



Maternal Hypertension Initiative

Hospital Team Toolkit

Decreasing blood pressure through rapid recognition and treatment has been shown to decrease maternal morbidity and mortality. This guide is being provided to help your team establish protocols, processes and education to ensure women with hypertension/preeclampsia are identified quickly and managed well to avoid further complications. See ALPQC Maternal Hypertension website for more resources: <https://www.alpqc.org/initiatives/htn/>

The toolkit primarily utilizes the [Alliance for Innovation on Maternal Health \(AIM\) Program Severe Hypertension in Pregnancy Patient Safety Bundle](#). In addition, there are links to the Joint Commission's Perinatal Safety requirements. We recognize that each hospital is unique and not all of these factors need to be addressed in every facility. Therefore, it is important to use this toolkit to determine what might be relevant to your facility.

Step 1 – Gather your QI team:

- Your team should contain at least one physician champion, one nurse champion and one data champion (someone with access to medical charts).
- Even better if you can ensure representation from the following: obstetrics, emergency department, anesthesiology, nursing laboratory and pharmacy.

Step 2 – Identify gaps, goals and next steps:

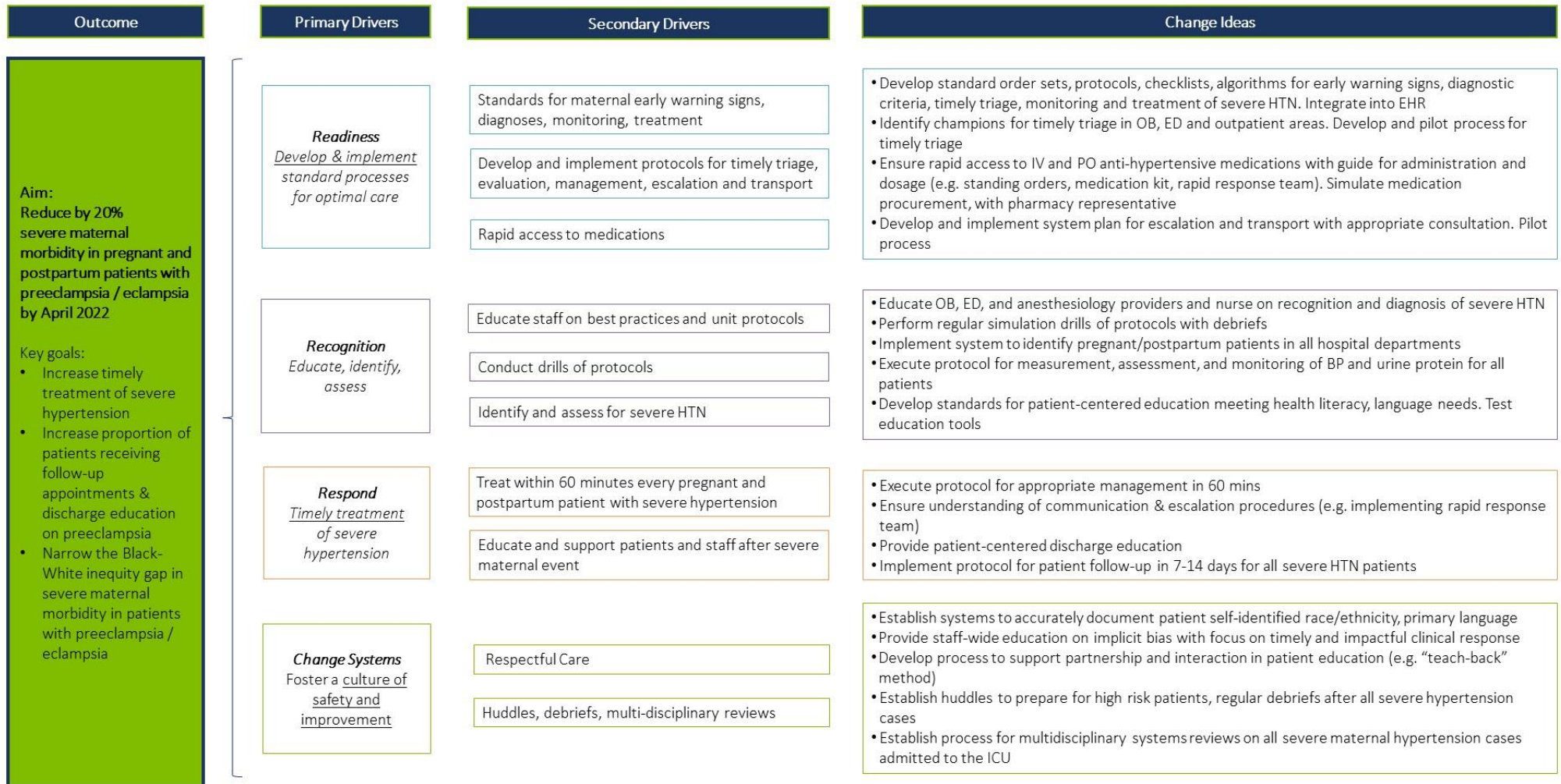
- Review the toolkit/checklist as a team to:
 - understand best practices
 - identify current gaps & determine action steps needed
 - Assign someone to be responsible for championing and managing each action
- Identify an area for a pilot
- Set goals for improvement
- Develop protocols, or tweak existing ones, to meet goals

Step 3 – Ensuring success

- Determine method for gathering data to monitor project success
- Establish QI team meeting schedule (may be bimonthly at first and then monthly)
- Commit to participate in monthly ALPQC project webinars



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Maternal Hypertension Driver Diagram



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ALPQC Maternal Hypertension Initiative Project Checklist *(adapted from The Joint Commission [New Standards for Perinatal Safety](#))*

Action and Resources	Current Assessment	Responsible Person
1. Readiness: Develop written evidence-based procedures that provide unit-standard approach for measuring and remeasuring blood pressure, including criteria that identify patients with severely elevated blood pressure, and managing pregnant and postpartum patients with severe hypertension/preeclampsia		
<ul style="list-style-type: none"> ▪ Standards for early warning signs, diagnostic criteria, monitoring and treatment of severe preeclampsia/eclampsia (include order sets and algorithms) ▪ Process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED and outpatient areas ▪ Rapid access to medications used for severe hypertension/eclampsia: Medications should be stocked and immediately available on L&D and in other areas where patients may be treated. Include brief guide for administration and dosage. ▪ System plan for escalation, obtaining appropriate consultation, and maternal transport, as needed <p>Minimal requirements for standard severe hypertension management process starting with initial presentation at your hospital:</p> <ul style="list-style-type: none"> ▪ Notification of physician or primary care provider if systolic BP ≥ 160 or Diastolic BP ≥ 110 for two measurements within 15 minutes apart ▪ After the second elevated reading, treatment should be initiated ASAP (ideally within 60 minutes) ▪ Includes onset and duration of magnesium sulfate therapy ▪ Process for escalation measures for those unresponsive to standard treatment ▪ Describe manner and verification of postpartum follow up within 7 to 14 days of birth ▪ Describe postpartum patient education for women with preeclampsia ▪ Support for patients, families, and staff for ICU admissions and serious complications of severe hypertension <p>AIM Severe Hypertension in Pregnancy Patient Safety Bundle Maternal Early Warning Criteria Protocols and Resources Hypertensive Emergency Checklist – ACOG District II (DII) Eclampsia Checklist – ACOG DII ED Postpartum Preeclampsia Checklist – ACOG DII</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	



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Action and Resources	Current Assessment	Responsible Person
1. Readiness (Continued)		
<p>Identify women with severe range hypertension – Ensure process for timely triage and evaluation of pregnant and postpartum women with hypertension including ED, OB, and outpatient areas (Triage in ED).</p> <p>Types of Hypertension Definitions (of severe hypertension and hypertensive emergency) Preeclampsia Early Recognition Tool - CMQCC</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	
<p>Need standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women</p> <p>Utilize Preeclampsia Early Recognition Tool. Tips for taking accurate blood pressures:</p> <ul style="list-style-type: none"> ▪ Guidance from California Collaborative on Accurate Blood Pressure Measurement (e.g. positioning, size of cuff) ▪ Standardize use of blood pressure devices on all units ▪ Regularly calibrate blood pressure devices (at least annually, if not more often) ▪ Ensure appropriate cuff size – width of bladder 40% of circumference and encircle 80% of arm ▪ Blood Pressure Visual for Best Practice & Blood Pressure Checklist 	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	
<p>Monitoring Blood Pressure and Labs Monitoring Change of Status Have a plan for complications and escalation (Consultation Triggers)</p> <p>Tip: Need to have phone number readily available for closest MFM consult and/or referral.</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	
<p>Postpartum Surveillance – Need to have a plan for inpatients and outpatients</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	



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2. Recognition & Prevention: Ensure appropriate education for all staff. Conduct drills. Identify and assess for severe HTN		
<p>Provide role-specific education to all staff and providers who treat pregnant/postpartum patients about the hospital’s evidence-based severe hypertension/preeclampsia procedure.</p> <p>At minimum, education occurs at orientation, when changes in procedure occur, or every two years.</p> <p>Be sure to include:</p> <ul style="list-style-type: none"> ▪ OB staff, ED staff, Other staff (such as outpatient clinics) <p>Severe HTN eModules from AIM Program (scroll to bottom right of page for modules) MEWS eModules from AIM Program ACOG Safe Motherhood Initiative Severe Hypertension in Pregnancy Bundle Presentation</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	
<p>Conduct drills at least annually to determine system issues as part of ongoing quality improvement efforts. Severe hypertension / preeclampsia drills include a team debrief. Ensure drills/simulations conducted for all staff.</p> <p>Safety Action Series: Conducting Drills on Hypertension in Pregnancy Obstetric Drill Program Manual: Council on Patient Safety on Women’s Health Care</p> <p>Simulation and Drill Scenarios from ACOG District II:</p> <ul style="list-style-type: none"> ▪ Eclampsia Simulation Scenario Overview ▪ Eclampsia Drill Clinical Scenario ▪ Eclampsia Drill Assessment Tool 	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	
<p>Identify and assess for severe hypertension in pregnant and postpartum patients</p> <ul style="list-style-type: none"> ▪ Implement standard protocol for measurement and assessment of BP and urine protein for all pregnant and postpartum women ▪ Implement standard response to maternal early warning signs including listening to and investigating patient symptoms and assessment of labs ▪ Develop facility-wide standards for educating pregnant and postpartum women on signs and symptoms of hypertension and preeclampsia. 	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	



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3. Respond to Every Case of Severe Hypertension		
<p>Timely treatment of severe hypertension Facility-wide standard protocols with checklists and escalation policies for management and treatment of:</p> <ul style="list-style-type: none"> ▪ Severe hypertension ▪ Eclampsia, seizure prophylaxis, and magnesium over-dosage ▪ Postpartum presentation of severe hypertension/preeclampsia <p>Determine when to treat – Ensure protocols include current criteria for initiating treatment for both severe HTN and hypertensive emergencies (When To Treat).</p> <p>Tip: Continue to monitor patients who don't meet criteria (see #5)</p> <p>Protocols need to cover use of first-line and second-line therapies:</p> <p style="padding-left: 20px;">First-Line Therapies Algorithms -</p> <ul style="list-style-type: none"> ▪ Intravenous Labetalol ▪ Intravenous Hydralazine ▪ Oral Nifedipine <p style="padding-left: 20px;">Second-Line Therapies - If patient fails to respond</p> <p style="padding-left: 20px;">Seizure Prophylaxis - Magnesium Sulfate</p> <p>CMQCC Preeclampsia Toolkit</p> <p>Tip: Work with pharmacy to standardize medication order sets and have medications readily available in the areas where patients initially present (either in ED or OB triage area). Ideally, the medications would be bundled in the Pixus machine.</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	
<p>Provide education to patients Education should include signs and symptoms of severe HTN/preeclampsia (during hospitalization and after discharge), and when to schedule a post discharge follow-up appointment</p> <p>Develop protocol for patient Discharge Planning and Follow-Up</p> <p>Prenatal and Postpartum Patient Counseling or Education – CMQCC Urgent Maternal Warning Signs Flyer – ACOG (English and Spanish) AWHONN Post Birth Warning Signs Educational Materials (Multiple languages) Preeclampsia Foundation Signs and Symptoms Materials (English and Spanish)</p>	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	



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4. Change Systems: Foster a Culture of Safety and Improvement		
<p>Respectful Care Establish systems to accurately document patient self-identified race/ethnicity, primary language. Provide staff-wide education on implicit bias with focus on timely and impactful clinical response. Develop process to support partnership and interaction in patient education (i.e. “teach-back” method)</p> <ul style="list-style-type: none"> ▪ Safety Action Series – Empowering Patients, Improving Outcomes ▪ ACOG District II Symposium on Racial Disparities and Implicit Bias in Obstetrical Care ▪ March of Dimes A Health Crisis Affecting Women and Babies of Color - Implicit Bias Training ▪ Reduction of Peripartum Racial/Ethnic Disparities AIM Bundle & Resources ▪ CDC Hear Her Campaign <p>Systems Learning Review severe hypertension/preeclampsia cases that meet criteria established by the hospital to evaluate the effectiveness of the care, treatment, and services provided to the patient during the event.</p> <ul style="list-style-type: none"> ▪ Establish a culture of huddles for high risk and post-event debriefs to identify successes and opportunities ▪ Establish processes for multi-disciplinary review of severe hypertension/eclampsia patients admitted to the ICU ▪ Monitor outcomes and process metrics <p>Develop criteria for reviewing severe cases and understanding ways to improve</p> <ul style="list-style-type: none"> ▪ Teamwork and Communication – CMQCC ▪ Guide for Engaging Patients and Families in Debriefing – FPQC ▪ TeamSTEPS Team Strategies & Tools to Enhance Performance and Patient Safety: Briefs, Debriefs and Huddles ▪ Severe Hypertension-Preeclampsia Debrief Form – CMQCC ▪ FPQC Hypertension in Pregnancy Debriefing Guidance, Forms and Tips ▪ ILPQC Severe Hypertension Debrief Form ▪ Severe Maternal Morbidity Review Guidance & Forms – Council on Patient Safety in Women’s Health Care 	<ul style="list-style-type: none"> ┌ Need to educate on existing policies ┌ Need to improve existing policies ┌ Need to develop a policy 	