

Taking the Pressure Off: Empowering Patients and Assisting Health Care Professionals Through Home Blood Pressure Monitoring

Sarah Wirz, NDSU PharmD Candidate

Brody Maack, PharmD, BCACP, TTS

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Hypertension

- 48% of American adults have hypertension (SBP \geq 130 or DBP \geq 80)
- 1 in 4 of adults with hypertension are considered "controlled"
- 2023 AHA survey estimates over 75% of people given home monitors plan to use it daily. Over half believe home monitoring will improve their health.

1. Facts about hypertension. Centers for Disease Control and Prevention. July 6, 2023. Accessed August 28, 2023. <https://www.cdc.gov/bloodpressure/facts.htm>.

2. Survey: 75% of people given home blood pressure monitors plan to use them daily. American Heart Association. Accessed August 28, 2023. <https://newsroom.heart.org/news/survey-75-of-people-given-home-blood-pressure-monitors-plan-to-use-them-daily>.

Why Monitor From Home?



More comfortable and convenient environment for patients



Improves accuracy of blood pressure trends



Health care professionals can more confidently make decisions regarding treatment



Patients gain more sense of control of their health!

Family Health Care Program Referral Process



Patients eligible for program are identified and referred by their primary care provider



Once a referral is received, PharmD/Lifestyle Medicine team conducts outreach to schedule an initiation appointment *OR* the patient is immediately directed to the pharmacy for device set-up



PharmD/Lifestyle Medicine team follows-up with the patient and communicates changes in treatment through Electronic Health Record (EHR)

Family Health Care Program Eligibility

Diagnosis of
hypertension

History of at least
one elevated
blood pressure

Desire to monitor
blood pressure
from home

- Explain program details
- Signed agreement to remote monitoring
- Demonstrate best practices for taking blood pressure at home
- Set up application and pair to device
- Reconciliation of current blood pressure medications



Initiation Appointment

Phone Follow-Up



Completed within 2 weeks of initiation appointment



Confirm blood pressure readings are available in app and online portal

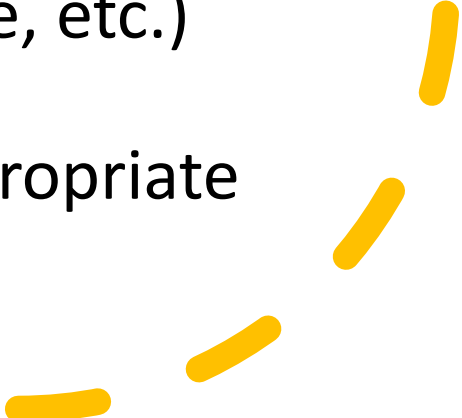


Engage with patients about their experience so far



Schedule in-person follow-up visit

In-Person Follow-Up

- Access online portal readings or bring in device
 - Discuss patterns of readings
 - Teach-back using blood pressure device
 - Discussion of lifestyle modifications
 - Identify and address medication-related problems (adherence, adverse effects, dose, etc.)
 - Adjust plan and follow-up as appropriate
- 

Barriers

Clinic:

- Staffing
- Workflow
- Financing

Patient:

- Self-motivation
- Using the technology
- Limitations to follow-up

Tips for Program Success

Clinician Advocates

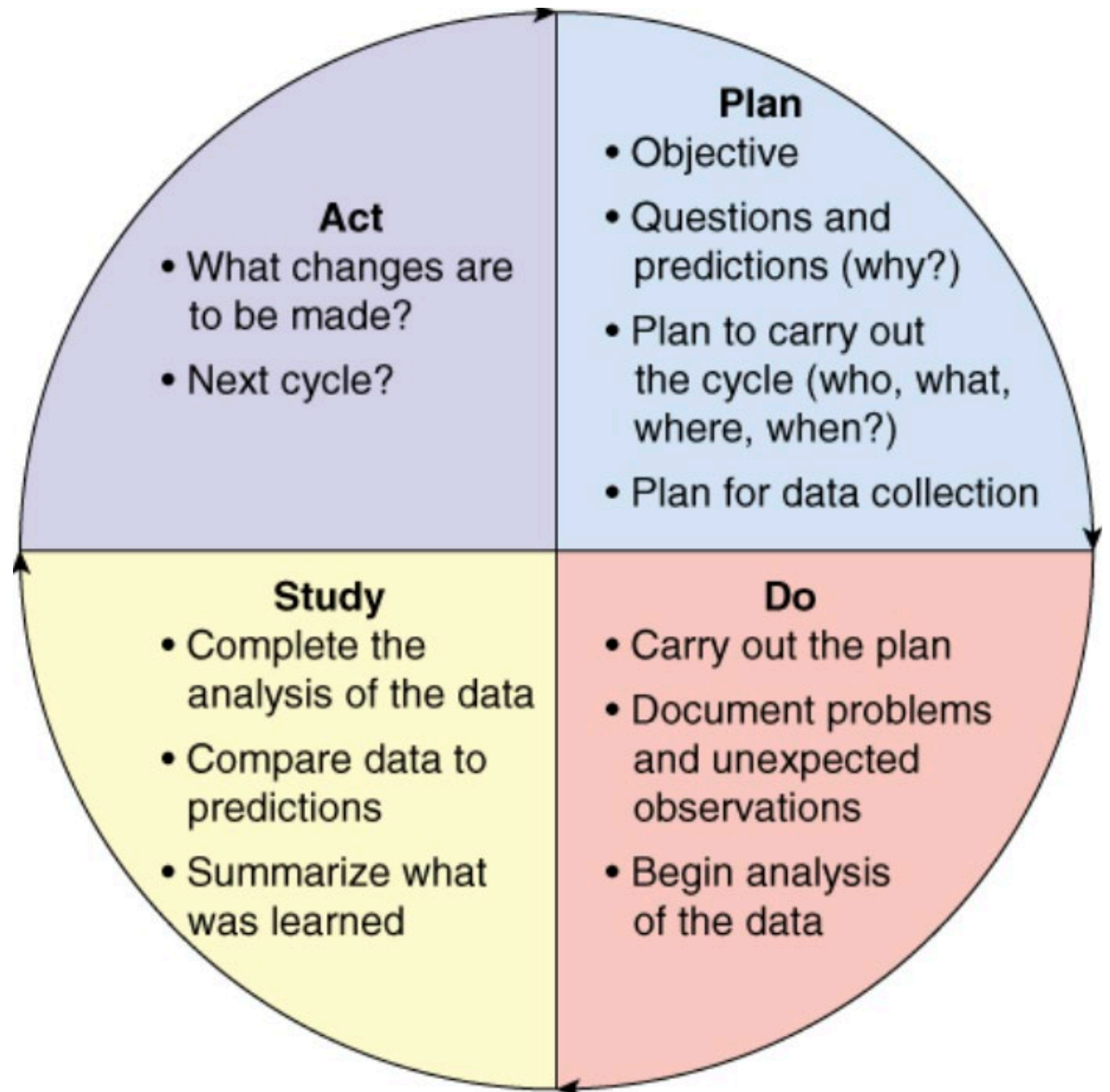
- Share the vision
- Build trust
- Team effort to engage patients



Find What Fits

- Know your staff population and their bandwidth for tasks
- Creativity in how to advertise to patients
- Adjust to feedback from staff and patients

Plan-Do-Study-Act (PDSA)



PDSA: Family Health Care Example

Plan

Objective: Schedule all referred patients for an initiation appointment

- Pharmacy interns in Lifestyle Medicine department to call post-referral
- Schedule initiation appointment with PharmD


Do

- Referrals occurring at a very fast pace
- PharmD schedule cannot meet demands of patient load
- Backlog of patients awaiting appointments

Study

- Program demands cannot be met with current workflow

Act

- Commission pharmacy interns to conduct initiation appointments
- 

Strong First Impressions with Patients



INITIATION APPOINTMENTS
SHOULD BUILD *UNDERSTANDING*
AND CONFIDENCE




MOTIVATIONAL INTERVIEWING



TEACH-BACK METHOD WITH BP
DEVICES

Family Health Care Results

Data through July 2023

- 1,224 Self-Measured Blood Pressure referrals made
 - 774 Home BP monitors provided to patients
 - 165 patients declined program
 - 214 patients unable to be reached after referral
 - 71 referrals pending
- 



Family Health Care Results

Program Impact on Blood Pressure (n = 200)

- Baseline BP average: 150/92 mmHg
- In-office BP \geq 3 months and $<$ 6 months: 138/84 mmHg
- Home BP average \geq 3 months and $<$ 6 months: 134/83 mmHg
- Number of patients who had follow-up within 3-6 months: 122 patients
- Average number of follow-up visits within 3-6 months: 2
- Total number of PharmD/PCP visits 0-6 months: 376 visits



Experiences of Family Health Care Staff





American
Heart
Association.

American Heart Association Supporting SMBP Efforts



Tim Nikolai
*Sr. Rural Health Director, Midwest
American Heart Association*



Our Work in Ambulatory Quality



- Provide clinical guidelines and protocols.
- Offer free resources directed towards both health care professionals and patients.
- Connect clinical partners to others around the country engaged in the same work.
- Offer recognition opportunities for any health care organization that demonstrates a commitment to, and/or achieves, clinical excellence.



American Heart Association®

Check. Change. Control.
Cholesterol™

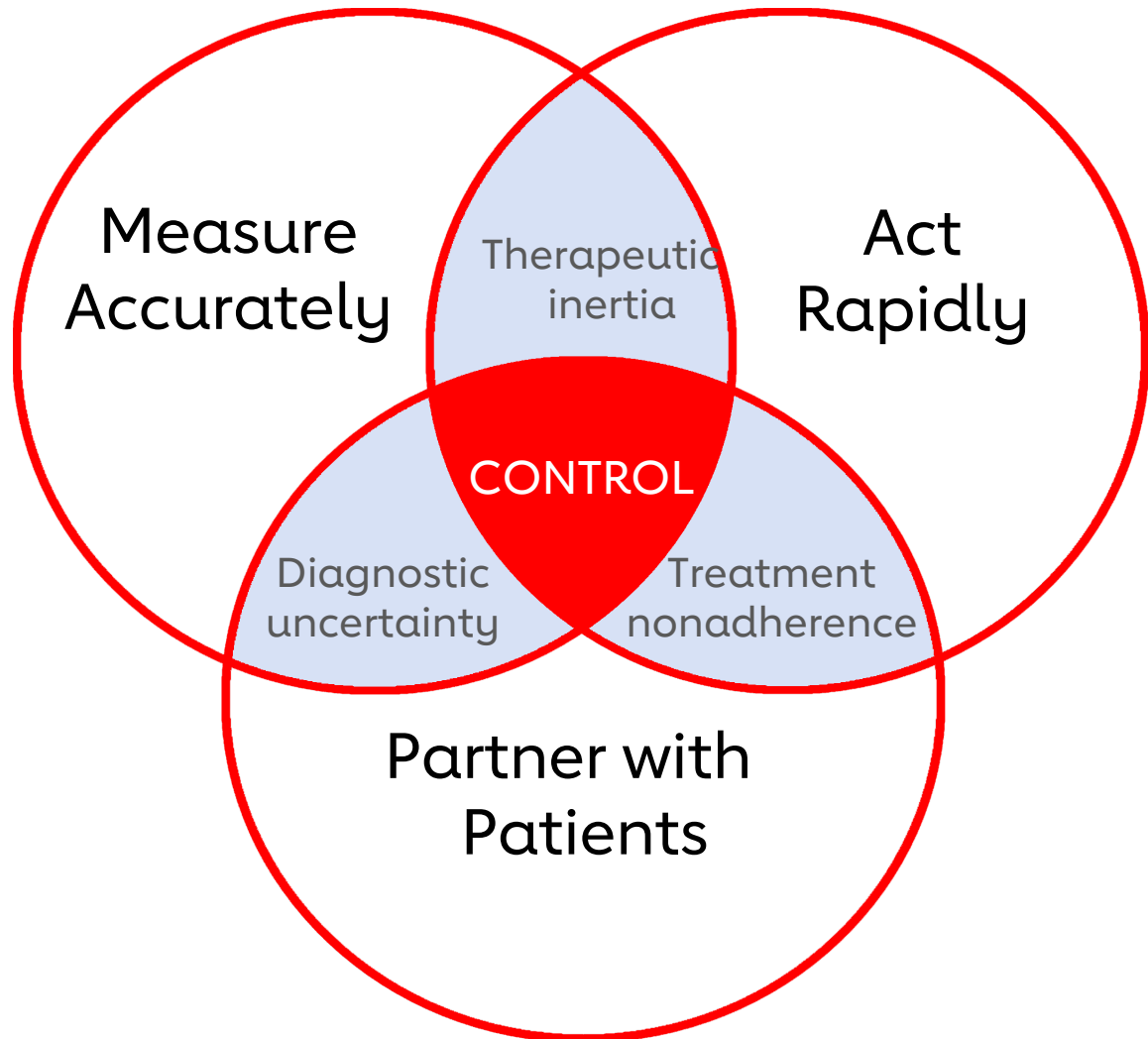


American Heart Association®

Target: Type 2 DiabetesSM

Registration for program(s) can be completed at heart.org/registermyoutpatientor

The MAP Framework



Quick Start Guide Overview

Target: BP™ is a national initiative formed by the American Heart Association (AHA) and the American Medical Association (AMA) in response to the high prevalence of uncontrolled blood pressure (BP). Target: BP helps health care organizations and care teams, at no cost, improve BP control rates through AMA MAP BP™ evidence-based protocols and recognizes organizations committed to improving BP control.

What are quick start guides and why were they created?

The quick start guides were created as resources for health care teams to outline the tools on the Target: BP website to support them in making impactful changes in BP control. These guides follow the structure of the AMA MAP BP framework for BP control which are highlighted below.

What critical areas are covered in the quick start guides?

- M** **Measure accurately:** Accurate measurement of BP is essential both to estimating cardiovascular disease (CVD) risk and to guiding management of high BP. Avoiding common errors can lead to correct diagnoses and speed time to treatment, improving BP control rates. This guide includes tools and resources that enable your team to obtain actionable data to diagnose hypertension and assess control of BP.
- A** **Act rapidly:** If BP measurements are valid, action should be quick and effective as your practice confidently follows up with patients to monitor their progress and help them achieve and maintain control of high BP. This reduces serious risk of CVD and associated comorbidities. This guide includes tools and resources that help to initiate and intensify evidence-based treatment.
- P** **Partner with patients:** Creating a blame-free environment in which patients are recognized for achieving treatment goals and encouraged to answer treatment-related questions honestly is an important step to tackling the problem of treatment nonadherence. This guide includes tools and resources to support patient activation to monitor and improve adherence to treatment.
- SMBP:** Self-measured blood pressure (SMBP) monitoring refers to the regular measurement of BP by a patient at their home or elsewhere outside the clinical setting. SMBP enables physicians to better diagnose and manage hypertension — and helps patients to take an active role in the process. This guide provides the information and resources to help you successfully launch a program for SMBP monitoring at your practice.

Self-Monitoring Blood Pressure (SMBP)

TARGET: **BP**[™]



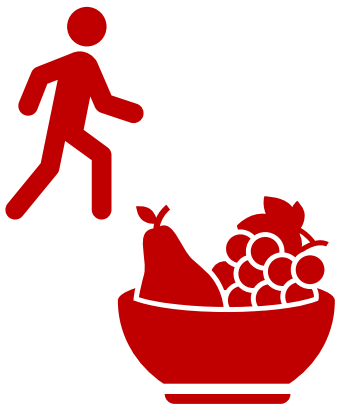
Indications for & Benefits of SMBP



Improve the accuracy of diagnosing hypertension: Out-of-office BP measurements are recommended to confirm the diagnosis of hypertension and Rule-out Masked Hypertension or White-Coat Hypertension



Better manage patient blood pressure: Recommended for titration of BP-lowering medication, in conjunction with telehealth counseling or clinical interventions. Used before subsequent office visits.



Help patients adhere to treatment – non-pharmacological and pharmacological: Patients who engage in SMBP may be more likely to take action to improve their health in other ways.

Financial Benefits of SMBP

Table 1. Financial impact of SMBP (ROI, NPV) from the perspective of a private insurer. Estimates are for all use cases bundled together.

Age Group	Return on Investment (ROI) ^a (average per individual)			Net Present Value (NPV) ^b (average per individual)		
	1-Year ROI ^c	3-year ROI ^d	Lifetime ROI ^e	1-Year NPV ^c	3-Year NPV ^d	Lifetime NPV ^e
Age 25–34	499%	479%	470%	\$322	\$395	\$442
Age 35–44	451%	430%	422%	\$280	\$342	\$379
Age 45–54	365%	339%	330%	\$227	\$278	\$309
Age 55–64	163%	139%	130%	\$105	\$123	\$135
Age 65–74	79%	59%	53%	\$50	\$53	\$56
Age 75–84	36%	20%	15%	\$22	\$17	\$16
Age 85+	-64%	-72%	-75%	-\$37	-\$60	-\$70
Total Per Individual				\$190	\$229	\$254

Duration of Device Use

During diagnosis, the device might only be needed for 1-2 weeks, or a sufficient time to obtain a representative BP reading including:



During treatment intensification, the device will be needed until a patients' response to treatment can be assessed and BP control goal is achieved, which could take weeks to months depending upon prescribing practices, visit frequency, patient adherence, and other variables

During ongoing management, the device will be needed longer periods while lifestyle changes can be achieved and sustain or to provide continuous monitoring of a chronic condition



SMBP Program Variation & Impact

	Common Not Recommended	Recommended
Purpose	<ul style="list-style-type: none">Distribute devices	<ul style="list-style-type: none">Inform diagnosis and treatment of HBP
HC Champion	<ul style="list-style-type: none">Varies	<ul style="list-style-type: none">Clinical / QI champion to redesign work/information flow and USE the data to inform diagnosis and treatment decisions
Audience	<ul style="list-style-type: none">Anyone who will accept a device	<ul style="list-style-type: none">Patients with elevated BP, to confirm a diagnosisPatients with hypertension not yet at goal of <130 / <80Patients focused on med adherence and/or lifestyle change
Frequency of measurement	<ul style="list-style-type: none">Whenever they are willing to use it	<ul style="list-style-type: none">2x in am + 2x in pm x 3-7 days prior to visit
Duration of use	<ul style="list-style-type: none">As long as they will use it	<ul style="list-style-type: none">Until diagnosis confirmedUntil treatment goal reachedPrior to visits, with medication changesOngoing to support adherence or lifestyle change for some
Frequency of data relay/review	<ul style="list-style-type: none">Inconsistent, unspecified	<ul style="list-style-type: none">At visits, every 2-4 weeks until diagnosis or BP goal reachedAt routine visits every 6-12 mo. when stable (or monthly if RPM)
Merits	<ul style="list-style-type: none">Meet them where they are	<ul style="list-style-type: none">Consistent with scientific evidence and AHA guidelines
Impact	<ul style="list-style-type: none">Unlikely	<ul style="list-style-type: none">Most likely to support BP control

SMBP Program Planning & Resources

Device Management Considerations:

- Select BP Devices
- Loaned and/or given
- Distribution method
- # of devices
- Cuff sizes
- Duration of use
- Return process
- Storage
- Tracking
- Cleaning

Identify appropriate patients

- Clinical criteria
- Identification
- Appropriateness

Recommend to patient

- Who/When/Where/How

Train patient

- Who/When/Where/How
- Curriculum/Resources

Staffing Roles:

- Coordination
- Training
- Device Management
- Clinical Champion
- Outreach
- Data Management

SMBP Program Planning & Resources

Self-measured blood pressure Quick start guide

Self-measured blood pressure (SMBP) monitoring refers to the regular measurement of blood pressure (BP) by a patient in their home or elsewhere outside the clinical setting. SMBP enables health care providers to better diagnose and manage hypertension and helps patients take an active role in the process. Here are some steps you can take to incorporate evidence-based SMBP resources into your workflows.

1 Assess how your health care organization currently uses SMBP.

It is important to understand how you and your health care organization currently use SMBP in order to identify ways to improve.



Use the **SMBP Pre-assessment tool** to help establish a baseline.

2 Build your health care organization's knowledge in SMBP.



Review the **Patient-Measured BP** section of the Target:BP website.



Watch these webinars from our library to gain insights & best practices from experts and receive CME/CE credit:

- Using SMBP to Diagnose & Manage HBP
- Scientific Statement on BP Measurement
- Improving BP Control Through Policy



Review this **CPT code one-pager** to learn about new CPT codes to cover SMBP.

Page 1 of 2

Self-measured blood pressure Patient training checklist

Instructions: To ensure all necessary steps and components are covered, use this checklist when training your patient's on how to perform self-measured blood pressure (SMBP).

Gather supplies

- Tape measure
- What is SMBP? (PDF)
- SMBP infographic (PDF in English or Spanish)
- SMBP recording log (PDF)
- SMBP device accuracy test (PDF)

Provide background information on SMBP to the patient (if not explained by provider)

- Explain how SMBP allows the provider to get a more accurate and complete picture of the patient's blood pressure outside of the office (more readings, over a longer period of time, in the patient's normal environment).

Tip: Hand out the "What is SMBP?" document.

Determine SMBP cuff size

- Use tape measure to measure the circumference of the patient's mid-upper arm in centimeters (see image for more detail).

Tip: Ideally, this is done before the patient purchases a device so you can ensure the device and cuff purchased are appropriate for the patient.



Locate mid-upper arm
Using a measuring tape, place it on the bony prominence of the arm (acromion process) and measure the length of the arm to the bony prominence at the elbow (olecranon process). Circle the distance of that to the mid-upper arm where it should measure the arm circumference for determining cuff size.

Check patient's SMBP device for accuracy

Tip: Use the SMBP device accuracy test.

Determine the patient's blood pressure arm (if not currently identified)

- Measure the patient's blood pressure in each arm and use the arm with the higher reading for all future readings.

Teach patient how to properly prepare for self-measurement

- Avoid caffeine, tobacco and exercise for at least 30 minutes before measurement
- Empty bladder if full
- Take BP measurements before blood pressure medications

Tip: Show **SMBP training video** and hand out the **SMBP infographic**.

Teach patient the proper positioning for self-measurement

1 of 2

Self-measured blood pressure Device accuracy test¹

A patient's self-measured blood pressure (SMBP) monitoring device should be tested before it is used as part of an SMBP program. Also test the device annually or any time blood pressure readings are questionable.

Step 1

Complete the table below.

Care team should take five blood pressure readings using a combination of the patient's SMBP device and office's method of blood pressure measurement.

Measurement	Device	Systolic blood pressure (SBP)	SBP Example
A	Patient's		133
B	Patient's		132
C	Office's		141
D	Patient's		134
E	Office's		139

Step 2

Part 1: Average measurements B and D:

Part 2: Compare average of B and D to measurement C:

Part 3: If the difference is ...

- **Less than 5 mm Hg**, this device can be used for SMBP
- **Between 6 and 10 mm Hg**, proceed to Step 3
- **Greater than 10 mm Hg**, replace the device before proceeding with your SMBP program

Example

Part 1: $(132 + 134) / 2 = 133$
Part 2: $133 - 141 = -8$ (note: if the difference is a negative number, ignore the negative sign)
Part 3: Difference is 8, which is between 6 and 10 mm Hg, so proceed to Step 3

Step 3

Part 1: Average measurements C and E:

Part 2: Compare average of C and E to measurement D:

Part 3: If the difference is ...

- **Less than or equal to 10 mm Hg**, this device can be used for SMBP
- **Greater than 10 mm Hg**, replace the device before proceeding with your SMBP program

Example

Part 1: $(141 + 139) / 2 = 140$
Part 2: $140 - 134 = 6$ (note: if the difference is a negative number, ignore the negative sign)
Part 3: Difference is 6, which is less than or equal to 10 mm Hg, so proceed with SMBP program

1. Guidelines for a Successful Blood Pressure Monitoring Program: National Blood Pressure Association. www.nationalbloodpressure.org. 2012. Available from: www.nationalbloodpressure.org. Accessed 10/20/2015.

Self-measured blood pressure monitoring Loaner program agreement

FOR OFFICE STAFF

Lender information

Organization name: _____

Address: _____

Phone number: _____

Equipment information

Device manufacturer and model: _____

Device ID: _____

Supplies (check all that apply):

- BP cuff (variable size)
- BP cuff (XL)
- Carrying case
- Batteries
- Power cord
- Other: _____

Patient information

Name: _____

Patient ID: _____

Preferred contact information (phone or email): _____

Return by: _____

Month Day Year

- I agree to participate in the self-measured blood pressure device loaner program and follow the guidelines given to me.
- I agree to return this device in good working condition on or before its due date.

Patient signature: _____

Date: _____

We are here to help!

- Open to all clinical organizations
- Technical assistance in laying a foundation for SMBP through examining the MAP Framework.
- Support launching or enhancing SMBP programs
- Sometimes funding is available to support this work.



Tim Nikolai
*Sr. Rural Health Director, Midwest
American Heart Association*

Tim.Nikolai@heart.org

414.502.8780

Thank you!

Speakers have no financial relationships to disclose.