



**FY2020**

# **Ambulatory Quality Goal**

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**Hypertension Management Improvement Toolkit**

# Table of Contents

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Ambulatory Care Quality.....	1
Frequently Asked Questions (FAQs).....	3
Key Strategies for Success.....	6
Hypertension Management Gap Analysis Tool .....	7
Hypertension Management Gap Analysis.....	8
Staff Education Resources .....	14
Patient Education Resources.....	14
Hypertension Management Champion Role Description.....	16
CommonSpirit Health Sample Discharge Workflow for HTN Improvement.....	17
Additional HTN Strategies and Resources for Consideration .....	18
References.....	21

# Ambulatory Care Quality

## Hypertension (High Blood Pressure) Management

### Objective

Decrease the risks of heart attack, stroke and death for hypertensive patients by effectively managing their high blood pressure.

### Rationale

Recent prevalence estimates show that 46 percent of adults in the United States have high blood pressure. This one-year measure is to improve the percentage of adult patients with a diagnosis of hypertension for whom blood pressure is adequately controlled, i.e., less than 140/90 mmHg.

Hypertension is a significant contributing factor to hospital admissions and hospital costs. According to the American Heart Association, individuals with hypertension face nearly \$2,000 higher annual health care expenditure compared with their non-hypertensive peers. Furthermore, it is estimated that the prevalence of hypertension will increase by more than 9 percent by 2030.

Across CommonSpirit Health, preliminary performance data suggests that just over 60 percent of patients with a diagnosis of hypertension have blood pressure that is under control. Therefore, there is an opportunity for

112,000 CommonSpirit patients to reduce their risk for heart attack, stroke, or even death by achieving better blood pressure control. This measure is included in Centers for Medicare and Medicaid Services (CMS) pay-for-performance programs including various Accountable Care Organization (ACO) agreements and the Merit-based Incentive Payment System (MIPS) for eligible Medicare providers.

### Metric

Percentage of patients 18–85 years of age who had a diagnosis and/or active problem of hypertension and whose blood pressure was adequately controlled (<140/90 mmHg) during the measurement period.

### Numerator

Patients whose most recent blood pressure during the measurement period is adequately controlled (systolic blood pressure <140 mmHg and diastolic blood pressure <90 mmHg).

### Denominator

Patients 18–85 years of age who had a diagnosis or active problem of essential hypertension and an encounter during the measurement period.

*Hypertension –  
pressure for life*



### Inclusion Criteria

- Patients with an ambulatory encounter during the measurement period that meet one out of the two criteria listed below:
  - Have hypertension active on their problem list during the measurement period
  - Have a diagnosis of hypertension on a posted encounter during the measurement period
- Ambulatory patients seen by providers who are either employed or contracted within clinics that are affiliated with CommonSpirit Health and that utilize an owned instance of Cerner, Epic or Allscripts EHR.

### Exclusion Criteria

- Patients with evidence of end stage renal disease (ESRD) before or during the measurement period
- Dialysis before or during the measurement period
- Renal transplant before or during the measurement period
- Chronic kidney disease stage 5 (CKD) before or during the measurement period
- Pregnancy during the measurement period
- Deceased during the measurement period
- Hospice status during the measurement period
- Patients belonging to Sequoia Physicians Network during measurement period

ICD codes associated with the inclusion/exclusion criteria are available upon request through National Quality Contacts

### National Contact - Quality

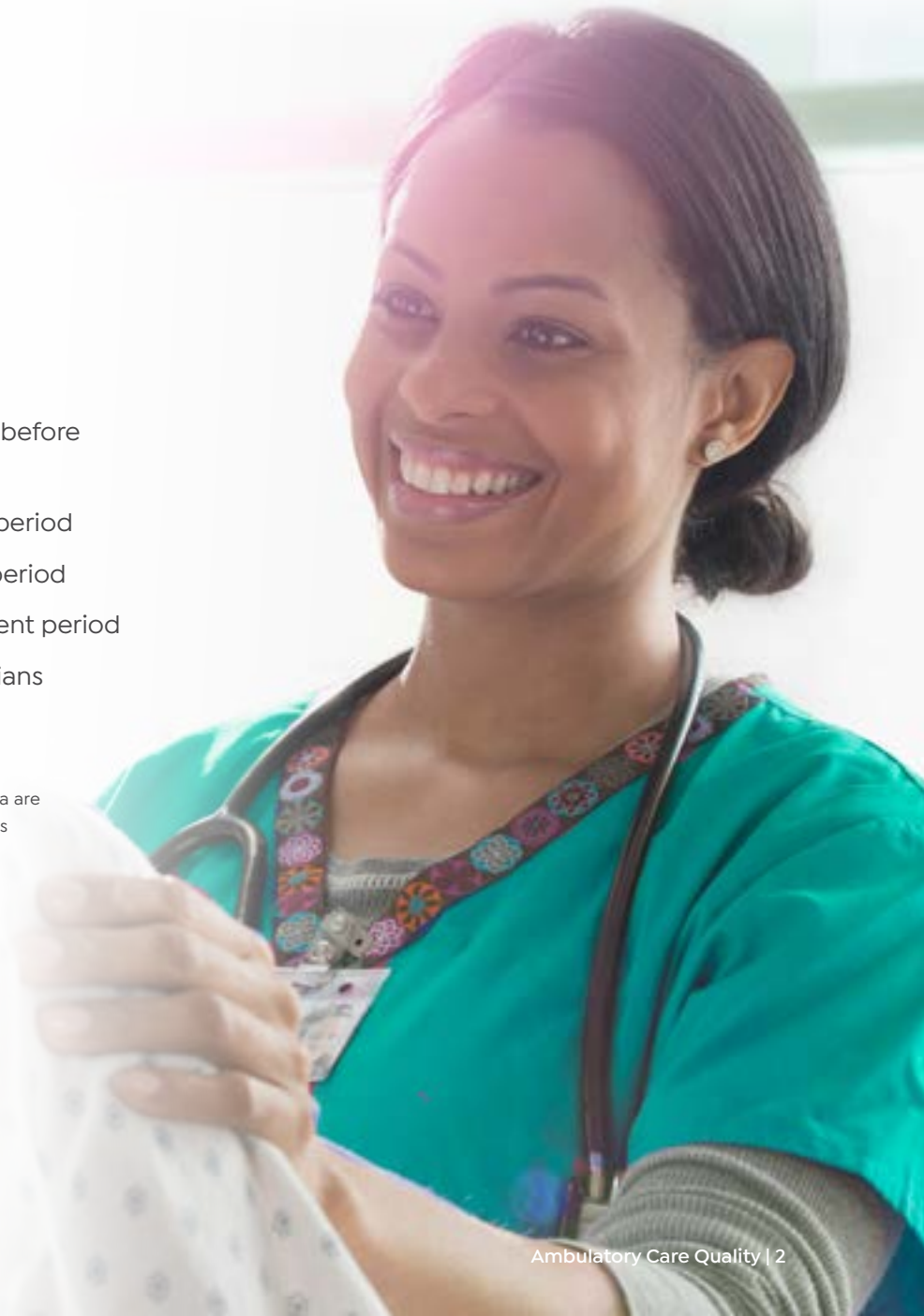
Debra Rockman, RN, MBA, CPHQ, CPHRM  
Kelly Bitonio, BSN, MHA, NEA-BC

### Physician Champion

Dr. Gary Greensweig, CPE, Physician Enterprise

### Data Source

CommonSpirit instance of Cerner, Epic or Allscripts electronic health record systems



## Frequently Asked Questions

- Q** Why was the hypertension measure criteria selected as 140/90 when latest society recommendations cite the threshold for BP-lowering medication as 130 mm Hg or higher systolic or diastolic of 80 mm Hg or higher for those patients with Clinical Atherosclerotic Cardiovascular Disease (ASCVD) or an estimated 10-year Cardiovascular Disease (CVD) risk of 10%?
- A** While recognizing the importance of recommendations generated from the ACC 2017 Guideline for Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults, the Hypertension measure was selected based on its alignment with the Centers for Medicare & Medicaid Services Merit-based Incentive Payments (CMS-MIPs) program's Controlling High Blood Pressure measure. Additionally, we recommend that the ACC guidelines for pharmacologic treatment of patients with Clinical ASCVD or an estimated 10-year CVD risk of 10% be followed. For patients without Clinical ASCVD or an estimated 10-year CVD risk of 10%, the ACC recommended the threshold for the use of BP-lowering medication remain at 140/90. This alignment allows CommonSpirit Health to focus improvement efforts on effective hypertension management, while enabling comparison and benchmarking of division and enterprise-wide performance against clinicians, groups and third-party intermediaries participating in the CMS-MIPS program (approximately 420,000 providers).
- Q** A newly diagnosed hypertension patient seen in June most likely will not be brought under "good control" prior to the end of the performance period. Will this negatively impact our ability to achieve the performance goals?
- A** While the CMS-MIPs HTN population only includes those patients with a HTN diagnosis in the first 6 months of the measurement period, the national hypertension data cohort includes all patients with an HTN diagnosis or active problem seen during the entire performance period. When evaluating the use of this approach, the national clinical analytics team conducted an in-depth impact analysis and found no statistically significant difference in percentage of hypertension patients within good control.
- Q** Why isn't my division's data included in the CommonSpirit Health National Quality Measure Report?
- A** The National Quality Measure Report includes data elements abstracted from electronic health records of ambulatory patients seen by providers who are either employed or contracted within clinics that are affiliated with CommonSpirit Health and that utilize an owned instance of Cerner, Epic or Allscripts EHR. At the start of FY2019, data from these entities that use a CommonSpirit Health instance of Cerner, Epic or Allscripts electronic health record system (EHR) underwent a thorough validation process.

By using this validated data to populate the inaugural FY2020 National Quality Measure Report, we are able to produce an accurate, reliable snapshot of measure performance. Over the next year, our Clinical Analytics and Business Intelligence teams will be working together to expand our reporting capability to include additional divisions and EHR systems, and to the extent possible Clinically Integrated Networks and other affiliated organizations. While this year's measurement and data extraction processes will include only employed or contracted providers as above, our goal is to communicate and align efforts for controlling blood pressure across all of CommonSpirit Health.

**Q What is the expectation for divisions that do not have data in the CommonSpirit Health National Quality Measure Report?**

**A** Although not all divisions will be able to compare their measure performance within the National Quality Measure report, control of hypertension is a national initiative. All divisions will be expected to monitor ongoing performance through use of locally produced or claims-based reporting systems, participate in national improvement activities, deploy recommended strategies and monitor effectiveness of improvement initiatives.

**Q What is the source of the HTN measure data?**

**A** The measurement data is aggregated from discrete fields within the electronic medical record as well as coded, or claims-based information.

**Q How will performance data be reported – year-to-date or rolling 12 months?**

**A** Data will be reported year-to-date, beginning Oct. 1, 2019.

**Q What is the Measurement Period for the FY20 goal?**

**A** Performance in this goal will be evaluated on patients who are included in the denominator population for a CommonSpirit Health clinic between Oct. 1, 2019 and June 30, 2020.

**Q What is the difference between percentages and percentile ranking?**

**A** A percent specifies how much of one quantity is made up by another quantity, and is always calculated in relation to 100. For purposes of the Hypertension Measure, the percentage is calculated via the following formula:

$$\frac{\text{Number of patients whose most recent blood pressure during the measurement period is adequately controlled (systolic blood pressure <140 mmHg and diastolic blood pressure <90 mmHg)}}{\text{Number of patients 18-85 years old who had a diagnosis or active problem of essential hypertension and an encounter during the measurement period}} \times 100$$

Percentile is a value at or below which a certain percentage of the distribution lies—a measure that indicates the value below which a given percentage of observations in a group of observations fall. For purposes of the Hypertension Measure, percentile ranking will be calculated using the 2018 CMS-MIPs Benchmark Results, which ranks performance of clinicians, groups and third-party intermediaries participating in the CMS-MIPS program (approximately 420,000 providers).

**Q** What encounter types are included in the denominator data?

**A** Outpatient office visits for primary care providers (PCPs) and specialists during the measurement period are included.

**Q** Since the most recent BP is used for compliance, will the previously reported monthly data results change if the patient is seen in a more recent visit?

**A** No, each month will include those patients with an active diagnosis of HTN (coded or on their problem list) who've had an office visit encounter and their corresponding BP.

**Q** Is this only a PCP measure or will BP recorded in a specialist visit satisfy the measure, if it is the most recent visit?

**A** The most recent BP in the EHR related to an office visit will be used to determine good control.

**Q** Are emergency or urgent care visits included?

**A** No, only office visits are included.

**Q** Is this a cumulative report as the measurement period progresses? For example, do December results also include those HTN patients seen in October and November?

**A** Yes, the rate would be cumulative, showing “In Control/Out of Control” status for each patient landed in the denominator during the yearly measurement period, and using the MOST RECENT BP result to determine numerator status. (Patients in prior months would be included, because it's cumulative, but each patient is only counted once.)

**Q** If more than one BP is taken on the most recent visit, which BP is used?

**A** The last recorded BP for the most recent visit is used.

**Q** What is the baseline measurement period?

**A** October 2018-June 2019 is the baseline measurement period. This mirrors the measurement period of October 2019-June 2020, to capture any seasonal blood pressure changes.



# Key Strategies for Success

## 1 Establish Hypertension Improvement as a Practice Priority

Designate a Hypertension Management Champion: A designated clinician or other member of the healthcare team oversees hypertension improvement activities within one or multiple clinics

## 2 Ensure Process Exists to Support Accurate Blood Pressure Measurement

- Establish a process to evaluate environment and equipment availability for accurate blood pressure measurement
- Establish a process to train and evaluate direct care staff on accurate BP measurement and recording

## 3 Support Patients in Self-Management of Hypertension

- Establish a process to train and evaluate patients on self-measured blood pressure technique
- Establish a process to support hypertension patients in adopting healthy lifestyle changes
- Establish a process for supporting patients in medication adherence

## 4 Optimize HTN Management at Encounter Closing

- Establish a clinic workflow or process to flag hypertension patients and schedule follow-up visits (according to evidence-based guidelines) at encounter closing

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## References

1. Kirkland, E. et.al. Trends in Healthcare Expenditures Among US Adults With Hypertension: National Estimates, 2003–2014, J Am Heart Assoc. 2018. AHA 2018 Health Expenditures for Hypertension
2. Chobanian et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, The JNC 7 Report. JAMA. May 2003, Vol 289. Pg. 2560-72.

# Hypertension Management Gap Analysis Tool

## What is this tool?

The purpose of the gap analysis is to provide clinic improvement teams with a mechanism to:

- Compare the evidence-based “must have” improvement strategies with the processes currently in place within the clinic.
- Determine the “gaps” between current clinic practices and identified best practices.
- Provide a structured approach to documenting action plans to address identified “gaps”.
- Provide a reference of available resources to support improvement efforts.

## Who should use this tool?

The Hypertension Management Champion or designee will facilitate completion of the gap analysis with participation from providers and clinic team members. Clinics should establish improvement teams or workgroups to develop action plans to address identified gaps and successfully deploy improvement strategies.

## How can the tool help you?

Upon completion of the gap analysis, providers and clinic team members will have:

- An understanding of the differences between current clinic practices and evidence-based, best practices related to hypertension management within the clinic setting.

- An assessment of the barriers that need to be addressed before successful implementation of best practices.
- An awareness of available resources to support improvement efforts.

## Instructions

1. Please review each of the improvement strategy elements in Column 2. Answer Yes or No questions in Column 3 by checking the appropriate box.
2. If the improvement strategy is currently not in place, or associated elements are not addressed by current processes within your clinic, provide a brief description of action plan and estimated implementation date in Column 4.

Gap Analysis tools must be completed by SEPTEMBER 30, 2019. Onsite assistance with this evaluation or improvement efforts may be requested by contacting national team members above.

Completed gap analysis tools may be requested by Division and National quality and operational leaders throughout the year based on clinic Hypertension Measure performance data.

**THANK YOU!**



# Hypertension Management Gap Analysis

Division: \_\_\_\_\_ Clinic: \_\_\_\_\_ Date of Completion: \_\_\_\_\_

Key Concept	Improvement Strategy	Assessment	Action Plan/ Comments	Available Resources
Designated Hypertension Management Champion	A designated clinician or other member of the healthcare team oversees hypertension improvement activities within one or multiple clinics	YES NO <i>(If no, document action plan and move to next section)</i>		CommonSpirit Health Hypertension Management Champion Role Description
	The HTN Mgt. Champion collaborates with providers and clinic managers to facilitate completion of this gap analysis of current hypertension management practices within assigned clinic(s) and:	YES NO		
	<ul style="list-style-type: none"> <li>Facilitates clinic approach to support adherence to hypertension management improvement strategies to address gap analysis findings. (For example, establish an improvement team or work group to focus on these efforts.)</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Mentors providers, clinic staff, improvement teams to effectively apply improvement methods and tools</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Facilitates process for periodic review, monitoring and sharing of performance outcome data reports with providers and staff</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Celebrate key milestone achievements</li> </ul>	YES NO		

Sources: <sup>1</sup>Hypertension Guideline Toolkit for Healthcare Providers, American Heart Association; 2017. <sup>2</sup>Centers for Disease Control and Prevention. Hypertension Control Change Package for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2015.

Key Concept	Improvement Strategy	Assessment	Action Plan/ Comments	Available Resources
<p><b>Ensure Process Exists to Support Accurate Blood Pressure Measurement</b></p>	<p><b>A process exists to evaluate environment and equipment availability for accurate blood pressure measurement</b></p> <ul style="list-style-type: none"> <li>Environmental and equipment audit has been conducted in all areas in which blood pressure measurement occurs and includes evaluation of the following elements: <ul style="list-style-type: none"> <li>Area is quiet and not accessible to traffic</li> <li>Four cuff sizes available per room/patient (small, medium, large, extra large)</li> <li>Properly validated, calibrated BP measurement devices are in good working condition</li> <li>If wall-mounted, sphygmomanometer is optimally placed, preventing staff and equipment from excessive bending or stretching</li> <li>Patient chair/seating surface is standard 17 inches in height and provides for back support</li> <li>Patient chair/seating surface is accessible on both sides for obtaining measurement in either the patient's right or left arm</li> <li>Support surface to allow patient to rest arm at heart level is available</li> </ul> </li> </ul>	<p><b>YES NO</b> <i>(If no, document action plan and move to next section)</i></p>		<p>Target: BP Measure Accurately (pre-assessment tool)</p>
		<p><b>YES NO</b></p>		<p>Lists of approved monitors:</p>
		<p><b>YES NO</b></p>		
		<p><b>YES NO</b></p>		
		<p><b>YES NO</b></p>		
		<p><b>YES NO</b></p>		
		<p><b>YES NO</b></p>		
		<p><b>YES NO</b></p>		

Sources: <sup>1</sup>Hypertension Guideline Toolkit for Healthcare Providers, American Heart Association; 2017. <sup>2</sup>Centers for Disease Control and Prevention. Hypertension Control Change Package for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2015.

Key Concept	Improvement Strategy	Assessment	Action Plan/ Comments	Available Resources
Ensure Process Exists to Support Accurate Blood Pressure Measurement	Process exists to train and evaluate direct care staff on accurate BP measurement and recording	YES NO <i>(If no, document action plan and move to next section)</i>		CommonSpirit Health Performing Accurate Blood Pressure Measurement (staff education PowerPoint)
	<ul style="list-style-type: none"> <li>An education program is provided to direct care staff and addresses importance of blood pressure control for hypertension and adherence to proper BP measurement technique</li> </ul>	YES NO		AHA Steps for Accurate BP Measurement (staff education poster)
	<ul style="list-style-type: none"> <li>A process exists to validate competency of direct care staff on accurate BP measurement and documentation and includes the following elements:</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Assessment of equipment availability</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Patient preparation and positioning</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Appropriate cuff size selection and placement</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>BP measurement procedure</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Required repeat BP measurement for first visits and elevated readings</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Recording of SBP and DBP readings within discreet field per EMR (not within narrative note)</li> </ul>	YES NO		
	<ul style="list-style-type: none"> <li>Provide patient the BP readings verbally and in writing</li> </ul>	YES NO		
<ul style="list-style-type: none"> <li>Notification of provider for repeat BP levels greater than 140/90</li> </ul>	YES NO			
<ul style="list-style-type: none"> <li>Staff training and competency validation occurs at time of hire and annually</li> </ul>	YES NO			Measure Up, Measure Down Quarterly Blood Pressure Audit Tool

Sources: <sup>1</sup>Hypertension Guideline Toolkit for Healthcare Providers, American Heart Association; 2017. <sup>2</sup>Centers for Disease Control and Prevention. Hypertension Control Change Package for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2015.

Key Concept	Improvement Strategy	Assessment	Action Plan/ Comments	Available Resources
Support Patients in Self-Management of Hypertension	Process exists to train and evaluate patients and family members on self-measured blood pressure technique	YES NO <i>(If no, document action plan and move to next section)</i>		AHA <i>What is High Blood Pressure</i> (patient education brochure)
	• Patient training program/process includes the following:	YES NO		
	• Rationale for home blood pressure monitoring	YES NO		CommonSpirit Health
	• How to select a home pressure monitor	YES NO		<i>Self-measured blood pressure technique: How to take your own blood pressure</i> (patient education brochure – adapted from AMA and John Hopkins )
	• How to properly use a home blood pressure monitor: timing, preparation, positioning, multiple readings	YES NO		
	• Blood pressure readings and what they mean	YES NO		Target: BP SMBP Patient Training Checklist (stafftraining material)
	• Recording results	YES NO		
	• Criteria for seeking medical treatment	YES NO		
	• Staff and clinicians have been educated and expectations communicated regarding use of available tools and training programs for patient self-monitoring	YES NO		AHA <i>My Blood Pressure Log</i> (printable home BP tracking tool)
	• Process is in place for checking the accuracy of patient's home monitor and the patient's ability to take an accurate blood pressure at home	YES NO		
• Patients are provided with a blood pressure tracking tool	YES NO			

Sources: <sup>1</sup>Hypertension Guideline Toolkit for Healthcare Providers, American Heart Association; 2017. <sup>2</sup>Centers for Disease Control and Prevention. Hypertension Control Change Package for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2015.

Key Concept	Improvement Strategy	Assessment	Action Plan/ Comments	Available Resources
Support Patients in Self- Management of Hypertension	Process exists to support hypertension patients in adopting healthy lifestyle changes	YES NO <i>(If no, document action plan and move to next section)</i>		AHA <i>Check. Change. Control Tracker</i> (online BP tracking tool)
	<ul style="list-style-type: none"> <li>Patients with hypertension are provided information to support lifestyle changes to reduce BP. Resources provided address the following: <ul style="list-style-type: none"> <li>Weight loss for patients who are overweight or obese</li> <li>Heart-healthy diet (such as DASH)</li> <li>Sodium restriction</li> <li>Potassium supplementation (preferably in dietary modification)</li> <li>Increased physical activity with structured exercise program</li> <li>Limitation of alcohol to 1 (women) or 2 (men) standard drinks per day</li> <li>Smoking cessation</li> </ul> </li> <li>Staff and clinicians have been educated and expectations communicated regarding use of available tools to support patient lifestyle changes</li> <li>A list of community resources that could support the patient in the control of their blood pressure, is maintained and may include: <ul style="list-style-type: none"> <li>Weight loss programs</li> <li>Places to walk and gyms</li> <li>Specialists such as nutritionists</li> <li>Social service needs such as transportation, meals, and assisting patient with accessing community resources</li> </ul> </li> </ul>	YES NO		Your Guide to Lowering Blood Pressure (patient education guide)
		YES NO		AHA <i>What Can I Do to Improve my Blood Pressure</i> (patient education flyer)
		YES NO		
		YES NO		
		YES NO		
		YES NO		
		YES NO		
		YES NO		
		YES NO		

Sources: <sup>1</sup>Hypertension Guideline Toolkit for Healthcare Providers, American Heart Association; 2017. <sup>2</sup>Centers for Disease Control and Prevention. Hypertension Control Change Package for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2015.



## Staff Education Resources

1. CommonSpirit Health Accurate BP Measurement education module
2. BP Measurement Staff Competency Validation tool
3. Improving Medication Adherence Among Patients with Hypertension (A tip sheet for health care professionals)
4. AHA Resources
  - Target: BP – Measure Accurately Pre-Assessment infographic
  - Target: BP – Technique Quick Check audit tool
  - Self-Measured BP Patient Training infographic
  - Steps for Accurate BP Measurement infographic
  - Classification of BP Table

[View Dignity Resources](#) | [View CHI Resources](#)

## Patient Education Resources

1. AHA Resources
  - Self-Measured BP Patient Training Checklist infographic
  - Blood Pressure Measurement Instructions infographic
  - My Blood Pressure Log
  - Answer by Heart: “What is High Blood Pressure Medicine?”
  - BP Raisers: Things That Raise Your Blood Pressure
2. Your Guide to Lowering BP

[View Dignity Resources](#) | [View CHI Resources](#)



# Miscellaneous Supporting Resources

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# Hypertension Management Champion Role Description

## Role Summary

In collaboration with the Physician Enterprise Division Quality Leader and market leadership, the Hypertension Management Champion is authorized to serve as a liaison and coordinate implementation of evidence-based practices and strategies to improve care for patients with hypertension within the clinic setting. This individual may be a clinician or other member of the healthcare team overseeing hypertension improvement activities within one or multiple clinics.

## Desired Skills

1. Knowledgeable and enthusiastic about hypertension management and secondary cardiovascular risk reduction, with appropriate expertise and experience.
2. Good communication skills and able to work well with others.
3. Willing/able to invest time in necessary activities including conducting educational presentations to providers and clinic staff, sharing performance outcome data and promoting cardiovascular risk reduction concepts.

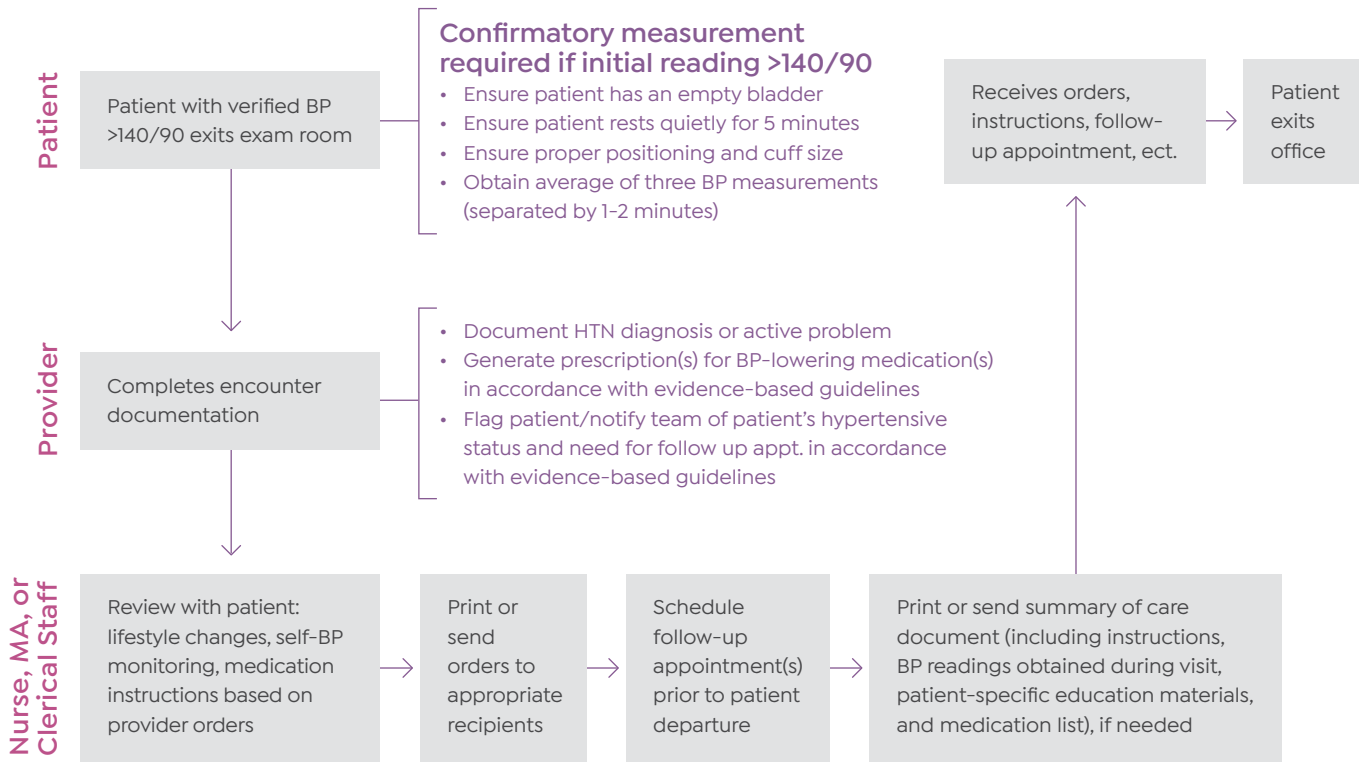
## Functions and Duties as Hypertension Management Champion

1. Actively and enthusiastically promote hypertension management as a practice/ clinic improvement priority.
2. Collaborate with providers and clinic managers to facilitate a gap analysis of current hypertension management practices within assigned clinic(s) and promote, advocate and implement an improvement plan using evidence-based strategies to address identified gaps.
3. Provide input and leadership for implementation, monitoring, and evaluation of deployed improvement strategies.
4. Work collaboratively with providers and clinic staff to leverage and optimally utilize clinic infrastructure to:
  - Facilitate clinic approach to support adherence to hypertension management improvement strategies as directed by the Physician Enterprise Division Quality Leadership group and gap analysis findings. (For example, oversee establishment of an improvement team or work group to focus on these efforts.)
  - Mentor providers, clinic staff, and improvement teams to effectively apply improvement methods and tools.
  - Facilitate the process for periodic review, monitoring and sharing of performance outcome data reports.
  - Celebrate key milestone achievements.

*Adapted from "Kaiser Permanente. Cardiovascular Physician Champion Role Description" included as Appendix A. Centers for Disease Control and Prevention. Hypertension Control Change Package for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, U.S. Dept. of Health and Human Services; 2015.*

# CommonSpirit Health Sample Discharge Workflow for HTN Improvement

## Office Discharge: Hypertension (HTN) Patient



### Highlights FROM THE 2017 GUIDELINE FOR THE PREVENTION, DETECTION, EVALUATION AND MANAGEMENT OF HIGH BLOOD PRESSURE IN ADULTS

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

**New blood pressure targets and treatment recommendations:** For years, hypertension was classified as a blood pressure (BP) reading of 140/90 mm Hg or higher. But the updated guideline classifies hypertension as a BP reading of 130/80 mm Hg or higher. The updated guideline also provides new treatment recommendations, which include lifestyle changes as well as BP-lowering medications, as shown in Table 1.

**TABLE 1. Classification of BP**

BP Category	Systolic BP	Diastolic BP	Treatment or Follow-up
Normal	<120 mm Hg	and <80 mm Hg	Evaluate yearly; encourage healthy lifestyle changes to maintain normal BP
Elevated	120-129 mm Hg	and <80 mm Hg	Recommend healthy lifestyle changes and reassess in 3-6 months
Hypertension stage 1	130-139 mm Hg	or 80-89 mm Hg	Assess the 10-year risk for heart disease and stroke using the <a href="#">ACC/AHA 10-year ASCVD Risk Calculator</a> <ul style="list-style-type: none"> <li>• If risk is less than 10%, start with healthy lifestyle recommendations and reassess in 3-6 months</li> <li>• If risk is greater than 10% or the patient has known clinical cardiovascular disease (CVD), diabetes mellitus, or chronic kidney disease, recommend lifestyle changes and BP-lowering medication (2 medications in 1 month for effectiveness of medication therapy)               <ul style="list-style-type: none"> <li>— If goal is not met after 1 month, reassess in 3-6 months</li> <li>— If goal is not met after 1 month, consider different medication or titration</li> <li>— Continue monthly follow-up until control is achieved</li> </ul> </li> </ul>
Hypertension stage 2	≥140 mm Hg	or ≥90 mm Hg	Recommend healthy lifestyle changes and BP-lowering medication (2 medications of different classes; reassess in 1 month for effectiveness) <ul style="list-style-type: none"> <li>• If goal is not met after 1 month, reassess in 3-6 months</li> <li>• If goal is not met after 1 month, consider different medications or titration</li> <li>• Continue monthly follow-up until control is achieved</li> </ul>

**TABLE 2. Hypertensive Crisis: Emergencies and Urgencies (See Section 11.2 of 2017 Hypertension Guidelines)**

Hypertensive Crisis	Systolic BP	Diastolic BP	Treatment or Follow-up
Hypertension urgency	≥180 mm Hg	and/or ≥120 mm Hg	Many of these patients are noncompliant with antihypertensive therapy and do not have clinical or laboratory evidence of new or worsening target organ damage; reassure or identify antihypertensive drug therapy, and treat orally as appropriate
Hypertension emergency	≥180 mm Hg + target organ damage	and/or ≥120 mm Hg + target organ damage	Admit patient to an intensive care unit for continuous monitoring of BP and parenteral administration of an appropriate agent in those with new progression or worsening target organ damage (see Tables 19 and 20 in the 2017 Hypertension Guidelines)

## Additional HTN Strategies and Resources for Consideration

Focus Area	Goal	Key Strategies for Consideration	Comments	Sources
Clinic Readiness	HTN Awareness	<ul style="list-style-type: none"> <li>Measure, Act, Partner approach</li> <li>CommonSpirit Health marketing tools, i.e. posters, brochures</li> </ul>	Various tools for patients and providers-educational material, monitoring logs and posters including CMEs	
Training of Care Providers	Engage Providers to ACTIVELY manage HTN	<ul style="list-style-type: none"> <li>Address knowledge deficits to reduce treatment inertia</li> <li>Focus on the use of a standardized protocols and other clinical management tools</li> <li>HTN management, care of resistance HTN</li> <li>Provider training regarding screening for White-Coat and Masked HTN</li> <li>Focus on the use of a standardized protocols and other clinical management tool</li> </ul>	Algorithms for detecting white-coat or masked HTN	
Blood Pressure Monitoring Processes	Accessibility for BP Checks	<ul style="list-style-type: none"> <li>Ready Access to Free BP Monitoring</li> <li>Train ALL staff on BP assessment and promote free drop-in BP checks for pts</li> <li>Allow patients to check out BP monitors for 30 days to record their BP readings</li> </ul>	One clinic suggests hanging the BP cuff on the exam room door as visual cue for patient with elevated BP	AHA article: Attended and Unattended Automated Office Blood Pressure Measurements Have Better Agreement With Ambulatory Monitoring Than Conventional Office Readings ( J Am Heart Assoc. 2018;7:e008994. DOI: 10.1161/JAHA.118.008994.)
	Reduction of White Coat HTN	<ul style="list-style-type: none"> <li>Create a BP station where pts can rest quietly for 5 min before BP or after elevated measurement.</li> <li>Use of unattended automated BP machine vs. attended or manual to reduce White-Coat HTN</li> </ul>		
	Patient Activation	<ul style="list-style-type: none"> <li>Clinic workflow development for:                             <ul style="list-style-type: none"> <li>Regular patient communication of SMBP readings to providers for treatment and follow-up care as needed</li> <li>A patient/provider “feedback loop” in which provider support and advice are customized based on patients’ reported information</li> </ul> </li> </ul>		

Focus Area	Goal	Key Strategies for Consideration	Comments	Sources
	<b>Provider Notification</b>	<ul style="list-style-type: none"> <li>Clinic workflow developed for: <ul style="list-style-type: none"> <li>Method for flagging patients with high BP measurement at intake</li> <li>Flagging HTN pts with links to treatment protocols, pt education, follow up appts</li> <li>Intervention by various health care providers (e.g., pharmacists, NPs, PAs, health educators)</li> </ul> </li> </ul>		
<b>Patient/Family Education/Activation</b>	<b>Increase Patient/Family Understanding of Disease Risk</b>	<ul style="list-style-type: none"> <li>Scripting for staff during check-in process about HTN implications; answer common questions; set up home BP monitor</li> <li>Process for new patients to sign a “contract” to meet certain milestones. i.e., people who have chronic diseases agree to make at least 3 visits a year</li> <li>Provide patients with written self-management plan at end of each visit</li> <li>Encourage or provide support group listing</li> <li>Patient education poster for exam rooms</li> <li>Patient checklist materials</li> </ul>	<b>Pacific Family Medicine, OR</b>	
<b>Medication Adherence</b>	<b>Reduce Barriers to Adherence</b>	<ul style="list-style-type: none"> <li>Medication Adherence and tools: day of week pill boxes; mobile apps</li> <li>Scripting for motivational interviewing techniques</li> <li>Provide prescription instructions in 3-4 major points using culturally sensitive language</li> <li>Use written and verbal education in ALL encounters.</li> <li>Provide rewards for medication adherence: coupons, certificates</li> <li>Implement frequent follow ups (email reminders, phone calls, text msg) to endure adherence</li> <li>Prescribe meds included in patient insurance coverage</li> <li>Medication Refills <ul style="list-style-type: none"> <li>Establish process for 90 day medication refills for stable patients</li> <li>Assign one person responsibility for managing prescription refills</li> </ul> </li> </ul>	<b>Clinic logo pill boxes</b>	
<b>Hypertension Registry</b>	<b>Identify HTN patients</b>	<ul style="list-style-type: none"> <li>Use outpatient visit diagnosis codes, pharmacy data, and hospitalization records</li> <li>Validate the accuracy of the registry inclusion criteria through random chart reviews</li> <li>Health coaches use registry for outreach</li> <li>Evaluate on-going patient progress</li> </ul>		

Focus Area	Goal	Key Strategies for Consideration	Comments	Sources
Targeted Treatment Protocols	Reduce Barriers to Adherence	<ul style="list-style-type: none"> <li>• Use simple, evidence-based algorithms</li> <li>• Establish standard dose-drug specific treatment protocols that provide sufficient detail, specific medications and dosages, schedule for titration or additional medications if BP is uncontrolled <ul style="list-style-type: none"> <li>• Support titration of meds by clinical team members via physician-approved protocol</li> <li>• Use of fewer tablets through combination therapy; i.e. single-pill combination medication, calcium channel blocker as first line treatment</li> </ul> </li> <li>• Encourage use of algorithm for diagnosis, evaluation and treatment of resistant HTN</li> <li>• Adherence strategies using a team-based approach</li> </ul>		<p>WHO Evidence-based Treatment Protocols</p> <p>Millionhearts.hhs.gov</p>
EHR Optimization	Identification of HTN Patients to Reduce Variation of Care	<ul style="list-style-type: none"> <li>• Method for flagging patients with high BP measurement at intake</li> <li>• Flagging HTN pts with links to treatment protocols, pt education, follow up appts</li> </ul>		

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