Severe Hypertension in Pregnancy and Postpartum Hospital Toolkit

Oregon Perinatal Collaborative

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Inclusive language notice:
This toolkit is intended to improve care and outcomes for pregnant and postpartum people who have a wide range of gender identities. For this reason, we use both gendered and non-gendered terms including "birthing person/people," "patient," "mother," and "maternal," to reflect this range of identities. We affirm that respecting individual patient preferences regarding gendered language throughout their care is essential to respectful, patient-centered care.

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Section I: Purpose and Background

Hypertensive disorders of pregnancy are a leading cause of maternal and perinatal morbidity and mortality in the United States. Oregon's prevalence of hypertensive disorders of pregnancy is 15.7% (Oregon Health Authority Center for Health Statistics, n.d.). Hypertensive disorders of pregnancy have an impact on short term outcomes like seizures and stroke in the birthing person during pregnancy and cardiovascular disease risk after the pregnancy ends. The postpartum period is increasingly recognized as an important time to monitor for symptoms and seek care when needed. Hypertensive disorders of pregnancy can also lead to health problems throughout the person's life after pregnancy, including increased risk of kidney disease and high blood pressure many years later. Hypertension during pregnancy also increases the risk of preterm birth, leading to short- and long-term impact on newborns.

Clinical quality improvement work must be thoughtfully designed and consider the impact of factors, such as housing, social support, reliable transportation, healthy food, and other basic needs. The long history of systemic racism in the United States has shaped the access and experience of Black, Indigenous, and all people of color inside and outside of healthcare. Quality improvement work aimed at the prevention of pregnancy related morbidity and mortality must consider this history. Mirroring available national data, Black, Indigenous, and Pacific Islander mothers and birthing people in Oregon are disproportionately impacted by morbidity from hypertension and preeclampsia (Oregon Maternal Data Center, n.d.). Proposed solutions must be developed with input from those who experience barriers to health.

Perinatal Quality Collaboratives (PQCs), including the Oregon Perinatal Collaborative, are state or multistate networks of teams working to improve the quality of care for mothers, birthing individuals, and babies. Members identify health care processes that need to be improved and use the best available methods to make changes as quickly as possible (CDC).

In 2024, the Oregon Perinatal Collaborative has partnered with the Alliance for Innovation on Maternal Health (AIM) to improve Oregonians' perinatal outcomes related to hypertension. The severe hypertension in pregnancy and postpartum toolkit is designed by and for clinical (doctors, nurses, midwives, etc.) and non-clinical (doulas, community health workers, etc.) individuals and teams caring for pregnant and postpartum people with hypertensive disorders of pregnancy to improve processes, outcomes, and clinical decision making and promote quality and equity statewide. The goal of this project is to decrease preventable maternal morbidity and mortality from hypertensive disorders in pregnancy and improve the health and wellbeing of birthing people and babies in Oregon.

To support teams implementing this toolkit, quality improvement information and tools are included. Simple tools, like those provided by the Institute for Healthcare Improvement (IHI) can be used by teams with minimal introduction or training. These tools help teams take complex topics like management of severe hypertension in pregnancy and organize them into a simplified workflow that can be implemented, resulting in meaningful change that benefits clinicians, birthing individuals, and our communities.

References

- CDC Press Release Pregnancy Related Deaths
- ACOG Preeclampsia and High Blood Pressure During Pregnancy
- Oregon Health Authority Center for Health Statistics
- Oregon Maternal Data Center
- Healthy People 2030 Social Determinants of Health

Key resources for this toolkit include:

- AIM Severe Hypertension in Pregnancy Patient Safety Bundle
- AIM Reduction of Peripartum Ethnic and Racial Disparities Patient Safety Bundle
- CDC Severe Hypertension in Pregnancy Change Package
- CMQCC Hypertensive Disorders of Pregnancy Toolkit
- IHI Severe Hypertension in Pregnancy Change Package

Section II: Readiness, Recognition & Prevention, Response, Reporting & Systems Learning

NOTE: *While not repeated in individual sections, teams are encouraged to incorporate trauma informed principles-trauma awareness, safety, choice & empowerment, and strength based—throughout development of tools/ processes/ workflows.*

Readiness: Every Care Setting

Key readiness takeaway:
Readiness requires teams in maternity/labor and delivery units, emergency departments, the community (doulas, community midwives, home visiting RN's, etc.), and prenatal/postpartum/community clinics to engage and work together effectively. Consider the role you play and how to escalate to a higher level of care when needed.

- Develop processes and tools that are readily available and understood by teams for management of pregnant and postpartum patients with severe hypertension including:
    - A standard protocol for maternal early warning signs, diagnostic criteria, monitoring, and treatment of preeclampsia with severe features/ eclampsia,
    - Standardized information on measurement and assessment of blood pressure,
    - Timely triage and evaluation of pregnant and postpartum patients with severe hypertension or related symptoms, and
    - A plan for escalation of care, obtaining appropriate consultation and maternal transfer as needed.
- Provide staff-wide education on:
    - Warning signs for severe hypertension/ preeclampsia in all care settings where people receive prenatal or postpartum care.
        - Ensure all members of the team have role appropriate training.
    - Racial and ethnic disparities in birth outcomes and their root causes, implicit bias, use of cultural humility, and best practices for shared decision making.
- Clearly post warning signs for severe hypertension/preeclampsia in all care settings where people receive prenatal or postpartum care.

    - Seek expertise from diverse groups that have built trust within your community in sharing information about hypertension warning signs and response.
- Ensure rapid access to medications used for severe hypertension/eclampsia with a brief guide for administration and dosage in all areas where patients may be treated.
- Conduct interprofessional and interdepartmental team-based drills with timely debriefs that include the use of simulated patients.
    - Incorporate importance of not making assumptions that a patient's hypertension is being caused by something else (e.g. pain, anxiety, obesity, drug use, etc.).
- Develop and maintain a set of referral resources and communication pathways between obstetric providers, community-based organizations and state and public health agencies to enhance services and supports for pregnant and postpartum families.
- Ensure that self-identified race, ethnicity, and language data are accurately captured and documented with attention to training and support for those gathering.
- Foster a diverse workforce that is representative of the communities you serve.

Recognition & Prevention: Every Patient

Key recognition & prevention takeaway:
Recognition and treatment require that all teams – including those in the emergency department, clinics, community-based care (community-based midwives, community health RN's, doulas, etc.), and labor and delivery – are aware of the signs and symptoms of hypertension in pregnancy and postpartum.

- Assess and document if a patient presenting is pregnant or has been pregnant within the past year in all care settings.
- Ensure accurate measurement and assessment of blood pressure for every pregnant and postpartum patient.
- As indicated, assist patients in acquiring a home blood pressure monitoring device and educate on accurate blood pressure monitoring at home (e.g. how to take accurate blood pressure, when to call doctor or seek care).

- Assess for risk and prescribe low-dose aspirin for patients with a high risk of preeclampsia per ACOG recommendations.
- Screen for community support needs and support connection to resources.
    - Consider barriers such as transportation, or instability in housing/ food/ social support that might impact clinical recommendations or treatment plans.
    - Help address barriers to resources such as blood pressure cuffs (covered by insurance or other financial support), blood pressure log for recording and patient education materials.
        - Make sure resources align with the pregnant or postpartum person's health literacy, cultural needs, and preferred language.
- Provide ongoing education to all patients through a variety of modalities (e.g. written, video, audio) on the signs and symptoms of hypertension and preeclampsia and empower them to seek care.
    - Discharge from the hospital after delivery is an important time to emphasize the warning signs to look for, who to call and where to go if they have questions/ concerns.
- Ensure that people who experience severe hypertension/ preeclampsia during pregnancy and/or post birth know about long term complications and have information on importance of ongoing monitoring in primary care.
- Provide ongoing education to all health care team members on the recognition of signs, symptoms, and treatment of hypertension.
- Establish a mechanism for patients, families and staff to report inequitable care and episodes of miscommunication or disrespect.

Response: Every Event

Key response takeaway:
Standardized tools and checklists for each care setting should be readily available/familiar to and used by all team members to support consistent response. Continued monitoring in the postpartum period is increasingly recognized as critical to identify hypertension disorders of pregnancy/postpartum – even in those who did not have any during pregnancy or delivery.

- Utilize a standardized protocol with checklists and escalation policies including a standard response to:
    - Maternal early warning signs,
    - Listening, and investigating patient reported and observed symptoms, and
    - Assessment of standard labs for the management of patients with severe hypertension or related symptoms.
- Coordinate with the neonatal team related to specific needs related to gestational age and/or newborn respiratory effects of magnesium sulfate (when used).
- Initiate postpartum follow up visit within 3 days of birth post hospitalization discharge date for individuals whose pregnancy was complicated by hypertensive disorders.
    - Emphasize importance of postpartum care for all postpartum people.
- Provide trauma-informed support for patients, including identified support people, and staff for serious complications of severe hypertension, including discussions regarding birth events, follow up care, resources, appointments, and referral to therapy and/or peer support groups.
    - Consider referral for support groups/ short term therapy for all patients with preeclampsia diagnosis, regardless of complications.

Reporting & Systems Learning: Every Unit/Care Setting

Key reporting and systems learning takeaway:
Multiple measures-including outcome and process – as well as a culture of briefing/debriefing/case reviews support teams in reporting and systems learning.

- Establish a culture of multidisciplinary planning, huddles, and post-event debriefs for every case of severe hypertension, which identifies successes, opportunities for improvement, and action planning for future events.
    - Include patient, doulas and family when able.
- Perform multidisciplinary reviews of all severe hypertension/ eclampsia cases per established facility criteria to identify systems issues.
- Monitor outcomes and process data related to severe hypertension, with disaggregation by race and ethnicity due to known disparities in rates of severe hypertension.

Respectful, Equitable, and Supportive Care

Key respectful, equitable and supportive care takeaway:
Respectful and equitable care requires attention to communication (verbal and nonverbal), shared decision making and inclusion of pregnant or postpartum person's values and goals.

- Engage in open, transparent, and empathetic communication with pregnant and postpartum people and their identified support network to understand diagnoses, options and treatment plans.
- Include pregnant and postpartum persons as part of the multidisciplinary care team to establish trust and ensure informed, shared decision-making that incorporates the pregnant and postpartum person's values and goals.

Section V: Operational Considerations for Hospitals

Each site will need to evaluate local resources/ infrastructure to support successful implementation of toolkit. Below considerations/ questions are not exhaustive but are provided as a prompt for local teams to begin the necessary detailed discussions and generation of additional questions that will support successful implementation of the toolkit.

- Do you have access to baseline data that help objectively describe current state so you can prioritize quality improvement efforts? If not, who can help you access? Below are good measures to start with:
    - Timely treatment for severe hypertension
    - Severe maternal morbidity
    - Scheduled postpartum visits
- Who are the team members you need to involve if there are changes to clinical practice and workflows?
    - If the following roles care for birthing patients at your hospital, consider how they will engage in this work: Maternal fetal medicine physicians, OB hospitalists, OB/GYN physicians, Family Medicine physicians, CNM's, anesthesia physicians, CRNA, RN, RN leader, social workers, community midwives who accompany patients during transfer, doulas, peer support
    - Consider additional departments: Pharmacy, lab, informatics, ICU, ED
- What tools and information should be incorporated into the EMR and how is this accomplished at your facility?
- Are tools (algorithms, order sets, protocols, etc) known by all multidisciplinary team members?
    - How are they introduced to multidisciplinary team members?
    - How often are they reviewed and confirmed to be aligned with professional organization recommendations?
    - How are new multidisciplinary team members oriented to them?
    - Is this audited/ tracked in any way to confirm introduction/ awareness? If not, does team feel this is necessary?
- Are all team members aware of local criteria, resources and process for internal consultation and support for higher level care? (RN, CNM, Family Medicine, OB generalist, OB hospitalist, Anesthesia, Maternal Fetal Medicine, etc)
    - Are there any barriers that need to be addressed to reliably access?

- Are all team members at both the transferring and receiving hospitals aware of local criteria, resources and processes for transferring a patient for a higher level of care?
    - Are there any barriers that need to be addressed to reliably transfer?
- What systems/ structures do you have or need to ensure providers have adequate time to ask about and respond to patient questions and fears in the hospital?
    - Does a diagnosis of preeclampsia or hypertension reliably trigger asking patients about fears and questions?
    - Are there barriers other than time (knowledge, comfort, material, etc) that would prevent providers and all clinical team in engaging in individualized teaching/ discussions in the hospital?
- What training and support is needed to screen for and address social determinants of health (SDOH)? Who screens? Who responds if patient identifies need?
- The Oregon State Board of Nursing and Oregon Medical Board have cultural competency requirements for licensing that allow for a wide array of courses to meet this requirement. It is recommended that hospitals recommend/ offer a common perinatal specific training that multidisciplinary team members can utilize to meet this requirement.
- Are there barriers that need to be addressed to consistently schedule postpartum blood pressure and symptom check 7 days a week for individuals whose pregnancies were complicated by hypertensive disorders?
- Do you have a process established with clinics for direct admissions of patients (pregnant and postpartum) who have been evaluated in clinic and do not require additional evaluation in the emergency department?
- What is the process for reviewing and updating patient education?
- What languages are most common at your facility and how do internal documents get translated?
    - Does translation support include ensuring appropriate reading level?