and treatment of severe hypertension
- Ensure rapid access to medications used for severe hypertension with guide for administration and dosage
- Implement system plan for escalation, obtaining appropriate consultation, and maternal transport
- Perform regular simulation drills of severe hypertension protocols with post-drill debriefs
- Integrate severe hypertension processes (e.g. order sets, MEWS/OBEWS) into your EHR
- Standardize protocol for measurement and assessment of blood pressure and urine protein for all pregnant and postpartum women
- Standardize response to early warning signs including listening to and investigating symptoms and assessment of labs
- Implement facility-wide standards for patient-centered education of women and their families on signs and symptoms of severe hypertension
- Educate OB, ED, and anesthesiology physicians, midwives, and nurses on implicit bias and recognition and diagnosis of severe hypertension that includes utilizing resources such as the AIM hypertension bundle and/or unit standard protocol
- Execute facility-wide standard protocols for appropriate medical management in under 60 minutes
- Create and ensure understanding of communication and escalation procedures
- Develop OB-specific resources and protocols to support patients, families, staff through major complications
- Provide patient-centered discharge education materials on the signs and symptoms of preeclampsia and postpartum preeclampsia and when to seek medical assistance
- Implement patient protocols to ensure follow-up within 7-10 days for all women with severe hypertension and 72 hours for all women on medications
- Establish a system to perform regular debriefs after all new onset severe hypertension cases
- Establish a process in your hospital to perform multidisciplinary systems-level reviews on all severe hypertension cases admitted to ICU
- Continuously monitor, disseminate, and discuss your monthly AIM/GaPQC data reports at staff/administrative meetings
- Add maternal hypertension assessment and treatment protocols and education to provider and staff orientations, and annual competency assessments
## AIM HTN Structure Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Report Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S1: Patient, Family &amp; Staff Support</strong></td>
<td>Has your hospital developed OB specific resources and protocols to support patients,</td>
</tr>
<tr>
<td></td>
<td>family and staff through major OB complications?</td>
</tr>
<tr>
<td><strong>S2: Debriefs</strong></td>
<td>Has your hospital established a system in your hospital to perform regular formal</td>
</tr>
<tr>
<td></td>
<td>debriefs after cases with major complications?</td>
</tr>
<tr>
<td><strong>S3: Multidisciplinary Case Reviews</strong></td>
<td>Has your hospital established a process to perform multidisciplinary systems-level</td>
</tr>
<tr>
<td></td>
<td>reviews on all cases of severe maternal morbidity (including women admitted to the</td>
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<tr>
<td></td>
<td>ICU, receiving ≥4 units RBC transfusions, or diagnosed with a VTE)?</td>
</tr>
<tr>
<td><strong>S4: Unit Policy and Procedure</strong></td>
<td>Does your hospital have a Severe HTN/Preeclampsia policy and procedure (reviewed and</td>
</tr>
<tr>
<td></td>
<td>updated in the last 2-3 years) that provides a unit-standard approach to measuring</td>
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<tr>
<td></td>
<td>blood pressure, treatment of Severe HTN/Preeclampsia, administration of Magnesium</td>
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<tr>
<td></td>
<td>Sulfate, and treatment of Magnesium Sulfate overdose?</td>
</tr>
<tr>
<td><strong>S5: EHR Integration</strong></td>
<td>Were some of the recommended Severe HTN/Preeclampsia bundle processes (i.e. order sets,</td>
</tr>
<tr>
<td></td>
<td>tracking tools) integrated into your hospital’s Electronic Health Record system?</td>
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</table>
## AIM HTN Process Measures

<table>
<thead>
<tr>
<th>Process Measures</th>
<th>Description</th>
</tr>
</thead>
</table>
| P1: Unit Drills                   | Drills  
The number of OB drills performed on any maternal safety topic?                                                                     |
| P2: Provider Education            | Provider Education  
The number of OB MDs and CNMs completing an education program on severe HTN/Preeclampsia? The number who completed education on the severe HTN/Preeclampsia bundle elements and unit standard protocol? |
| P3: Nursing Education             | Nursing Education  
The number of OB MDs and CNMs completing an education program on severe HTN/Preeclampsia? The number who completed education on the severe HTN/Preeclampsia bundle elements and unit standard protocol? |
| P4: Treatment of Severe HTN       | Treatment  
The number of women with persistent new onset HTN that were treated within 1 hour with IV Labetalol, IV Hydralazine or PO Nifedipine? |
| P5: Administration of MgSO4       | MgSO4  
The number of mothers with severe preeclampsia or preeclampsia with severe features that were treated with MgSO4?                      |
| P6: Implicit Bias Training        | Implicit Bias Training  
The number of providers, nurses and OB staff who received training on implicit bias?                                               |
<table>
<thead>
<tr>
<th>Measure</th>
<th>Type</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Maternal Morbidity</td>
<td>Outcome</td>
<td>20% reduction</td>
</tr>
<tr>
<td>No. of women with severe maternal morbidities (e.g. Acute renal failure, ARDS, Pulmonary Edema, Puerperal CNS Disorder such as Seizure, DIC, Ventilation, Abruption) / No. pregnant &amp; postpartum women with new onset severe range HTN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate Medical Management in under 60 minutes</td>
<td>Process</td>
<td>100%</td>
</tr>
<tr>
<td>No. of women treated at different time points (30,60,90, &gt;90 min) after elevated BP is confirmed / No. of women with new onset severe range HTN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Debriefs on all new onset severe range HTN* cases</td>
<td>Process</td>
<td>100%</td>
</tr>
<tr>
<td>Discharge education and follow-up within 7-10 days for all women with severe range HTN, 72 hours with all women with severe range HTN on medications</td>
<td>Process</td>
<td>100%</td>
</tr>
</tbody>
</table>
Accurate Blood Pressure Measurement: Strategies for Success

Lauren Nunally
Perinatal Quality Coordinator
Georgia Obstetrical and Gynecological Society
Blood Pressure Basics

BP measurement is one of the most important basic clinical assessments that we do, yet it is often one of the most inaccurately performed assessments, leading to delays in diagnosis and treatment.
Recognition

- Acute onset, severe hypertension that is accurately measured using standard technique and is persistent for 15 minutes or more is considered a *hypertensive emergency.*
## Steps for Obtaining Accurate Blood Pressure Measurements

**Step 1: Prepare equipment**
- Mercury sphygmomanometer is gold standard, can use validated equivalent automated equipment
- Check cuff for any defects
- Obtain correct size cuff: width of bladder 40% of circumference and encircle 80% of arm (See Figure 1)

**Step 2: Prepare the patient:**
- Use a sitting or semi-reclining position with back supported and arm at heart level
- Patient to sit quietly for 5 minutes prior to measurement
- Bare upper arm of any restrictive clothing
- Patient's feet should be flat, not dangling from examination table or bed, and her legs uncrossed
- Assess any recent (within previous 30 minutes) consumption of caffeine or nicotine. If blood pressures are at the level that requires treatment, consumption of nicotine or caffeine should not lead to delays in instituting appropriate anti-hypertensive therapies

**Step 3: Take measurement**
- Support patient's arm at heart level, seated in semi-fowlers position
- For auscultatory measurement: use first audible sound (Korotkoff I) as systolic pressure and use disappearance of sound (Korotkoff V) as diastolic pressure
- Read to the nearest 2 mm Hg
- Instruct the patient not to talk
- At least one additional readings should be taken within 15 minutes
- Use the highest reading
- If greater than or equal to 140/90, repeat within 15 minutes and if still elevated, further evaluation for preeclampsia is warranted.

**Step 4: Record Measurement**
- Document BP, patient position, and arm in which taken

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Prepare Equipment

- Ausculatory (Manual)
  - Mercury Sphygmomanometer
    - Gold Standard
  - Aneroid (clock face)
    - Needs to be calibrated with a mercury sphygmomanometer every 6 months

- Oscillometric (automated devices)
  - AHA recommends that these devices be validated with mercury sphygmomanometer readings with every patient
Automated BP Measurements
What variance is clinically acceptable?

- The International Standards Organization ISO 81060-2:2009 is used by manufacturers of noninvasive blood pressure devices to test against mercury sphygmomanometers.
- This standard calls for a difference of $\pm 5$ mm Hg with a standard deviation of no more than 8 mm Hg.
Appropriately Sized BP Cuff
Cuff size and placement

- Correct cuff size (width of bladder 40% of circumference and encircle 80% of arm.
- Measure at the midpoint of the upper arm.
- Place cuff directly on skin with bladder over brachial artery and lower end of cuff 2-3 cm above the antecubital fossa
Consequences of Mis-Cuffing

<table>
<thead>
<tr>
<th>Overestimation of BP</th>
<th>Underestimation of BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuff too small (Systolic ↑ by as much as 15 mm Hg)</td>
<td>Cuff too large</td>
</tr>
<tr>
<td>Cuff not placed over brachial artery</td>
<td>Brachial artery above heart level</td>
</tr>
<tr>
<td>Cuff applied over clothing or too loose</td>
<td></td>
</tr>
<tr>
<td>Arm positioned below heart level and not supported</td>
<td></td>
</tr>
<tr>
<td>Deflation of cuff too slow</td>
<td>Deflation of cuff too fast</td>
</tr>
</tbody>
</table>
Patient Preparation & Positioning

- Use a sitting or semi-reclining position with arm at heart level, legs uncrossed and feet flat, not dangling.
- The back should be supported.
- Patient should sit quietly for five minutes before BP is taken.
- Assess any recent (within 30 min) consumption of caffeine or nicotine.
- Background noise and talking can all affect BP accuracy.
Consequences of Improper Positioning

- If back is unsupported: Diastolic may be higher by 6 mmHg (Pickering TG et al; Circulation 2005)
- If the legs are crossed: Systolic may be higher by 2-8 mmHg (Pickering TG et al; Circulation 2005)
- If the arm is allowed to hang down, unsupported: the BP will be elevated by 10-12 mm Hg (O’Brien E. J Hypertension, 2003)
- If patient is talking: BP may increase by 8-15 mm HG

O’Brien, E. Ambulatory blood pressure measurement is indispensable to good clinical practice. J Hypertens 2003; 21(suppl 2):St1.
Take Blood Pressure Measurement

- Support patients arm at heart level
- For auscultatory measurement: use first audible sound (Kortokoff I) as systolic pressure and use disappearance of sound (Kortokoff V) as diastolic pressure
- Deflate cuff slowly, 2-3 mm Hg per heartbeat
- Read to the nearest 2 mm Hg
Take Blood Pressure Measurement

- Retake in other arm, use the highest reading
- If ≥ 140/90, repeat within 15 minutes
- Auto BP cuffs overestimate systolic by 4-6 mmHg and underestimates diastolic by up to 10 mmHg
- **DO NOT** reposition patient to either side to obtain a lower BP
Record Measurement

- Document blood pressure
- Patient position
- Location BP taken (Arm, forearm, right or left)
- Cuff size
Key Points

- Be Consistent
  - Same arm
  - Same position
  - Same cuff size

- Evaluate BP trends vs. isolated values

- If using automatic BP monitors, do not “auto-cycle”. Be present to confirm appropriate BP technique criteria have been met
Arm Position Matters!

- Upper arm = lower BP
- Lower arm = higher BP
Arm above the heart:
Even lower BP

BP recording without a patient
Automated BP measurements irrespective of:

- Position
  - Maternal
  - Cuff
- Contractions
- Epidural
- Pushing
What if the BMI = 70 kg/m$^2$?
Challenges in BP Measurement in Obese Women

- Size of arm
- Shape of arm
- Length of arm
- Cuff sizes and shapes
For Example

- When the arm circumference near the shoulder is much > the arm circumference near the elbow = poor cuff fit = inaccurate BP

- A large arm circumference + a short humeral length = an inaccurate BP utilizing a cylindrical thigh cuff due to cuff extension past the elbow
Mis-cuffing in an Obese Patient

- Using a cuff that is too small can overestimate blood pressure by up to 30 mm Hg whereas using a cuff that is too large can underestimate blood pressure by 10-30 mm Hg

Conclusion: Use of cylindrical cuff in combination with an oscillometric automatic device, overestimated SBP in patient with arm circumference > 30 cm, but when a conical cuff was used, the device provided accurate readings.
AHA BP Measurement Recommendations

- If upper-arm circumference is more than 34 cm, large adult cuffs or thigh cuffs can be used.

- For upper-arm measurements greater than 50 cm, the AHA recommends using a cuff on the forearm and feeling for the appearance of the radial pulse at the wrist to estimate systolic BP. The accuracy however is not as reliable.
So What Can We Do to Improve BP Measurement Accuracy?
Education Strategies

- Ensure proper training of staff:
  - Incorporate accurate BP measurements in annual “skills day”
  - Develop a facility specific module
  - NEJM BP Training:
  - Poster Boards
  - Laminate “Steps to Obtain Accurate Blood Pressure” and post on units
Accurate Blood pressure monitoring

7 SIMPLE TIPS TO GET AN ACCURATE BLOOD PRESSURE READING

- Use correct cuff size: Cuff too small adds 2-10 mm Hg
- Don’t have a conversation: Talking or active listening adds 10 mm Hg
- Put cuff on bare arm: Cuff over clothing adds 5-50 mm Hg
- Empty bladder first: Full bladder adds 10 mm Hg
- Support arm at heart level: Unsupported arm adds 10 mm Hg
- Support back/feet: Unsupported back and feet adds 6 mm Hg
- Keep legs uncrossed: Crossed legs add 2-6 mm Hg

Ref: https://targetbp.org/
BP Kit

- Selection of cuff sizes
- Sphygmomanometer
- Measuring tape
- Stethoscope
- Laminated instructions for cuff measurements and key actions
- Optional: Reflex hammer, debrief tool
Strategies for Implementation of Accurate BP Measurements

- Create your “Burning Platform”
- Inventory your equipment to and make sure that it is regularly inspected, calibrated and validated
- Ensure that all staff are trained in standardized BP measurement technique
- Update protocol to reflect current recommendations and guidelines
QUESTIONS
Case Identification

• 2 BP recordings 160/110 15 minutes apart in same position, seated or while in semi-fowler’s position with appropriate size and placed cuff

• Identify patients with severe features of preeclampsia for Magnesium Sulfate administration

• Options for data collection
  – Electronic record reports
  – Manual tracking system for elevated blood pressures
<table>
<thead>
<tr>
<th>Process Measure(s)</th>
<th>Description</th>
<th>Reporting time period (QUARTERLY): July 1, 2019 - September 30, 2019</th>
<th>COMMENTS (NOT REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1: Ultrasound</td>
<td></td>
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<tr>
<td>P1a:</td>
<td>Report # of Drills and the drill topics</td>
<td>P1a:</td>
<td></td>
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<tr>
<td></td>
<td>P1a: In this quarter, how many OB drills (in situ and/or Sim Lab) were performed on your unit for any maternal safety topic?</td>
<td></td>
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<tr>
<td></td>
<td>P1b: In this quarter, what topics were covered in the OB drills?</td>
<td>P1b: 1. 2. 3.</td>
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<td>(Note: add more numbers for additional topics covered, as needed)</td>
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<tr>
<td>F2: Provider Education</td>
<td></td>
<td></td>
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<tr>
<td>P2a:</td>
<td>At the end of this quarter, how many OB physicians and midwives (nominator) have completed (within the last 2 years) an education program on Severe HTN/ Preclampsia? How many OB physicians and midwives does your hospital have (denominator)?</td>
<td>P2a: Numerator:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P2b: At the end of this quarter, how many OB physicians and midwives (nominator) have completed (within the last 2 years) an education program on Severe HTN/ Preclampsia bundle elements and the unit standard protocol? How many OB physicians and midwives does your hospital have (denominator)?</td>
<td>P2b: Denominator:</td>
<td></td>
</tr>
<tr>
<td>F3: Nursing Education</td>
<td></td>
<td></td>
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<tr>
<td>P3a:</td>
<td>At the end of this quarter, how many OB nurses (nominator) have completed (within the last 2 years) an education program on Severe HTN/ Preclampsia? How many OB nurses does your hospital have (denominator)?</td>
<td>P3a: Numerator:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P3b: At the end of this quarter, how many OB nurses (nominator) have completed (within the last 2 years) an education program on the Severe HTN/ Preclampsia bundle elements and the unit standard protocol? How many OB nurses does your hospital have (denominator)?</td>
<td>P3b: Denominator:</td>
<td></td>
</tr>
<tr>
<td>F4: Treatment of Severe HTN</td>
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<tr>
<td>P4a:</td>
<td>In this quarter, how many mothers did you have this quarter with a persistent (twice within 15 minutes) new onset Severe HTN (Systolic ≥ 160 or Diastolic ≥ 110), includes women with an exacerbation of chronic HTN?</td>
<td>P4a:</td>
<td></td>
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<tr>
<td></td>
<td>P4b: Among the mothers listed above (P4a), how many were treated within 1 hour with IV Labetalol, IV Hydralazine, or IV Methylprednisolone?</td>
<td>P4b:</td>
<td></td>
</tr>
<tr>
<td>F5</td>
<td>In this quarter, how many mothers did you have with severe preeclampsia or preclampsia with severe features that were treated with magnesium sulfate appropriately (nominator)? How many mothers did you have with and preeclampsia or preclampsia with severe features (denominator)?</td>
<td>F5 Numerator:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Denominator:</td>
<td></td>
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<tr>
<td>F6</td>
<td>In this quarter, how many OB providers, nurses and unit staff (nominator) have completed (within the last 2 years) an education program on implicit bias? How many OB providers, nurses and unit staff does your hospital have (denominator)?</td>
<td>F6 Numerator:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Denominator:</td>
<td></td>
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# Reporting Requirements

<table>
<thead>
<tr>
<th>Structure Measures</th>
<th>Description</th>
<th>Report only ONCE</th>
<th>COMMENTS (NOT REQUIRED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1: Patient, Family &amp; Staff Support</td>
<td>S1: Has your hospital developed OB specific resources and protocols to support patients, family and staff through major OB complications?</td>
<td>S1: Date of Completion:</td>
<td></td>
</tr>
<tr>
<td>S2: Debriefs</td>
<td>S2: Has your hospital established a system in your hospital to perform regular formal debriefs after cases with major complications?</td>
<td>S2: Date of Completion:</td>
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<td>S3: Multidisciplinary Case Reviews</td>
<td>S3: Has your hospital established a process to perform multidisciplinary systems-level reviews on all cases of severe maternal morbidity (including women admitted to the ICU, receiving 24 units RBC transfusion, or diagnosed with a VTE)?</td>
<td>S3: Date of Completion:</td>
<td></td>
</tr>
<tr>
<td>S5: Unit Policy and Procedure</td>
<td>S5: Does your hospital have a Severe HTN/ Preeclampsia policy and procedure (reviewed and updated in the last 2-3 years) that provides a unit standard approach to measuring blood pressure, treatment of Severe HTN/ Preeclampsia, administration of Magnesium Sulfate, and treatment of Magnesium Sulfate overdose?</td>
<td>S5: Date of Completion:</td>
<td></td>
</tr>
<tr>
<td>S6: EMR Integration</td>
<td>S6: Were some of the recommended Severe HTN/ Preeclampsia bundle processes (i.e. order sets, tracking tools) integrated into your hospital's Electronic Health Record system?</td>
<td>S6: Date of Completion:</td>
<td></td>
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</table>
SEVERE HYPERTENSION DATA FORM: BESIDE

Goal: Reduce time to treatment (< 60 minutes) for new onset severe hypertension (>160 systolic OR >110 diastolic) with preclampsia or eclampsia or chronic/gestational hypertension with superimposed preclampsia (include patients from trace, L&D, Antepartum, PP, ECG) in order to reduce preclampsia mortality in Illinois.

Instructions: Complete within 24 hrs. after all cases of new onset severe hypertension (>160 systolic or >110 diastolic) event in pregnancy up to 6 wks postpartum. Debrief should include primary RN and primary MD to identify opportunities for improvement in identification and time to treatment of HTN.

Patient Location (check all that apply) □ Trace □ L&D □ Postpartum □ Antepartum □ ED
Maternal Age: ______
Height: ______
Current Weight: ______

Diagnosis: □ Chronic HTN □ Gestational HTN □ Preclampsia □ Superimposed Preclampsia □ Postpartum Preclampsia □ Other ______

PROCESS MEASURE (P1): Medical Management

Time: ______
BP: ______

Medications (check all given)

Methyldopa
Hydralazine
Labetalol
Methyclofenamate
Magnesium Sulfate
Methyldopa
Hydralazine
Labetalol
Methyclofenamate
Methyldopa
Hydralazine
Labetalol
Methyclofenamate
Magnesium Sulfate
Methyldopa
Hydralazine
Labetalol
Methyclofenamate

BP reached >160 or diastolic >110 (sustained >15 min)
First BP med given
BP reached <160 and diastolic BP <110

BALANCING MEASURE (P1, 02): Monitor Medical Management

B1. Did diastolic pressure fall to <60 within one hour after meds given? □ YES □ NO
B2. If yes, was there corresponding deterioration in FH rts (Category 3)? □ YES □ NO □ NA (for postpartum patients)

Opportunities for improvement to reduce time to treatment (identification severe HTN to treatment goal <60 minutes): Debrief

Debrief Participants: Primary MD: □ YES □ NO Primary RN: □ YES □ NO

TEAM ISSUES

<table>
<thead>
<tr>
<th>Communication</th>
<th>Needs improvement</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition of severe HTN</td>
<td></td>
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<tr>
<td>Decision making</td>
<td></td>
<td></td>
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<tr>
<td>Leadership</td>
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</tbody>
</table>

SYSTEM ISSUES

<table>
<thead>
<tr>
<th>HTN medication tolerance</th>
<th>Needs improvement</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation (Biman, Inter, Hospital, Transport)</td>
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<tr>
<td>Support (in unit, other areas)</td>
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<td></td>
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<tr>
<td>Mind availability</td>
<td></td>
<td></td>
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<tr>
<td>Any other issues</td>
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</tbody>
</table>
### SEVERE HYPERTENSION DATA FORM: CHART ABSTRACT

**Goal:** Reduce time to treatment (<60 minutes) for new onset severe hypertension (≥160 systolic or ≥110 diastolic) with preeclampsia or eclampsia or chronic/essential hypertension with superimposed preeclampsia (include patients from triage, L&D, Antepartum, PP, ED) in order to reduce preeclampsia morbidity in Illinois.

**Instructions:** Complete within 24 hrs. after all cases of new onset severe hypertension (≥160 systolic or ≥110 diastolic) event in pregnancy up to 6 wks postpartum. Database should include primary RN and primary MD to identify opportunities for improvement in identification and time to treatment of HTN.

**GA at Delivery (weeks & days):**

### OB COMPLICATIONS (check all that apply)

- [ ] Obstetric Hemorrhage with transfusion of ≥ 4 units of blood products
- [ ] Intracranial Hemorrhage or Ischemic event
- [ ] ICU admission
- [ ] HELLP Syndrome
- [ ] Pulmonary Edema
- [ ] Oliguria
- [ ] Eclampsia
- [ ] DIC
- [ ] Renal failure
- [ ] Liver failure
- [ ] Ventilation
- [ ] Placental Abruption
- [ ] Other: _____

**Date:_____**

### Adverse Neonatal Outcome:

- [ ] NICU admission
- [ ] IUFD
- [ ] Other: _____

**Date:_____**

### Maternal Race/Ethnicity (check all that apply):

- [ ] White
- [ ] Black
- [ ] Hispanic
- [ ] Asian
- [ ] Other

### Maternal Transport:

- [ ] Transport In? YES NO Date: _____
- [ ] Transport Out? YES NO Date: _____

### PROCESS MEASURE (P2) Discharge Management

#### A. Discharge Education:

- Education materials about preeclampsia given?
  - [ ] YES
  - [ ] NO

#### B. Discharge Management:

- Follow-up appointment scheduled within 10 days (for all women with any severe range hypertension/preeclampsia)
  - [ ] YES
  - [ ] NO
- Was patient discharged on meds?
  - [ ] YES
  - [ ] NO
- If YES: Was follow up appointment scheduled in <72 hours?
  - [ ] YES
  - [ ] NO

### COMMENTS about Medical Management, Monitoring, Discharge:
Education Plan for HTN Teams

- November 5, 2019: Educating Patients
  Rebecca Britt, Preeclampsia Foundation
- December 3, 2019: Implementing Drills and Debriefs
- January 7, 2020: Complications, Special Circumstances (HELLP, PRES, Atypical Preeclampsia)
Addtional Resources

- [www.georgiapcq.org](http://www.georgiapcq.org)
  - All webinars are archived under “more” and “events-Maternal”

- The Alliance for Innovation in Maternal Health (AIM)
  - E-modules [www.safehealthcareforeverywoman.org/aim-emodules/](http://www.safehealthcareforeverywoman.org/aim-emodules/)
  - AIM-In-Situ OB-Drill Resource List

- National PQC Webinar Series
- CPQCC [https://www.cpqcc.org/](https://www.cpqcc.org/)
Questions?