Screening, Measurement, and Self-Management of Blood Pressure

January 2023

Implementation of Quality Improvement Initiatives to Improve Diabetes and Hypertension

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Purpose of Module

This module contains a high-level overview of evidence-based information related to cardiovascular (CV) health and blood pressure (BP) management. It is designed to promote and supplement your current quality improvement efforts. Sections are highlighted by the **"3 As" – Awareness, Assessment, and Action –** and include many tools and resources that may also be located on the Quality Insights website.

Note: *Guidelines referenced in this module are provided in brief, summary format. Full recommendations should be reviewed in the original publication(s) and utilized with physician/clinician judgment, with consideration given to a patient's unique needs and circumstances.*

The Pressure is Off: Partner with Quality Insights

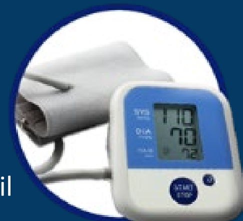
Quality Insights is dedicated to assisting your health care team in achieving optimal BP management. Through our partnership with the Pennsylvania Department of Health, we offer a wide variety of services designed to help you improve and reach your quality improvement goals focused on hypertension, cholesterol, diabetes, and prediabetes management. Quality Insights provides on-site and virtual assistance to practices aiming to improve CV health in their patient population.

A few key services offered by Quality Insights include:

1) **Technical Assistance:** Quality Insights' Practice Transformation Specialists are available to support your clinical quality improvement goals and improve value-based care in your practice setting.
2) **Be Recognized for Your Achievements:** Are you making great progress in BP control in your practice with National Quality Forum (NQF) 0018 reporting above 70 percent and/or 80 percent? If so, allow Quality Insights to help you apply for national recognition through the Target: BP™ and Million Hearts® Hypertension Control Champion programs.
3) Home BP Monitor Loaner Program**:** Through this **no-cost** initiative, practices will be supplied with up to five automated home BP monitors that can be loaned to patients. This is a great program for patients who do not currently own or cannot afford to purchase a BP monitor, are newly diagnosed with hypertension (HTN), or are experiencing a change in BP medication. Find more information about this opportunity on page 22.

Quality Improvement Solutions for You and Your Patients

The services above represent just a small sample of the ways Quality Insights can support your practice. Discover all the ways the team at Quality Insights can help you and your patients make BP control the goal by reviewing this Self-Management of Blood Pressure Workflow Modification Guide. Please email Ashley Biscardi or call **1.800.642.8686, ext. 137** for more details.



Awareness: The Value of Blood Pressure Targets and Control

Cardiovascular (CV) health remains a top public health priority with heart disease and stroke maintaining their stature as the first and fifth leading causes of death in the United States (Xu et al., 2022). 2020 data from the National Center for Health Statistics confirms that heart disease and stroke were the first and fifth leading causes of death, respectively, in Pennsylvania as well.

Globally, the leading modifiable risk factor for premature cardiovascular death continues to be high systolic blood pressure (Vaduganathan et al., 2022). High blood pressure (BP) is a contributing factor to major health conditions including heart attack, heart failure, stroke, and kidney failure. Approximately 32 percent of adults in America have been diagnosed with high blood pressure, and in Pennsylvania that number is almost 34 percent (America's Health Rankings, 2022).

"The Global Burden of Cardiovascular Diseases and Risk: A Compass for Future Health" asserts that "multilevel pharmacological and nonpharmacological interventions are needed to address the risks of high blood pressure on health." The publication (2022) also suggests simplification of BP control strategies and emphasizes the vital role of public health strategies in promoting screening, detection, and treatment of HTN.

Evaluating the Data

"Blood Pressure Control Among US Adults, 2009 to 2012 Through 2017 to 2020" was published in 2022 and analyzed the National Health and Nutrition Examination Survey (NHANES) data from 2009 to 2012, 2013 to 2016, and 2017 to 2020 to provide findings on hypertension in the United States. When reviewing the report, it is important to recognize which definition of HTN is being used for any given data; definitions are stipulated with tables and throughout the document. HTN and HTN control are defined according to either the "Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure" (JNC 7) or the "2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults" (2017 ACC/AHA Guideline).

The Centers for Disease Control and Prevention (CDC) acknowledges guidelines used to diagnose HTN may differ among health care professionals.

- According to the JNC 7, some health care professionals diagnose patients with HTN when Systolic Blood Pressure (SBP) ≥ 140 mm Hg or Diastolic Blood Pressure (DBP) ≥ 90 mm Hg. Controlled BP is defined as SBP < 140 mm Hg and DBP < 90 mm Hg.

- According to the 2017 ACC/AHA Guideline, other health care professionals diagnose patients with HTN when SBP ≥ 130 mm Hg or DBP ≥ 80 mm Hg. Controlled BP is defined as SBP < 130 mm Hg and DBP < 80 mm Hg.

Blood Pressure Levels

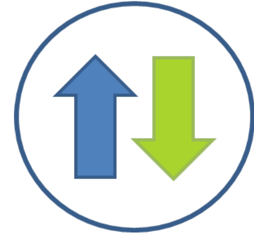
The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (2003 Guideline)[2]		The American College of Cardiology/American Heart Association Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults (2017 Guideline)[1]	
Normal	systolic: less than 120 mm Hg diastolic: less than 80 mm Hg	Normal	systolic: less than 120 mm Hg diastolic: less than 80 mm Hg
At Risk (prehypertension)	systolic: 120–139 mm Hg diastolic: 80–89 mm Hg	Elevated	systolic: 120–129 mm Hg diastolic: less than 80 mm Hg
High Blood Pressure (hypertension)	systolic: 140 mm Hg or higher diastolic: 90 mm Hg or higher	High blood pressure (hypertension)	systolic: 130 mm Hg or higher diastolic: 80 mm Hg or higher

From "High Blood Pressure Symptoms and Causes," by CDC, 2021.

Data from the "Blood Pressure Control Among US Adults, 2009 to 2012 Through 2017 to 2020," based upon definitions from the 2017 ACC/AHA Guideline and three survey periods of four years each (2009 to 2012, 2013 to 2016, and 2017 to 2020):

- Among adults, the prevalence of hypertension rose from 45.8% in 2009 to 2012 to **46.5%** in 2017 to 2020.
- Among non-Hispanic Asian adults, HTN increased in prevalence.
- Among all US adults with HTN, the percentage with controlled BP declined from 25.8% to 24.8% and finally to **24.3%**.
- The percentage of adults with HTN who were taking antihypertensive medication and had controlled BP also declined from 45.2% and 45.0%, respectively, to **43.4%**.
- The proportion of adults with HTN who were aware they had HTN was 65.5%, 66.9%, and **64.4%**, respectively.
- Among those with HTN awareness, the proportion taking antihypertensive medication was 85.2%, 82.9%, and **84.2%**, respectively.

Data from the "Blood Pressure Control Among US Adults, 2009 to 2012 Through 2017 to 2020," based upon definitions from the JNC 7, and three survey periods of four years each (2009 to 2012, 2013 to 2016, and 2017 to 2020):



- There was a decline in controlled BP among US adults with HTN, from 52.8% in 2009 to 2012 to 51.3% and then **48.2%**.
- Among non-Hispanic Asian adults, HTN increased in prevalence to **33.5%**.
- Among Hispanic adults, HTN increased in prevalence from 29.4% to **33.2%**.
- The percentage of adults with HTN who had controlled BP declined from 52.8% to **48.2%**.
- Controlled BP declined among women and non-Hispanic Black adults.
- Among those with HTN awareness, the proportion taking antihypertensive medication was 91.9%, 89.2%, and **90.6%**, respectively.
- Among non-Hispanic Black adults with HTN awareness, the proportion taking antihypertensive medication declined from 90.9% to **87.1%**.

The Surgeon General's Call to Action to Control Hypertension (Call to Action)

The Surgeon General's Call to Action to Control Hypertension (Call to Action), released in October 2020, "seeks to avert the negative health effects of hypertension by identifying evidence-based interventions that can be implemented, adapted, and expanded in diverse settings across the United States" (DHDSP, 2020).

"The *Call to Action* outlines three goals to improve hypertension control across the United States, and each goal is supported by strategies to achieve success" (CDC, 2020).

From *The Surgeon General's Call to Action to Control Hypertension*, by CDC, 2020.

Learn more about the *Call to Action* by accessing:

- CDC Prevent and Manage High Blood Pressure website
- CDC Call to Action Partner Toolkit
- U.S. Department of Health and Human Services Office of the Surgeon General website
- The Surgeon General's Call to Action to Control Hypertension: How Health Care Professionals Can Help
- The Surgeon General's Call to Action to Control Hypertension: How Health Care Practices, Health Centers, and Health Systems Can Help

Preventing and Treating High Blood Pressure is About More than Just the Numbers

A February 17, 2022, *Health and Well-Being Matter* feature from Paul Reed, MD, Director, Office of Disease Prevention and Health Promotion, emphasizes that "preventing, identifying, and treating hypertension should be about much more than just measuring BP and prescribing medicine. Instead, addressing high BP should be an exemplar of comprehensive, person-centered care — promoting greater overall health, well-being, and personal resilience." Read more on the ODPHP's blog.

Quality Improvement

Quality Insights is not the only free resource available to assist outpatient organizations with quality improvement. Co-led by the CDC and the Centers for Medicare & Medicaid Services (CMS), the Million Hearts® 2027 initiative strives to increase the likelihood of preventing one million preventable deaths from cardiovascular disease over a five year period (January 2022 to December 2026) through a 20 percent improvement in key indicators.

Check out the Million Hearts® website for details about the Million Hearts® 2027 framework, evidence-based strategies, and populations of focus for addressing health equity.

With a desire to reduce cardiovascular deaths, the American Heart Association (AHA) offers a suite of outpatient care quality improvement initiatives - Target: BP™, Check. Change. Control. Cholesterol™, and Target: Type 2 Diabetes™. The initiatives supply incredible resources intended to provide support to improve outcomes, for the benefit of clinicians and patients. Additional information on each of the AHA programs is provided in their flyer.

Learn More About TARGET: BP™

An initiative resulting from collaboration between the AHA and the American Medical Association, Target: BP™ aims to assist and recognize the organizations that improve BP control rates. Interested in learning more about Target: BP™?

- Quality Insights' Target: BP Recognition Program Interview with Multi-Cultural Health Evaluation Systems, Inc. (MHEDS)
- Target: BP™ 2022 Recognition Flyer
- BP Improvement Program

Many studies assert the need for standardized treatment protocols as well as a need to develop targeted strategies for achieving blood pressure control by addressing the differing barriers of each racial/ethnic group. The CMS' Disparities Impact Statement is a tool meant to assist health care stakeholders with identifying, prioritizing, and taking action to achieve health equity for all populations. According to CMS, "participants receive personalized technical assistance focused on strengthening your quality improvement program through a series of consultations from subject matter experts." Provided on the tool is an email address for Health Equity Technical Assistance.

National Campaigns Support Blood Pressure Control

A number of national campaigns are collectively raising awareness around the importance of BP control. One such initiative promoted by Quality Insights is Healthy People 2030, the fifth iteration of national public health priorities created by the U.S. Department of Health and Human Services' Office of Disease Prevention and Health Promotion in 1980. As a Healthy People 2030 Champion, Quality Insights is committed to working toward the achievement of Healthy People 2030's vision, a society in which all people can achieve their full potential for health and well-being across the lifespan. Healthy People 2030 has a number of objectives that target BP.

Included in Healthy People 2030 is an objective targeting increased control of high blood pressure in adults to 18.9%, with 2017-2020 data reflecting only 16.1% of adults had their BP under control. This particular objective is also one of 23 Leading Health Indicators, a subset of high-priority objectives that impact major causes of death and disease in the U.S.

Other related objectives include: reduce the proportion of adults with high BP, reduce the proportion of adults with chronic kidney disease who have elevated BP; improve CV health in adults, reduce stroke

deaths, and reduce coronary heart disease deaths. Please review the list below for other initiatives that offer resources for health care providers and patients.

Blood Pressure Control Initiatives
Live to the Beat - Led by the CDC Foundation and the Million Hearts® initiative, this is a belief change campaign that promotes heart healthy eating, physical activity, and working with a health care professional to improve the CV health of Black adults 35 to 54 years of age. Also offered as part of the campaign is Pulse Check, an interactive learning tool for those wanting to take charge of their lives.
Know Your Numbers - Launched by the National Forum for Heart Disease and Stroke Prevention, this campaign provides multiple videos and media resources emphasizing the importance of patients knowing their BP, blood sugar, and cholesterol levels to improve and maintain cardiovascular health.
Heart-Healthy Steps - Led by the CDC Foundation and the Million Hearts® initiative, this website is designed to support a heart-healthy lifestyle for adults 55 and over by encouraging small steps to live big. This program is part of the "Start Small. Live Big." campaign.
HHS Office on Women's Health Self-Measured Blood Pressure Partnership Program - Quality Insights is now working as part of this national network of public and private organizations to amplify and increase knowledge about hypertension and cardiovascular disease, expand access to SMBP resources, and more. Access SMBP resources here.
National Institute of Health: The Heart Truth® - This health education program focuses on making sure women know about their risk for heart disease. Find high BP education resources here.
Release the Pressure Campaign - This coalition of national health care professional organizations and heart health experts share a goal of partnering with Black women to support their heart health. Visit their patient-facing website for BP resources.
Get Down With Your Blood Pressure™ or **Éntrale a Bajar tu Presión™** - This high BP control campaign is led by the American Medical Association (AMA) and the AHA and encourages daily monitoring and good communication with the health care provider.

A Practical Solution: Self-Measured Blood Pressure (SMBP) Monitoring

Given the toll that hypertension plays in our nation and the impact COVID-19 has had on the frequency of in-person check-ups, there is increased support for the use of home monitoring. As mentioned in a 2022 article, many U.S. and international guidelines recommend SMBP to confirm a diagnosis of new hypertension and for the management of hypertension. National actions promoting SMBP extend back to 2008. When performed accurately, more frequent and regular evidence of high BP readings can bolster the diagnosis and facilitate a more informed treatment plan.

SMBP interventions when combined with team-based care or additional clinical support (e.g., educational classes, one-on-one counseling, and telephonic/web-based support) help people with hypertension lower their BP, aid in ensuring that patients are diagnosed more accurately, improve access and quality of care, and are cost-effective.

Self-Measured Blood Pressure Monitoring (SMBP) is defined as the regular measurement of blood pressure by a patient at home or elsewhere, outside the clinic setting, using a personal home BP measurement device.
Source: Million Hearts, 2022

Evidence for SMBP

Strong scientific evidence over many years supports the benefits of SMBP. More recent evidence includes:

- In "Medication Adherence and Blood Pressure Control: A Scientific Statement from the American Heart Association," based on existing evidence, SMBP is suggested as one method to improve antihypertensive medication adherence.
- A Grade A Final Recommendation Statement was issued by the U.S. Preventive Services Task Force (USPSTF) in April of 2021, recommending "screening for hypertension in adults 18 years or older with office blood pressure measurement (OBPM). The USPSTF recommends obtaining BP measurements outside of the clinical setting for diagnostic confirmation before starting treatment."
- In 2021**,** the Public Health Informatics Institute (PHII) and CDC conducted a national assessment of health information technology supporting SMBP monitoring. The report, *Self-Measured Blood Pressure Monitoring: Key Findings from a National Health Information Technology Landscape Analysis*, identifies barriers for widespread adoption of SMBP and makes recommendations for reducing them.
- A 2020 Joint Policy Statement from the AHA and AMA emphasizes the established clinical benefits and potential cost-effectiveness of SMBP over office BP. Read the AMA's 6 Key Takeaways for physicians and health professionals.
- A 2020 *Journal of Community Health* paper reviewing a 2016-2018 CDC-funded project of the National Association of Community Health Centers (NACHC), the YMCA of the USA, and

Association of State and Territorial Health Officials (ASTHO) to increase the use of SMBP through coordinated action of health department leaders, community organizations, and clinical providers. Nine health centers in Kentucky, Missouri, and New York developed and implemented collaborative SMBP approaches that led to 1,421 patients with uncontrolled hypertension receiving a recommendation or referral to SMBP. Associated SMBP implementation methods, toolkits, and resources can be accessed here.

- Million Hearts® released a second edition of its Hypertension Control Change Package in 2020, featuring tested tools and resources that have enabled Hypertension Control Champions to achieve high levels of BP control with patients. SMBP-focused content is included as an important aspect of hypertension control.

SMBP Best-Practices Video

Watch the three-minute video, Collaborative Care Models for Improving Hypertension Control through SMBP Monitoring, to learn about best practices used in nine health centers to improve use of SMBP.

Assessment: Tools and Your Care Team

Categorizing Blood Pressure Levels in Adults

For healthcare professionals utilizing the 2017 ACC/AHA Guideline, "BP is categorized into four levels on the basis of average BP measure in a healthcare setting (office pressures): normal, elevated, and stage 1 or 2 hypertension. The table provided below reflects these categories."

Categories of BP in Adults*

BP Category	SBP		DBP
Normal	<120 mm Hg	and	<80 mm Hg
Elevated	120–129 mm Hg	and	<80 mm Hg
Hypertension			
Stage 1	130–139 mm Hg	*or*	80–89 mm Hg
Stage 2	≥140 mm Hg	*or*	≥90 mm Hg

*Individuals with SBP and DBP in 2 categories should be designated to the higher BP category.

Table 6

From "2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Guidelines Made Simple, A Selection of Tables and Figures," by ACC/AHA Task Force on Clinical Practice Guidelines, 2017.

According to the 2017 ACC/AHA Guideline, the table below "provides best estimates for corresponding home, daytime, nighttime, and 24-hour ambulatory levels of BP, including the values recommended for identification of hypertension with office measurements."

Corresponding Values of Systolic BP/Diastolic BP for Clinic, Home (HBPM), Daytime, Nighttime, and 24-Hour Ambulatory (ABPM) Measurements.

Clinic	HBPM	Daytime ABPM	Nighttime ABPM	24-Hour ABPM
120/80	120/80	120/80	100/65	115/75
130/80	130/80	130/80	110/65	125/75
140/90	135/85	135/85	120/70	130/80
160/100	145/90	145/90	140/85	145/90

ABPM indicates ambulatory blood pressure monitoring; BP, blood pressure; DBP, diastolic blood pressure; HBPM, home blood pressure monitoring; and SBP, systolic blood pressure.
From "2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Guidelines Made Simple, A Selection of Tables and Figures," by ACC/AHA Task Force on Clinical Practice Guidelines, 2017.

Making a Difference through Accurate Measurement

Accurate measurement of BP is essential both to estimating cardiovascular disease (CVD) risk and guiding management of HTN. Avoiding common errors can lead to correct diagnosis and speed time to treatment, improving BP control rates. The following sample of resources from Target: BP™ outline practical approaches to improving BP control for your patients through accurate measurement.

- BP Positioning Challenge: Can you identify common positioning errors? Encourage your staff to take the challenge as a quick means to brush up on proper BP measurement technique.
- Measure Accurately Pre-Assessment: Use this resource to help your health care organization identify areas of opportunity to more accurately measure BP in the clinical setting.
- 7 Simple Tips To Get An Accurate Blood Pressure Reading: Provides clinicians with information on how to correctly take an in-office BP measurement.
- Technique Quick-Check: Resource for determining if clinicians take BP measurements the right way and the same way every time.
- CME Course: Measuring Blood Pressure Accurately

For Patients: BP Measurement Education Resources

As important as it is to ensure accurate BP readings in the clinical setting, the same is true for patients who are collecting measurements at home. Review the links below to access important educational resources to guide your patients participating in SMBP:

Organization	SMBP Patient Resource	Summary
American Medical Association	How to Measure Blood Pressure Accurately	Brief video that reviews seven tips to obtain an accurate BP reading.
	Self-Measured Blood Pressure Cuff Selection	Identify steps to determine the appropriate upper arm cuff size.
Quality Insights	Tips for Taking Your Own Blood Pressure Readings	Printable guide to help patients ensure they are getting the most accurate reading at home.
	Blood Pressure Tracker	Printable tracking sheet that includes brief instructions for patient use.
	Hypertension Smartphone Apps	Provides a listing of apps available to help patients track their BP readings.
	Bluetooth & You: Maximizing the Benefits of Blood Pressure Self-Monitoring	Explore how seamless, interoperable communication between patient and clinician can support SMBP.
	7 Simple Tips on Reporting Blood Pressure Through Your Patient Portal	Provides tips on how to best take an accurate BP and issues to consider when using a patient portal.
Target: BP™	What is SMBP?	Overview for patients to understand what SMBP is and why it is important.
	SMBP Training Video	Available in English and Spanish, this educational video helps train care teams and patients on how to properly self-measure BP.
	SMBP Infographic: How to Measure Your Blood Pressure at Home	Steps to perform SMBP monitoring correctly which includes separation, positioning, and measurement. This document is available to download in English, Spanish, and Vietnamese.
	Using a Wrist Cuff to Measure Blood Pressure	Describes correct and incorrect forearm position for wrist BP measurement.
	SMBP Recording Log	Log for documenting two BP measurements twice daily. Also has a small area for notes.

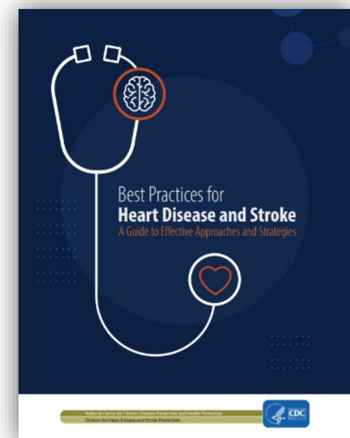
Team-Based Care for Improved Blood Pressure Outcomes

> **Provider Resource**
>
>
>
> Unify your team around high BP and CVD prevention by reviewing Quality Insights' Care Team Interventions to Implement American Heart Association CVD Primary Prevention Guidelines.

As explained by the Community Preventive Services Task Force (CPSTF), team-based care is an approach to achieving BP control in which care is provided by a team consisting of the patient and various health professionals, including primary care providers, pharmacists, nurses, dietitians, social workers, or other health workers, rather than by a single doctor. Team members work together to help patients manage their medication, increase healthy behaviors, and follow their BP control plan.

To improve a patient's BP control, the CPSTF recommends team-based care. A systematic review of evidence "shows team-based care increases the proportion of patients with controlled blood pressure and reduces systolic (SBP) and diastolic (DBP) blood pressure." Further, providing team-based care is cost-effective, as determined by CPSTF's separate review of economic evidence. For additional information, review the full CPSTF Finding and Rationale Statement.

To inform the work of healthcare professionals seeking to improve CV health in their communities, the CDC's Division for Heart Disease and Stroke Prevention (DHDSP) released the *Best Practices for Heart Disease and Stroke: A Guide to Effective Approaches and Strategies*. The evidence-based, peer-reviewed guide provides 18 strategies for addressing cardiovascular conditions such as heart disease and stroke within one's practice and community. Strategies are organized into the following groupings: coordinating services for cardiovascular events, engaging organizations to promote cardiovascular health, implementing technology-based strategies to optimize cardiovascular care, leveraging community and clinical public health workforces, and supporting patients in cardiovascular disease self-management.



For more information on ways you can strengthen your care team to provide optimal patient care for BP management, review:

- CDC website for the *Best Practices for Heart Disease and Stroke* guide
- Target: BP™ Combined Quick Start Guides serve as a reference for the care team.
- Register for the Million Hearts® SMBP Forum to exchange best and promising practices and troubleshoot obstacles with others. The Forum meets online quarterly.
- Quality Insights 2021 White Paper: *Team Up for Quality Care: The Role of Primary Care Teams in Prevention of Cardiovascular Disease*
- Success Story: Pennsylvania-based Million Hearts® Hypertension Control Champions

Assessing and Improving Medication Adherence

Medication adherence is a significant barrier to the control of hypertension. A scientific statement (2022) from the AHA listed a plethora of factors associated with nonadherence, including but not limited to: low health literacy, lack of health care insurance, lack of positive reinforcement from clinician, complexity of medication regimen, clinician-patient relationship, lack of clinician knowledge about adherence and interventions for improving it, cognitive impairment, chronic conditions, and perceived benefit of treatment.

Medical providers regularly encounter challenges surrounding medication adherence; not surprisingly, improving this area is an important way to increase quality and reduce cost.

The following resources are available to assist you in improving medication adherence in your practice setting:

- Medication Adherence Practice Module and Workflow Modification Guide: Released in February 2022, these materials provide relevant information for navigating adherence barriers. We invite you to share these tools with all of your providers and clinical staff. This information will be updated in April 2023 and located here.
- Adherence Estimator®: This tool is a patient-centered resource designed to help you gauge a patient's likelihood of adhering to newly prescribed oral medication for certain chronic, asymptomatic conditions.
- Medication Adherence Office Protocol
- Free Apps to Help You Better Manage Your Medicines: This handout provides a list of useful apps your patients can download to help them track and monitor their medication usage.
- AMA's MAP BP™ is a quality improvement program that assists health care organizations with achieving and sustaining improved control of hypertension. MAP stands for Measure accurately, Act rapidly, and Partner with patients. The program uses a dashboard that populates from a web link embedded in your EHR, to provide metrics to the organization. Five performance metrics are tracked: overall outcome, confirmatory blood pressure, therapeutic intensity, SPB change after therapeutic intensification, and visit follow-up. Data can be filtered by gender, race, ethnicity, age, date, clinician, and more.
- For assistance with addressing social determinants of health, review Quality Insights' Social Determinants of Health Practice Module and the accompanying Health Literacy Supplement.

Another evidence-based way to address medication adherence is by collaborating with pharmacists as extended members of your team to provide medication therapy management (MTM). Pharmacists play a crucial role in reducing the risk for heart disease and stroke in the United States.

For additional guidance on utilizing the skills of pharmacists to improve your patient outcomes:

- Best Practices for Heart Disease and Stroke: A Guide to Effective Approaches and Strategies Programs: This CDC guide (2022) discusses eighteen evidence-based strategies for improving cardiovascular health and each strategy's economic, health, and health equity impact. Collaborative drug therapy management, medication therapy management (MTM) provided by community pharmacists, and tailored pharmacy-based interventions to improve medication adherence are three strategies discussed in the guide, the last of which is new to this edition.
- The Pennsylvania Pharmacists Association offers an array of resources promoting and advancing Medication Therapy Management (MTM) in pharmacies statewide. Specifically, the Pennsylvania Pharmacists Care Network (PPCN) is committed to working collaboratively with health care providers. Learn more about potential partnership opportunities and services by visiting the PPCN website.
- The Pharmacists' Patient Care Process Approach: An Implementation Guide for Public Health Practitioners Based on the Michigan Medicine Hypertension Pharmacists' Program: This CDC implementation guide (2021) is intended to encourage public health practitioners and health care professionals to collaborate with pharmacists in hypertension management through the Pharmacists' Patient Care Process. The guide includes key examples that health care teams can replicate in their own programs.

Bringing It All Together: Hypertension Diagnosis and Management Webinar Series

In a comprehensive four-part webinar hosted by the Utah Million Hearts® Coalition in 2021, Dr. Barry Stults, from the University of Utah Health, provides a clinically-focused training on the burden of hypertension and goes into detail on proper BP measurement and management, including office and home monitoring, team-based care, and pharmacy interventions. The presentation incorporates evidence-based best practices and is based on peer-reviewed hypertension literature. Watch the Utah Million Hearts® webinar series today.

Action: Implement Blood Pressure Control Programs at Your Practice

Evidence-Based Lifestyle Change Strategies and Programs

Living a healthy lifestyle, comprised of a nutrient-dense diet and the inclusion of regular physical activity, is a focal point of the 2017 ACC/AHA Guideline. Lifestyle changes that have been shown to be effective include weight loss, healthy diet, reduced intake of dietary sodium, enhanced intake of dietary potassium, physical activity, and moderation in alcohol intake.

Annually, *U.S. News* and its panel of health experts rank diets on a range of levels, from their heart healthiness to their likelihood to help one lose weight. Best Diets 2023 ranked the DASH diet #2 in best diets overall and #3 (tied) in Easiest Diets to Follow. The inclusion of the DASH diet as an example of a healthy dietary pattern in the *Dietary Guidelines for Americans, 2020-2025* further bolsters its value. According to the National Institutes of Health, "people following DASH can naturally lower their blood pressure by 3-20 points within weeks or months."

The following resources may be of assistance for patients who are ready to engage in lifestyle improvement activities:

- The DASH Eating Plan (Dietary Approaches to Stop Hypertension) is a flexible and balanced eating plan that helps create a heart-healthy eating style for life.
    - Visit the National Heart, Lung, and Blood Institute (NHLBI) website for additional heart-healthy cooking resources for a wide range of ages and ethnicities.
    - From the NHLBI: In Brief: Your Guide to Lowering Your Blood Pressure with DASH
    - From Quality Insights: DASH Your Way to Lower Blood Pressure
- Sodium reduction clinician and patient resources:
    - For clinicians: Sodium Q & A Fact Sheet (CDC)
    - Why Should I Limit Sodium? (AHA)
    - How too Much Sodium Affects Heart Health (AHA/AMA)
    - Cut Down on Sodium (ODPHP)
    - Sodium in Your Diet: Use the Nutrition Facts Label and Reduce Your Intake (FDA) – English
    - Sodium in Your Diet: Use the Nutrition Facts Label and Reduce Your Intake (FDA) – Spanish

Sodium Reduction

Reducing salt intake typically results in a reduction in BP within weeks.

Read about this and other sodium reduction benefits, challenges, and strategies in the CDC's *Key Messages on Sodium and Sodium Reduction* (2021).

- Life's Essential 8™: Information from the AHA on how to manage BP, control cholesterol, manage blood sugar, be more active, eat better, manage weight, quit tobacco, and get healthy sleep.
- Smoking Cessation Program: Listing of national quitlines, online resources, and medicines to help patients quit smoking.
    - PA Online Quitline Resources and Chat
    - PA Free Quitline Promotional Materials
- "Answers by Heart" Blood Pressure Fact Sheets and Multilingual Resources, including:
    - African Americans and High Blood Pressure
    - High Blood Pressure and Stroke
    - How Can I Reduce High Blood Pressure? (available in Spanish)
    - Infographic: Consequences of High Blood Pressure (available in Spanish and Traditional Chinese)
    - Lifestyle Chart: What Can I Do to Improve My Blood Pressure? (available in Spanish and Traditional Chinese)

The CDC recommends the following evidence-based lifestyle change programs as appropriate choices for referral of adults with high BP:

- Weight Watchers (WW®)
- Supplemental Nutrition and Assistance Program Education (SNAP-Ed)
- Expanded Food and Nutrition Education Program (EFNEP)
- Taking Off Pounds Sensibly (TOPS)
- YMCA Blood Pressure Self-Monitoring Program: Please contact your local YMCA to see if this program is available in your area.
- Curves: In-club and at-home memberships are now available.

Take Control of Hypertension with Lifestyle Change Programs in PA

Quality Insights has developed an at-a-glance guide to highlight benefits of CDC-approved lifestyle change programs available in Pennsylvania. Download this useful resource here. For a handout specific to WW, TOPS, and Curves only, consider this updated resource.

SMBP Implementation: Resource Library

The following evidence-based resources provide guidance for health care sites that are considering launching an SMBP program or expanding their current processes. We invite you to visit each organization's website for a complete listing of their available tools and resources.

Organization	SMBP Implementation Resource	Summary
American Medical Association	U.S. Blood Pressure Validated Device Listing (VDL™)	Listing of BP measurement devices that have been validated for clinical accuracy as determined through an independent review process.
	SMBP CPT® Coding	Outlines useful coding information for SMBP and RPM.
	7-Step SMBP Quick Guide	Guide to assist practices with using SMBP. Links to training videos, SMBP CPT® coding information, infographics, and a SMBP recording logs are included.
Colorado Department of Public Health & Environment	SMBP Program Implementation and Reimbursement	Provides an overview of implementation process and reimbursement, for healthcare professionals.
Million Hearts®	An Economic Case for Self-Measured Blood Pressure (SMBP) Monitoring	One-pager that provides information on return on investment based upon Medicare reimbursement.
	Self-Measured Blood Pressure Monitoring: Action Steps for Clinicians	Guide for implementation of SMBP plus clinical support in four key areas: preparing care teams to support SMBP, selecting and incorporating clinical support systems, empowering patients, and encouraging health insurance coverage for SMBP plus additional clinical support.
	Hypertension Control Change Package (HCCP), 2nd Edition	Presents a listing of process improvements that outpatient clinical settings can implement as they seek optimal hypertension control. It is composed of change concepts, change ideas, and evidence- or practice based-tools and resources.

Organization	SMBP Implementation Resource	Summary
National Association of Community Health Centers (NACHC) and Million Hearts®	SMBP Implementation Toolkit (2022)	Comprised of worksheets that will help you determine your goals and priority populations, design a protocol, assign tasks, and align your patient training approach to your practice environment.
	Choosing a Home Blood Pressure Monitor for Your Practice: At-A-Glance Comparison	Provides an overview of how various BP monitors compare in terms of features and data/technology.
	Improving Blood Pressure Control for African Americans Roadmap	A quality improvement tool focusing on the most impactful, evidence-based interventions to improve hypertension outcomes and reduce disparities.
Public Health Informatics Institute	Health IT Checklist for BP Telemonitoring Software	Quick-reference guide intended to complement the NACHC SMBP Implementation Toolkit.
Quality Insights	Steps for Launching a Self-Measured Blood Pressure Monitoring Program in Your Practice	Learn how to partner with Quality Insights to receive no-cost assistance in developing and implementing a SMBP program in your practice.
	CME Webinar: Improving Patient Outcomes with Self-Measured Blood Pressure Monitoring (SMBP)	60-minute, CME-eligible webinar that provides an evidence-based review of SMBP, including an interview with a practice who has successfully implemented a SMBP program.
Target: BP™	Implement SMBP	Step-by-step guidance and recommendations to help you launch a successful program.
	Webinar: Evolving SMBP Policy and Practice	Discusses policy developments, program design, reimbursement, successes, and challenges associated with SMBP.

Remote Patient Monitoring

For the prevention and management of chronic disease conditions, the CPSTF recommends telehealth interventions which can be delivered in a variety of ways, including Remote Patient Monitoring (RPM) and mHealth. The conditions that the CPSTF asserts can benefit from telehealth interventions include:

- Recently diagnosed cardiovascular disease (CVD)
- High BP
- CVD, diabetes, HIV infection, end-stage renal disease, asthma, or obesity

According to the CDC, "CPSTF found that the use of telehealth interventions can improve

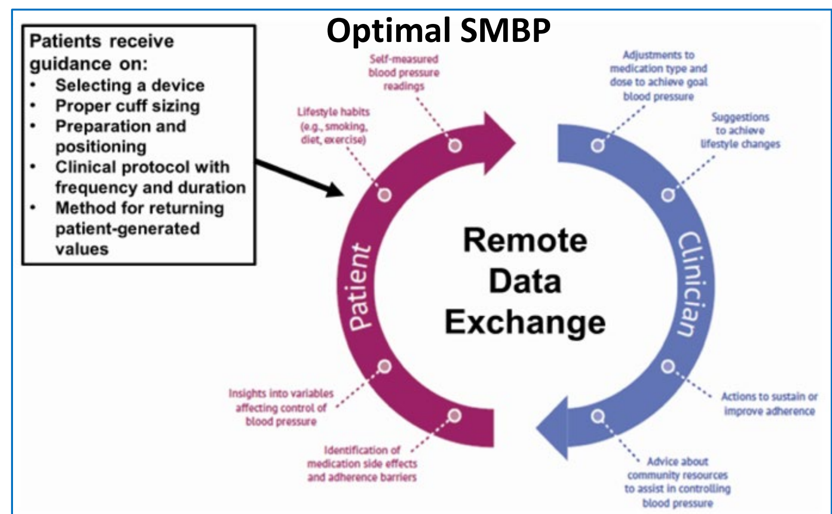
- **Medication adherence,** such as outpatient follow-up and self-management goals.
- **Clinical outcomes,** such as blood pressure control.
- **Dietary outcomes,** such as eating more fruits and vegetables and reducing sodium intake."

Remote Patient Monitoring (RPM)

"This is the use of electronic devices to record a patient's health data for a provider to receive and evaluate at a later time. For example, a patient can use RPM to measure their blood pressure regularly and send this information to their provider."

Source: CDC, 2020

A 2022 article published in the *American Journal of Hypertension* suggests that "optimal SMBP" requires training and education of the patient on device use and the measuring of one's BP; transmission of BP values, medication side effects, and lifestyle modifications remotely to the clinician; review by the clinician; remote transmission of guidance on those matters back to the patient; and an indefinite continuance of the patient-clinician feedback loop. The article mentions the difficulty in quantifying the use of optimal BP but asserts that there is significant room and critical necessity for improvement in the utilization of RPM.



From "How Do We Jump-Start Self-Measured Blood Pressure Monitoring in the United States? Addressing Barriers Beyond the Published Literature," by Wall et al., 2022.

Many nationally recognized health care organizations have developed toolkits and resources for practices that are implementing RPM. A few of these tools include:

- AMA Remote Patient Monitoring Implementation Playbook: Step through the processes of planning and implementing RPM at your practice with this guide.

- Mid-Atlantic Telehealth Resource Center: Remote Patient Monitoring Toolkit: Designed to help audiences quickly understand RPM and determine role responsibilities, this resources offers a variety of engaging videos to explain processes for each role.
- Federally Qualified Health Center's Remote Patient Monitoring Tool Kit: This document is designed to help FQHCs determine which RPM processes will work best for their individual setting. It provides guidance on key areas for consideration when preparing for implementation.
- NACHC Value Transformation Framework: Community Health Center Requirements for Remote Physiologic Monitoring (RPM) & Self-Measured Blood Pressure (SMBP): This guide outlines important requirements and coding information for use of RPM in Community Health Center settings.

Quality Insights' Home Blood Pressure Monitor Program

Interested in implementing an SMBP program, but concerned about having adequate resources and assistance? Quality Insights offers a **FREE** Home BP Monitor Loaner Program and training.

Benefits include:

- Participating practices are supplied with up to five automated home BP monitors that can be loaned to patients to monitor their BP at home.
- Loaner monitors are ideal for patients that do not currently own a BP monitor or for those lacking the resources to immediately purchase a device. It may also be useful when a patient is newly diagnosed with hypertension or when a patient experiences a change in BP medication.
- Patients and providers are able to track and monitor the following: pre-hypertensive patients, patients with uncontrolled hypertension, patients on hypertensive drugs, and patients with recent or past histories of hypertensive crises.
- Your staff will receive training on educating patients for SMBP and the loaner program.

Program materials include the Home Blood Pressure Monitor Loaner Program Procedure, Instructions for Practices, Instructions for Patients, and Patient Participation and BP Device Loaner Agreement.

If your practice is interested in participating in the program, e-mail Ashley Biscardi or call **1.800.642.8686, ext. 137**.

Reminder: Start Tracking Your Results

A Quality Insights Practice Transformation Specialist is poised to help your facility achieve its goal of improving blood pressure control. Once your practice achieves 80% control rates among its hypertensive patients, Quality Insights would be honored to assist you in applying for Target: BP™ and Millions Hearts® Hypertension Control Champion. Not only will the facility receive recognition from the host organization, but Quality Insights will promote the facility's achievements on its website as well.

Lastly, Quality Insights honors its partners for their work in successfully managing hypertension by awarding **Hypertension Hall of Fame** awards to practices in which at least 70% of their patients with hypertension have their BP in control (<140/90). All of the 2022 winners are listed on the Quality Insights website.