The Blue Band Booklet

MNPQC

Contents

Blue Band Overview

In October 2020, MNPQC partnered with CentraCare St. Cloud to collaborate on the Blue Band Project. In the Blue Band Project, providers in hospitals and clinics screen pregnant and postpartum patients to determine current and future risk factors for Hypertensive Disorders of Pregnancy (HDP). Patients determined to be at risk are given a blue bracelet that identifies them as being at risk for eclampsia and stroke and provides internet resources for the patient, as well as any providers or healthcare professionals they may interact with.

WHAT ARE BLUE BANDS?

Blue Bands are bracelets given to patients diagnosed with preeclampsia to identify them as at risk for eclampsia and stroke. They provide resources for patients, healthcare professionals, and first responders.

WHY ARE THEY USED?

Hypertensive Disorders of Pregnancy (HDP) are increasing and are a leading cause of severe maternal morbidity and mortality in the United States, with a large majority of cases being preventable. Recognizing the urgency of timely intervention, the Blue Bands serve as a visual cue to not only highlight risks but also act as an indicator to healthcare professionals who may interface with the patient to prioritize prompt and comprehensive care.

PURPOSE

The Blue Band Project aims to enhance communication among healthcare providers about the unique risks faced by patients with preeclampsia. The project seeks to reduce morbidity and mortality associated with Hypertensive Disorders of Pregnancy by ensuring patients receive timely and appropriate care.

This document provides suggested processes for implementing the Blue Band Project in birthing facilities, outpatient practices, and clinics.

Option 1: Using MNPQC Website Support

- To create your own custom branded bands, contact:
  - Wristband Bros
  - Or another company of your choice
  - Below is an example of a blue band design
  - Include the QR code below to link back to MNPQC website if desired
  - Distribute bands to Hospitals and Clinics

- Create Patient Education Handout Materials
  - See Washington State examples here
  - See Aspirus St. Luke's Duluth example 1 and example 2 here
  - Link to MNPQC's Blue Band Website
    - When linking to MNPQC, be sure to include the QR code above on the bands for scannable access to the resource page
- Educate Clinical Staff
  - Standardized approach to BP measurement
  - Standardized approach to hypertensive treatment in peripartum women
  - Multidisciplinary simulation of emergency treatment in all healthcare entry points
  - Potential long term health issues for those with hypertensive disorders of pregnancy
- Communicate to:
  - Clinical team (nurses and staff etc.)
  - Providers
    - OB providers and midwives
    - Family practice providers
    - Emergency services
    - Internal medicine
    - Hospitalists
    - Laborists
    - Clinic personnel
    - Doulas
  - Media
    - Local newspapers
    - Local news media
    - Your facility communications or social media sites
    - Your facility website
    - Media release examples:
      - Aspirus St. Luke's Duluth
      - CentraCare St. Cloud
      - Star Tribune: CentraCare St. Cloud

- Critical Access Hospitals (affiliated or non)
- Emergency Medical Services
  - Ambulance and first responders
  - Fire departments

Before giving the Blue Band to a patient, please verify that the QR code on the patient's band works properly. Additionally, demonstrate to the patient how to access the necessary information by scanning the QR code on the band.

Option 2: Using Your Facility Website

- To create your own custom branded bands, contact:
  - Wristband Bros
  - Or another company of your choice
  - Below is an example of a blue band design
  - Distribute bands to Hospitals and Clinics

- Create Patient Education Handout Materials
  - See Washington State examples here
  - See Aspirus St. Luke's Duluth example 1 and example 2 here
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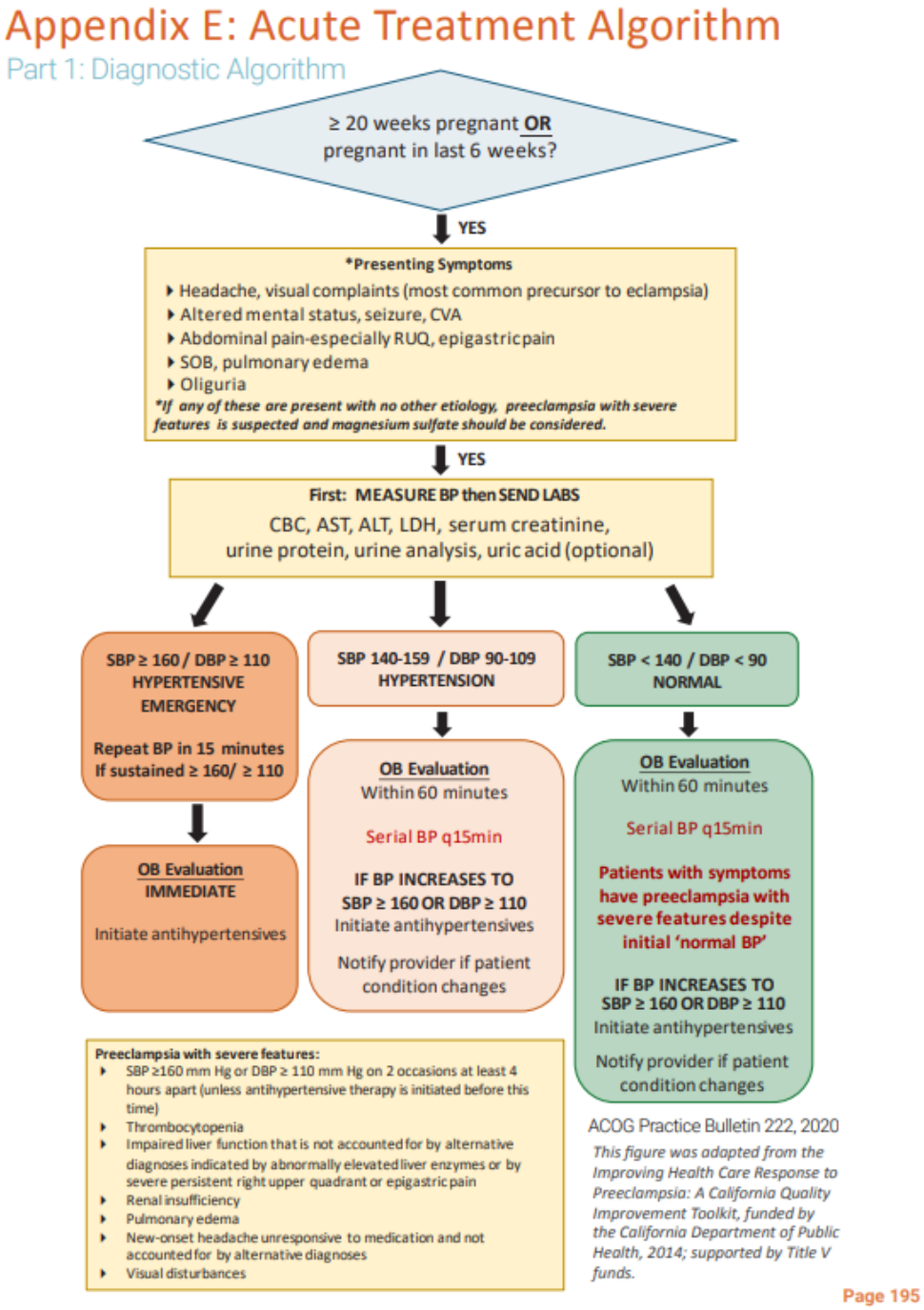
- Patient Education Online Resource Link
    - Create your own patient education online resource
        - See CentraCare St. Cloud Example Here
    - If creating your own, include links to other resources
        - Other resources:
            - ACOG Guidance: Emergency Treatment for Severe Hypertension in Pregnancy
            - ACOG Preeclampsia and High Blood Pressure During Pregnancy
            - CMQCC Hypertensive Disorders of Pregnancy Toolkit
            - AWHONN POST-BIRTH Warning Signs Education Program
            - March of Dimes Preeclampsia
            - CDC HEAR HER Campaign
            - MoMMA's Voices

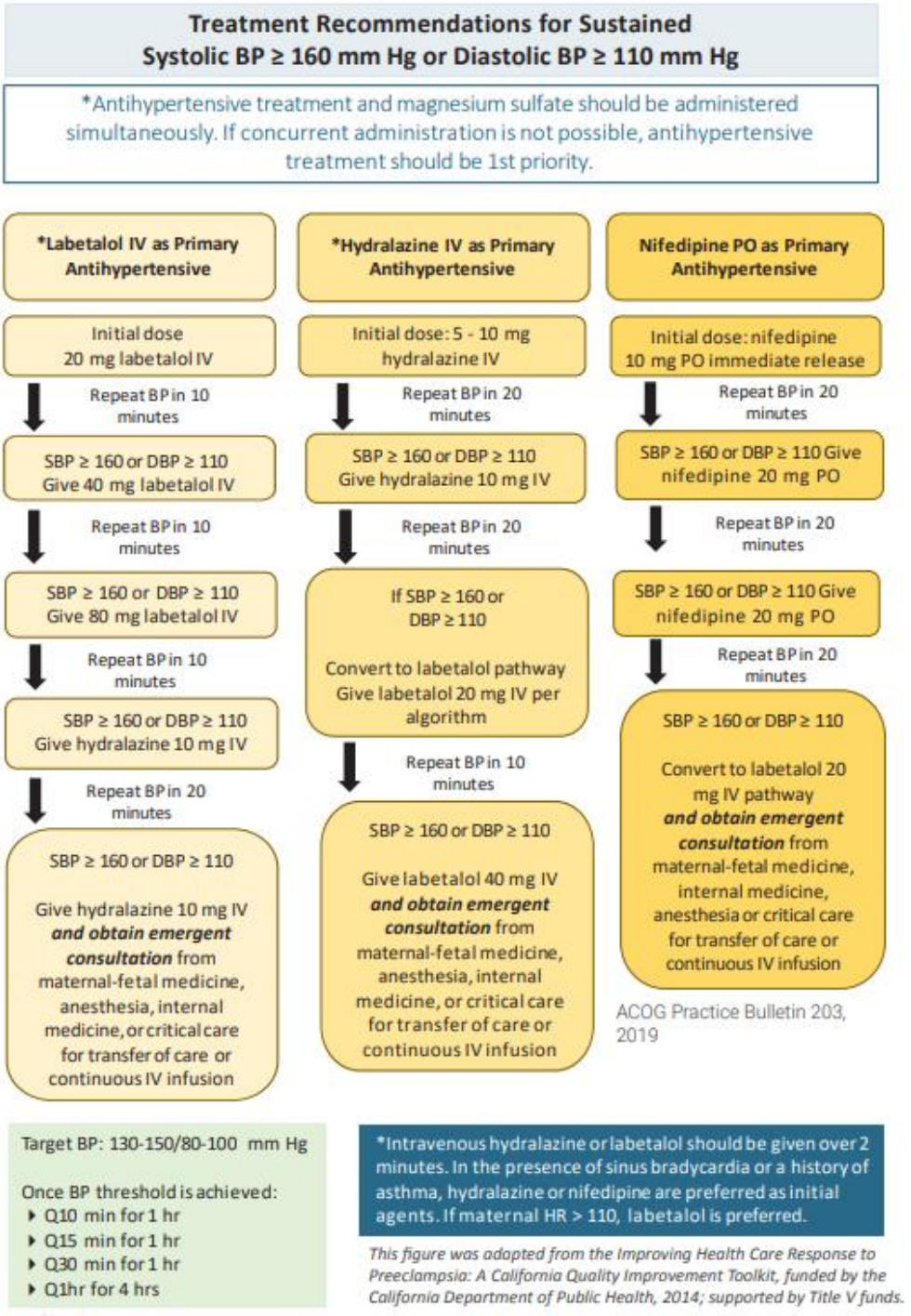
CMQCC Appendix E: Acute Treatment Algorithm

https://www.cmqcc.org/resource/appendix-e-acute-treatment-algorithm

**Starting April 30, 2025, access to the CMQCC toolkit requires logging in with an account to download the toolkit items.*



Part 2: Antihypertensive Treatment Algorithm for Hypertensive Emergencies



This figure was adapted from the Improving Health Care Response to Preeclampsia: A California Quality Improvement Toolkit, funded by the California Department of Public Health, 2014; supported by Title V funds.

Part 3: Magnesium Dosing and Treatment Algorithm for Refractory Seizures

Magnesium: Initial Treatment

1. Loading Dose: 4-6 gm over 20-30 minutes (6 gm for BMI > 35)
2. Maintenance Dose: 1-2 gm per hour
3. Close observation for signs of toxicity
   - Disappearance of deep tendon reflexes
   - Decreased RR, shallow respirations, shortness of breath
   - Heart block, chest pain
   - Pulmonary edema
4. Calcium gluconate or calcium chloride should be readily available for treatment of toxicity

For recurrent seizures while on magnesium

1. Secure airway and maintain oxygenation
2. Give 2nd loading dose of 2-4 gm Magnesium over 5 minutes
3. If patient still seizing 20 minutes after 2nd magnesium bolus, consider one of the following:
   - Midazolam 1-2 mg IV; may repeat in 5-10 min
     OR
   - Diazepam 5-10 mg IV slowly; may repeat q15 min to max of 30 mg
     OR
   - Phenytoin 1,250 mg IV at a rate of 50 mg/min
   - Other medications have been used with the assistance of anesthesia providers such as:
     - Sodium thiopental
     - Sodium amobarbital
     - Propofol
4. Notify anesthesia
5. Notify neurology and consider head imaging

Seizures Resolve

1. Maintain airway and oxygenation
2. Monitor vital signs, cardiac rhythm/EKG for signs of medication toxicity
3. Consider brain imaging for:
   - Head trauma
   - Focal seizure
   - Focal neurologic findings
   - Other suspected neurologic diagnosis
4. Reassure patient with information, support
5. Debrief with team before shift end

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Suggested EHR Data/Metric Tracking

Patient Demographics & Identifiers	• CSN • Ethnicity • Race • Language
Hospital Admission & Discharge Details	• Admit date/time • Admit day of week • Discharge date/time • Delivery date
Pregnancy & Delivery Details	• Gestational age • Gestation of induction rates • Newborn outcomes
Hypertension Management	• Current hypertension diagnosis • Hypertension order set initiated • BP control • BP med dose • Currently on BP meds • Discharged on hypertension meds • First BP >= 160/110 date/time • MHA: timely treatment of BP's >160/110 within one hour
Hypertensive Disorders of Pregnancy (HDP)	• Readmittance rates for HDP • Induction rates related to HDP • Rate of patients with severe Pre-E on Magnesium both labor/delivery and postpartum
Education & Documentation	• Hypertension education completed • Blue Band documented
Post-Discharge Details	• D/C home on BP meds (not taking beforehand)

CMQCC Preeclampsia Early Recognition Tool (PERT)*

https://www.cmqcc.org/resource/preeclampsia-early-recognition-tool-pert

**Starting April 30, 2025, access to the CMQCC toolkit requires logging in with an account to download the toolkit items.*

Preeclampsia Early Recognition Tool (PERT)

ASSESS	NORMAL (GREEN)	WORRISOME (YELLOW)	SEVERE (RED)
Awareness	Alert/oriented	•Agitated/confused •Drowsy •Difficulty speaking	•Unresponsive
Headache	None	•Mild headache •Nausea, vomiting	•Unrelieved headache
Vision	None	•Blurred or impaired	•Temporary blindness
Systolic BP (mm HG)	100-139	140-159	≥160
Diastolic BP (mm HG)	50-89	90-105	≥105
HR	61-110	111-129	≥130
Respiration	11-24	25-30	<10 or >30
SOB	Absent	Present	Present
O2 Sat (%)	≥95	91-94	≤90
Pain: Abdomen or Chest	None	•Nausea, vomiting •Chest pain •Abdominal pain	•Nausea, vomiting •Chest pain •Abdominal pain
Fetal Signs	•Category I •Reactive NST	•Category II •IUGR •Non-reactive NST	•Category III
Urine Output (ml/hr)	≥50	30-49	≤30 (in 2 hrs)
Proteinuria (Level of proteinuria is not an accurate predictor of pregnancy outcome)	Trace	•≥ +1** •≥300mg/24 hours	
Platelets	>100	50-100	<50
AST/ALT	<70	>70	>70
Creatinine	<0.8	0.9-1.1	>1.2
Magnesium Sulfate Toxicity	•DTR +1 •Respiration 16-20	•Depression of patellar reflexes	•Respiration <12

GREEN = NORMAL
Proceed with protocol

YELLOW = WORRISOME
Increase assessment frequency

# Triggers	TO DO
1	•Notify provider
≥2	•Notify charge RN •In-person evaluation •Order labs/tests •Anesthesia consult •Consider magnesium sulfate •Supplemental oxygen

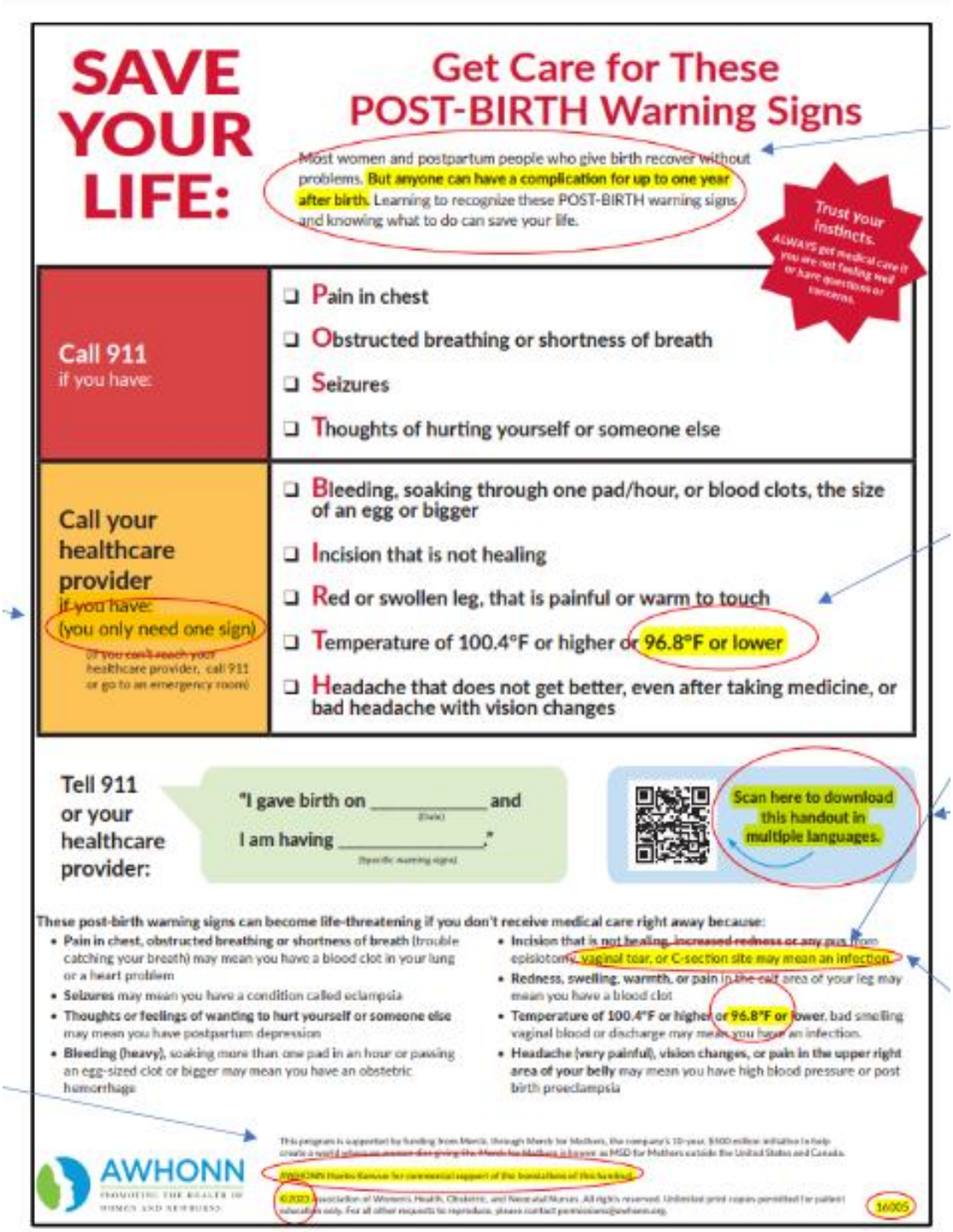
**Physician should be made aware of worsening or new-onset proteinuria

RED = SEVERE

Trigger: 1 of any type listed below	TO DO
1 of any type	• Immediate evaluation • Transfer to higher acuity level • 1:1 staff ratio
Awareness Headache Visual	• Consider Neurology consult • CT scan • R/O SAH/intracranial hemorrhage
BP	• Labetalol/hydralazine in 30 min • In-person evaluation • Magnesium sulfate loading or maintenance infusion
Chest Pain	• Consider CT angiogram
Respiration SOB O2 SAT	• O2 at 10 L per rebreather mask • R/O pulmonary edema • Chest x-ray

POST-BIRTH Warning Signs Education Program

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



AIM – Severe Hypertension in Pregnancy Bundle

https://saferbirth.org/psbs/severe-hypertension-in-pregnancy/

SEVERE HYPERTENSION IN PREGNANCY

The Severe Hypertension in Pregnancy patient safety bundle revision process began in September 2021. In this revision process, subject matter experts revised existing and included new elements according to evidence-based practices. Additionally, the bundle revision process incorporated Respectful Care elements in a 5th R and throughout the rest of the bundle to ensure whole person, patient-centered, and trauma-informed care for every patient, in every clinical encounter. The revised Severe Hypertension in Pregnancy patient safety bundle was released in June 2022. For state, jurisdiction, and hospital-based teams interested in implementing a patient safety bundle related to severe hypertension in pregnancy, please utilize the revised Severe Hypertension in Pregnancy patient safety bundle.

- READINESS
- RECOGNITION & PREVENTION
- RESPONSE
- REPORTING & SYSTEMS LEARNING
- RESPECTFUL, EQUITABLE & SUPPORTIVE CARE

QUICK LINKS

- Patient Safety Bundle (PDF)
- Element Implementation Details (PDF)
- Implementation Resources (PDF)
- Data Collection Plan (PDF)
- Change Package (PDF)
- Implementation Webinar (Video)
- Patient Safety Bundle (2015) (PDF)
- Complete Resource Listing (2018) (PDF)
- Bundle Element Context and Reference List (xlsx)

Thank you to the Washington Department of Health, Evergreen Health, CentraCare St. Cloud, Aspirus St. Luke's Duluth, and the MNPQC Hypertension Faculty for helping us create this booklet!

Please contact info@minnesotaperinatal.org with any questions.