

# The Million Hearts<sup>®</sup> Hypertension in Pregnancy Change Package – Improving Health Outcomes for Pregnant Patients

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Care and Access for Pregnant People ECHO

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# Disclosures

- No disclosures.
- The opinions expressed by authors contributing to this project do not necessarily reflect the opinions of the US Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions. Use of trade names is for identification only and does not imply endorsement by any of the groups named below.



# Million Hearts<sup>®</sup> 2027 Priorities

## Building Healthy Communities

Decrease **Tobacco Use**

Decrease **Physical Inactivity**

Decrease **Particle Pollution Exposure**

## Optimizing Care

Improve Appropriate **A**spirin or **A**nticoagulant Use

Improve **B**lood Pressure Control

Improve **C**holesterol Management

Improve **S**moking Cessation

Increase Use of **Cardiac Rehabilitation**

## Focusing On Health Equity

Pregnant and Postpartum Women with Hypertension

People from Racial/Ethnic Minority Groups

People with Behavioral Health Issues Who Use Tobacco

People with Lower Incomes

People Who Live in Rural Areas or Other 'Access Deserts'

# Definitions

Hypertension	Severe Hypertension
 <p>mmHg on two readings ≥ 4 hours apart</p>	 <p>mmHg on two readings</p>

- **“Hypertensive disorders of pregnancy”** – often used for pregnancy associated hypertension
- **“Hypertension in pregnancy”** – chronic hypertension + pregnancy associated hypertension
- **Chronic hypertension** – preexisting hypertension, hypertension diagnosed in first 20 weeks gestation, or persists beyond 12 weeks postpartum
- **Gestational hypertension** – hypertension diagnosed after 20 weeks gestation
- **Preeclampsia** – serious complication involving high blood pressure and organ damage
- **Eclampsia** – serious complication of preeclampsia that involves seizures
- **Chronic hypertension super-imposed with preeclampsia/eclampsia**

# 2022 Chronic Hypertension and Pregnancy (CHAP) Trial

## Treatment for Mild Chronic Hypertension during Pregnancy

Tita AT et al. DOI: 10.1056/NEJMoa2201295

### CLINICAL PROBLEM

Chronic hypertension during pregnancy increases risk of poor pregnancy and birth outcomes. Although pharmacologic antihypertensive therapy is standard treatment for severe hypertension during pregnancy, its benefits and safety are unclear for mild chronic hypertension in pregnant women.

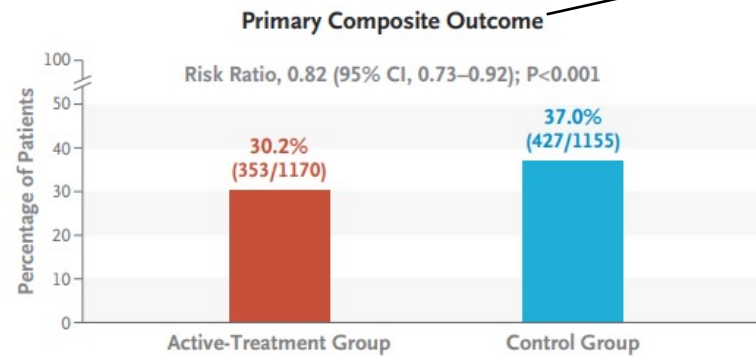
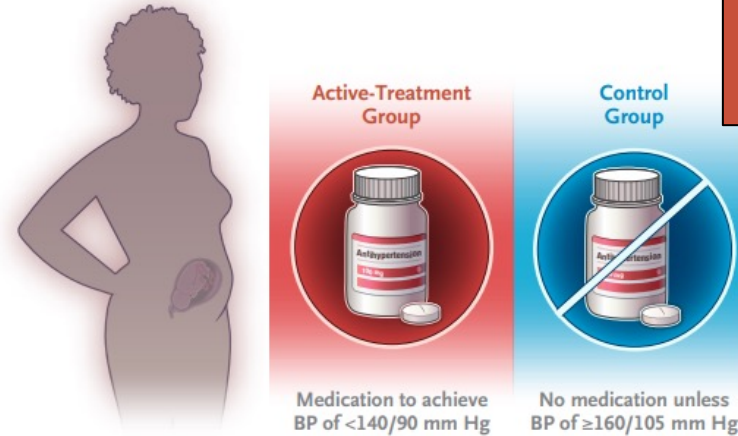
### CLINICAL TRIAL

**Design:** A U.S. multicenter, open-label, randomized, controlled trial assessed whether treatment of mild chronic hypertension in pregnant women, as compared with no treatment, would reduce adverse pregnancy outcomes without harming fetal growth.

**Intervention:** 2408 women with a known or new diagnosis of mild chronic hypertension and a singleton fetus at <23 weeks' gestation were randomly assigned to receive either active treatment with antihypertensive medications approved for pregnancy or standard treatment — i.e., no treatment, unless systolic blood pressure was  $\geq 160$  mm Hg or diastolic blood pressure was  $\geq 105$  mm Hg. The primary outcome was a composite of preeclampsia with severe features, medically indicated preterm birth at <35 weeks, placental abruption, fetal death, or neonatal death.

### RESULTS

**Efficacy:** Active treatment of mild chronic hypertension reduced the frequency of primary outcome events.



## CONCLUSIONS

Treating mild chronic hypertension in pregnancy reduced adverse pregnancy outcomes without impairing fetal growth.

- Preeclampsia with severe features
- Medically indicated preterm birth at <35 weeks' gestation
- Placental abruption
- Fetal or neonatal death


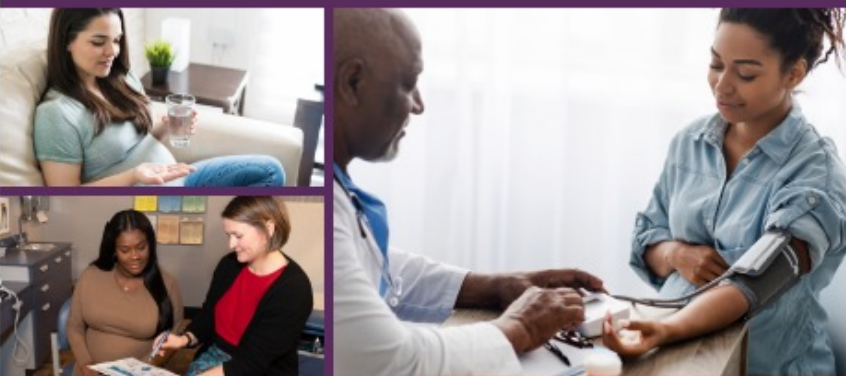
[NEJM Research Summary](#)

Tita AT, et al. N Engl J Med. 2022;386(19):1781-1792.

**How can we support this  
new change to clinical  
guidelines?**





# Hypertension in Pregnancy Change Package (HPCP)

**A MILLION HEARTS® ACTION GUIDE**

## Hypertension in Pregnancy CHANGE PACKAGE

**Table 4. Population Health Management (continued)**

Change Concepts	Change Ideas	Tools and Resources
Use a Registry to Track and Manage Patients with HTN	Implement a HTN registry for pertinent patient populations  Use a defined pro outreach (e.g., ph mail, email, text m to women with H pregnancy	<ul style="list-style-type: none"> <li>AMGF—Measure Up Pressure Down Provider Toolkit to Improve Hypertension Control: <a href="#">Plank 6: Registry Used to Track Hypertension Patients</a></li> </ul>
Use Clinician-Managed Protocols for Medication Adjustments and Lifestyle Recommendations	Use protocols to c proactive outrea driven by registry and respond to p submitted home f readings	
Use Practice Data to Drive Improvement	Determine HTN cc and related proce metrics for the pr  Regularly provide	<p><b>Prioritize Respectful, Culturally Sensitive Care</b></p> <p>Assess organizational capacity to deliver equitable, respectful patient care</p> <p>Implement policies or processes to train all patient-facing staff in respectful and culturally safe communication, being mindful of communication needs and various family structures and cultural practices</p>

**Table 2. Key Foundations (continued)**

Change Concepts	Change Ideas	Tools and Resources
		<ul style="list-style-type: none"> <li>IHI—<a href="#">Improving Health Equity: Assessment Tool for Health Care Organizations</a></li> <li>Project Implicit—<a href="#">Implicit Association Tests</a></li> <li>CDC—Hear Her® Campaign: Clinical Resources and Tools                             <ul style="list-style-type: none"> <li>» Especially <a href="#">Implicit Bias and Stigma and Health Equity and Cultural Awareness</a></li> </ul> </li> <li>The Joint Commission—<a href="#">Quick Safety 23: Implicit bias in health care</a> <ul style="list-style-type: none"> <li>» Especially <a href="#">Safety Actions to Consider</a></li> </ul> </li> </ul>
		<ul style="list-style-type: none"> <li>CMQCC—Improving Health Care Response to Hypertensive Disorders of Pregnancy Toolkit: <a href="#">Patient Education</a> <ul style="list-style-type: none"> <li>» Especially <a href="#">Offering COMFORT</a></li> </ul> </li> <li>CMQCC—Improving Health Care Response to Hypertensive Disorders of Pregnancy: <a href="#">Talking with Women and their Families About HDP (slide 58)</a></li> <li><a href="#">Table 5. Definition of Respectful Maternity Care</a>. Page 12, Cantor AG, et al., 2024.<sup>90</sup></li> <li><b>Northern Health</b>—<a href="#">Indigenous Health Cultural Safety: Respect and Dignity in Relationships</a></li> <li><a href="#">ACOG Committee Opinion No. 587: Effective Patient-Physician Communication</a>. 2014.<sup>91</sup></li> <li>AIM—Revised Severe Hypertension in Pregnancy Implementation Webinar: <a href="#">Infusing Equity &amp; Respectful Care (20:55)</a></li> </ul>



Access the Change Package at:  
<https://millionhearts.hhs.gov/hpcp>

# Hypertension in Pregnancy Change Package (HPCP)

- Co-developed by CDC's Division for Heart Disease and Stroke Prevention and the Division of Reproductive Health
  - Co-authored with multiple clinical societies
    - AAFP, ACNM, ACOG, ACOOG, AMA, NPWH, SMFM
- Primary audience – outpatient care teams that serve pregnant and postpartum women





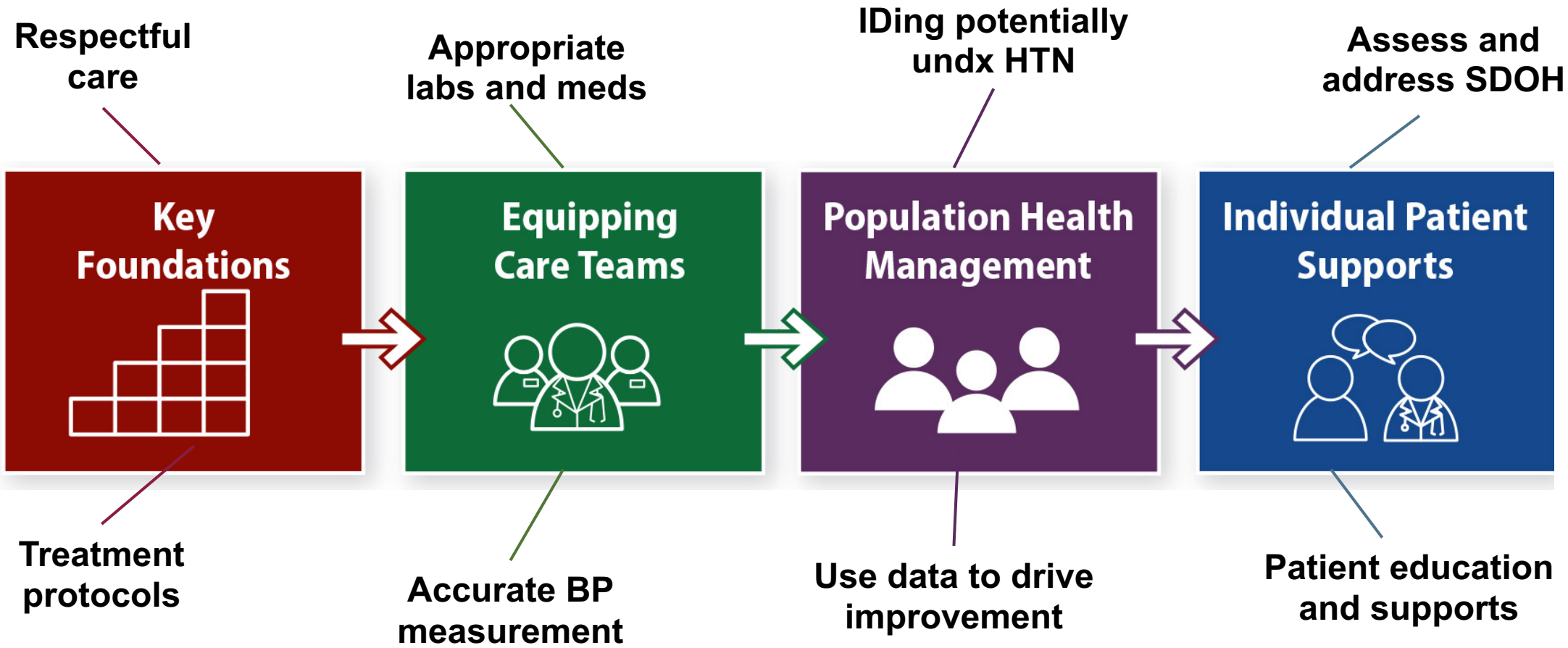
## Supports systematic use of these evidence-based interventions...

- Early **identification of chronic hypertension**
- Appropriate use of **antihypertensive medications and SMBP**
- **Aspirin prophylaxis** for preeclampsia prevention
- **Postpartum counseling** on warning symptoms, long-term cardiovascular risk
- Effective **transitions of care**

## ...Using these types of implementation strategies

- Identification of a provider champion
- Standardized treatment protocols
- Patient registries
- Provider audit and feedback reports
- EHR reminders
- Provider education and training
- Patient education
- Small tests of change (PDSA cycles)

# Focus Areas



IDing – identifying; undx – undiagnosed; HTN – hypertension; SDOH – social drivers/determinants of health; BP – blood pressure

**Change  
Concept**

# **Train Direct Care Staff on Interpretation of BP Measurements and Diagnosis of HTN in Pregnancy**



**Change  
Concept**

**Train Direct Care Staff on Interpretation of BP Measurements and  
Diagnosis of HTN in Pregnancy**



**Change  
Ideas**

**Provide guidance on diagnosis  
and classification of HTN  
in pregnancy**

**Use algorithms/flowcharts  
for management of HTN  
in pregnancy, including  
recognition of severe HTN**

Change Concept

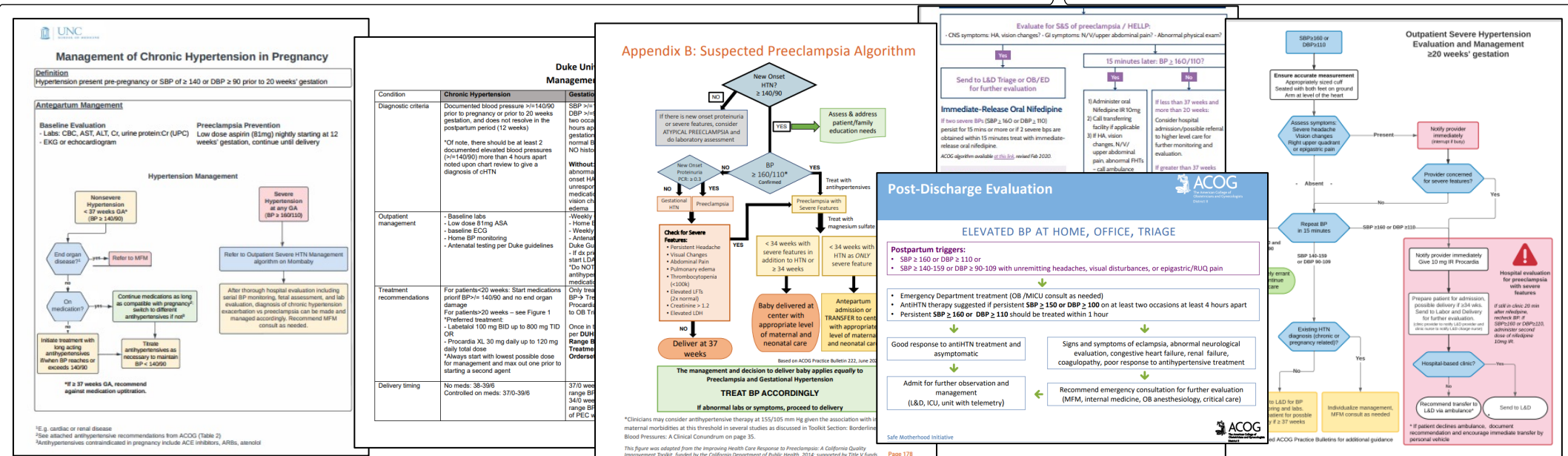
# Train Direct Care Staff on Interpretation of BP Measurements and Diagnosis of HTN in Pregnancy

Change Ideas

Provide guidance on diagnosis and classification of HTN in pregnancy

Use algorithms/flowcharts for management of HTN in pregnancy, including recognition of severe HTN

Tools & Resources

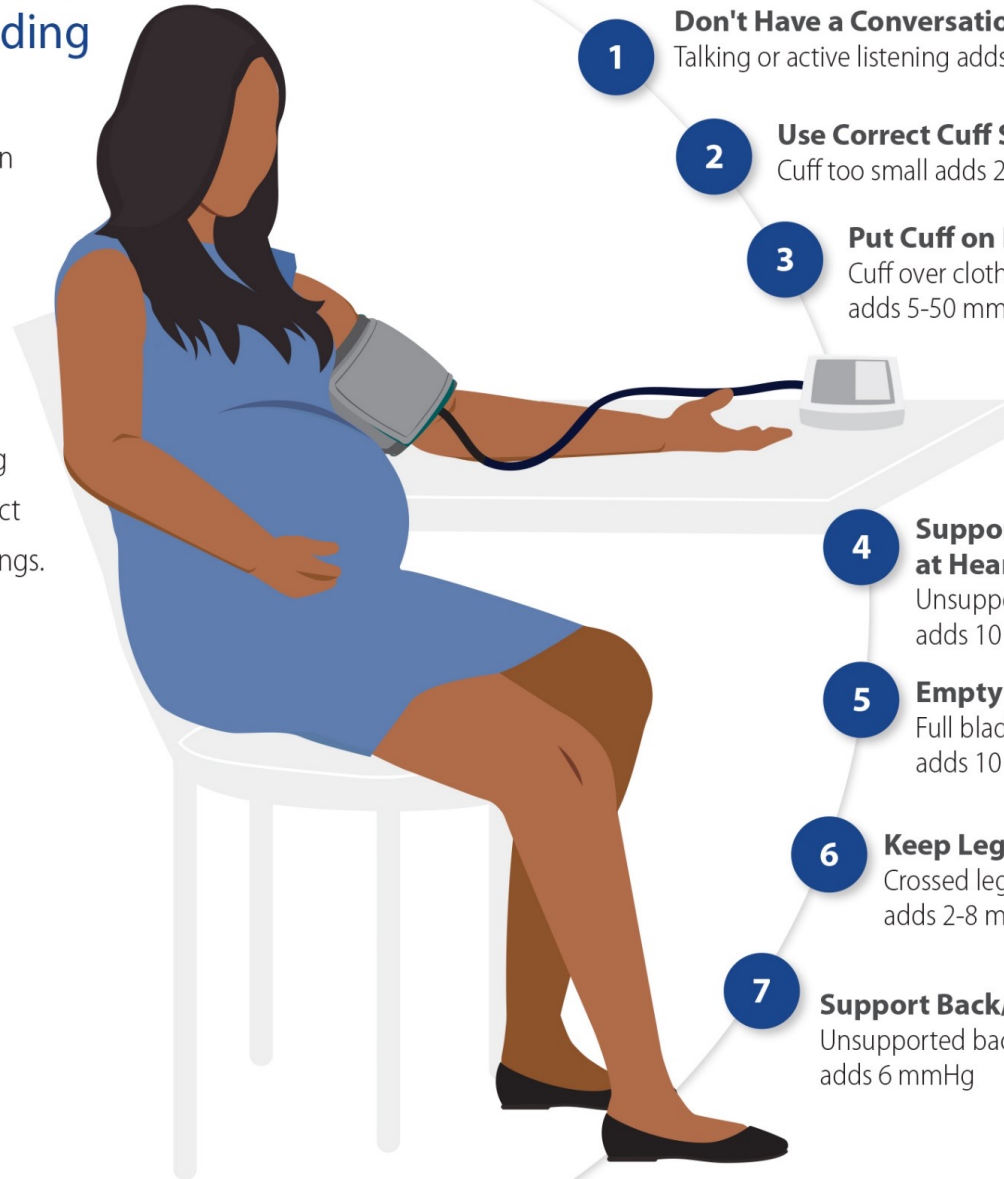




# 7 Simple Tips

## To Get an Accurate Blood Pressure Reading

These common positioning errors can result in inaccurate blood pressure measurement. Figure shown is an estimate of how improper positioning can potentially impact blood pressure readings.



- 1 Don't Have a Conversation**  
Talking or active listening adds 10 mmHg
- 2 Use Correct Cuff Size**  
Cuff too small adds 2-10 mmHg
- 3 Put Cuff on Bare Arm**  
Cuff over clothing adds 5-50 mmHg
- 4 Support Arm at Heart Level**  
Unsupported arm adds 10 mmHg
- 5 Empty Bladder First**  
Full bladder adds 10 mmHg
- 6 Keep Legs Uncrossed**  
Crossed legs adds 2-8 mmHg
- 7 Support Back/Feet**  
Unsupported back and feet adds 6 mmHg

**Pertinent for in-office blood pressure measurement as well as for self-measured BP monitoring!**

This **"7 Simple Tips to Get an Accurate Blood Pressure Reading"** was adapted with permission of the American Medical Association and The Johns Hopkins University. The original copyrighted content can be found at [www.ama-assn.org/ama-johns-hopkins-blood-pressure-resources](http://www.ama-assn.org/ama-johns-hopkins-blood-pressure-resources).

# Self-Measured Blood Pressure Monitoring (SMBP) Considerations

- Medicaid coverage for device and services
  - [AMA SMBP Coverage Insights: Medicaid](#)
- Use devices validated in pregnant populations
  - [U.S. Blood Pressure Validated Device Listing](#); filter by pregnant under populations served
  - [Stride BP in Pregnancy/Postpartum](#) (Europe)
- Measure and **remeasure** arm circumference with weight changes
- Proper BP measurement preparation and positioning



# How to Take Your Blood Pressure

- Brief videos demonstrating SMBP technique
- Montana Cardiovascular Health Program
- Multiple Native languages
  - Blackfeet
  - Cree
  - Crow [Apsáalooké]
  - Salish
  - Cheyenne
  - Nakoda
  - Dakota
  - A'ani [White Clay]
  - Plains Indian Sign Language
- <https://www.youtube.com/@MTCVHP/videos>



# Goal – Improve In-Office BP Measurement Accuracy

Change Opportunity (Goal)	Focus Area	Pertinent Change Ideas
Improve in-office blood pressure accuracy	<b>Key Foundations</b>	Redesign clinical spaces to support proper BP measurement technique
	<b>Equipping Care Teams</b>	Adopt a clinician/staff training policy to train and retrain staff on BP measurement
		Provide guidance on measuring BP accurately
		Assess adherence to proper BP measurement technique
	<b>Individual Patient Supports</b>	Measure, document, and repeat BP correctly as indicated; flag abnormal readings

Note – these are select change ideas. See full change package for additional strategies.

# Preeclampsia – Patient Education

- Pay attention to warning signs
- Can occur during pregnancy or in the postpartum period
- Self-measured blood pressure monitoring may be useful

**YOUR FUTURE HEALTH**  
If you are diagnosed with preeclampsia during pregnancy, you may be more likely to have health problems in the future when you are not pregnant. These problems may include...



heart attack      stroke      kidney disease      high blood pressure

[Preeclampsia and Pregnancy \(acog.org\)](http://acog.org)

**WHAT ARE THE WARNING SIGNS?**  
When there are symptoms, they may include...



a headache that will not go away

seeing spots, blurry vision, or other changes in eyesight

swelling of face or hands

sudden weight gain

nausea and vomiting in the 2<sup>nd</sup> half of pregnancy

pain in the upper abdomen or shoulder

shortness of breath



# HEAR™

HEAR HER CONCERNS



Learn more at

[www.cdc.gov/HearHer/AIAN](http://www.cdc.gov/HearHer/AIAN)

# Indications for Aspirin Prophylaxis for Preeclampsia Prevention



## One or more of the following:

- History of preeclampsia
- Chronic hypertension
- Pregestational diabetes, type 1 or 2
- Kidney disease
- Autoimmune disease
- Multifetal gestation



## Two or more of the following:

- Age  $\geq 35$  years
- Black race\*
- Lower income
- Obesity (BMI  $>30$ )
- Family history of preeclampsia in 1st degree relative
- Nulliparity
- $>10$ -year pregnancy interval
- In vitro fertilization
- Previous adverse pregnancy outcome

\*Black race is a proxy for racism, and is not a risk factor based on biologic basis.

# Goal – Increase Appropriate Aspirin Use

Change Opportunity (Goal)	Focus Area	Pertinent Change Ideas
Increase aspirin use for preeclampsia prevention	<b>Key Foundations</b>	Develop a policy for aspirin prophylaxis in pregnancy
	<b>Equipping Care Teams</b>	Train staff on indications for aspirin prophylaxis during pregnancy to prevent preeclampsia
		Use checklists, algorithms, and decision trees to ensure aspirin prophylaxis is prescribed for all pregnant women who meet indications
		Use a flowchart/dashboard with care gaps highlighted in team huddles to help care teams better support patients
	<b>Population Health Management</b>	Implement a HTN registry for pertinent patient populations
		Regularly provide a dashboard with BP goals, metrics, and performance
	<b>Individual Patient Supports</b>	Provide patient education on aspirin prophylaxis to prevent preeclampsia for pregnant women at higher risk

Note – these are select change ideas. See full change package for additional strategies.

# Million Hearts<sup>®</sup> Hypertension in Pregnancy Action Forum

- **Coming Soon – August 6, 2024, 11am-12pm ET**
- Committed to timely detection and management of hypertension in and following pregnancy
- Open to clinical, public health, and community-based partners
  - Exchange best and promising practices
  - Identify solutions to common obstacles
  - Share resources

• If interested, please register here: [Meeting Registration - Zoom \(zoomgov.com\)](#)



# Questions?

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