Self-Measured Blood Pressure Monitoring (SMBP) Implementation Toolkit

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SMBP IMPLEMENTATION TOOLKIT

PURPOSE:
This toolkit is designed to help organizations implement self-measured blood pressure monitoring (SMBP) successfully into their care processes and workflows.

ORGANIZATION:
It is comprised of four parts that will help organizations determine their goals and priority populations, align their SMBP patient training approach to their practice environment, consider SMBP tasks by role—and particularly how many can be accomplished by a non-clinician, review key features and functionalities to consider in choosing a SMBP data management software solution/technology partner, and ultimately develop a protocol that will help organizations implement SMBP using a comprehensive, practical, step-by-step approach based on the experiences and lessons learned of other implementing organizations and in accordance with the June 2020 Self-measured Blood Pressure Monitoring at Home: A Joint Policy Statement from the American Heart Association and American Medical Association.

INSTRUCTIONS:
1. Review SMBP in Clinical Practice
2. Complete Determining Your SMBP Goals and Priority Populations
3. Work through the SMBP Protocol Design Checklist
4. Use the SMBP Tasks by Role and Aligning your SMBP Patient Training Approach to your Practice Environment diagrams to adapt your SMBP care model to your patients’ preferences, staffing capacity, other clinical initiatives or priorities, and local environment
5. Review the important decision criteria for Optimizing Management of Patient-Generated Health Data for SMBP Programs
INTEGRATING SMBP INTO HYPERTENSION CARE PRACTICES

What is SMBP? Self-measured blood pressure monitoring (SMBP) refers to blood pressure measurements taken outside of the clinical setting, usually at home. SMBP helps with both diagnosis and management of hypertension and increases patient participation in their own care. SMBP, when combined with other clinical supports, improves hypertension control.

A Complete Cycle of SMBP = 2 measurements, 1 minute apart, in the morning and evening for a 7-day period. At least 3 days (12 measurements) are the minimum needed for SMBP. The average BP is calculated from all measurements from the 7-day period into one systolic BP average and one diastolic BP average. This overall BP average is used as a diagnostic tool and for treatment decisions.

To integrate the use of self-measured blood pressure monitoring (SMBP) within hypertension care, consider three targeted clinical uses for SMBP:

- **Accurate Diagnosis**: SMBP is an evidence-based strategy for patients to use at home or in their usual environment for an accurate blood pressure (BP) gauge because it collects an average of BP measurements over several days and has been shown to eliminate white coat hypertension. The average BP measurement (average systolic BP and average diastolic BP) from these patient-generated health data—one SMBP cycle—should be reviewed by the care team to inform clinical action. When used as a diagnostic tool, SMBP rules out white coat hypertension, identifies masked hypertension, and is used to confirm a hypertension diagnosis after an elevated office BP measurement.

- **Medication Titration**: SMBP may also be used to gauge how well medication works for patients with hypertension. After starting medication or a medication change, patients should complete a cycle of SMBP. The average BP is then reviewed by the care team every 2-4 weeks to confirm whether the medication and dose being used are effective or if adjustments are needed so that patients reach their BP goal. Use text, phone, or email reminders to keep patients on schedule and provide any technical support.

- **Maintaining Control**: To maintain blood pressure control, patients should follow the SMBP protocol once every 3-6 months prior to their next scheduled visit. Average BP measurements should be shared with the care team to inform whether additional clinical action is needed.

Patients might “graduate” or deactivate from doing complete cycles of SMBP after reaching their BP goal. Because SMBP is an evidence-based tool for hypertension diagnosis and long-term management, ideally, a BP monitor is issued to the patient to keep. This way, participation in SMBP can be activated at follow up intervals to maintain blood pressure control and sustain hypertension goals over the patient’s lifetime.

To illustrate one approach to using SMBP effectively within a health care organization's hypertension care protocol, see the following sample workflow from the Health Federation of Philadelphia.
**SMBP TREATMENT WORKFLOW**

**BP Thresholds and recommendations for treatment and follow up**

- **Normal BP (<120/80)**
  - Promote positive lifestyle habits
  - Reassess in 1 year

- **Elevated BP (120-129/<80)**
  - Optimize lifestyle habits (non-pharmacological treatment)
  - Reassess in 3 - 6 months

- **Stage 1 HTN (130-139/80-89)**
  - Perform ASCVD risk assessment
  - Enroll in SMBP to confirm diagnosis OR reassess in 3 - 6 months
  - Optimal lifestyle habits (non-pharmacological treatment) and reassess in 3-6 months
  - BP Goal met?**
    - Yes
      - Instruct patient to take BP 1-2 times a week
      - Ask patient to re-start SMBP 10 days or so before their next follow up in-office or telehealth visit
    - No
      - Assess and optimize adherence to treatment
      - Consider intensification of therapy and/or assign a new cadence for SMBP
      - BP is stable at or below goal?
        - Yes
          - Continue to monitor using SMBP 1-2 times a week
        - No
          - Ask patient to re-start SMBP 10 days or so before their next follow up in-office or telehealth visit

- **Stage 2 HTN (≥140 or ≥90)**
  - Pharmacological therapy **and optimize lifestyle habits**
  - Enroll in SMBP
  - Review SMBP results in 4 weeks

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*Confirmed: treat as indicated and reassess
Not confirmed (normal or elevated): reassess in 3 – 6 months
Not confirmed and status worsened (masked Stage 2): treat with non-pharmacological and pharmacological treatment

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**Confirmed:**

**Not confirmed (normal or elevated):**

**Not confirmed and status worsened (masked Stage 2):**

---

*Follow an evidence-based protocol like AMA’s Hypertension Medication Treatment Protocol

**The target BP for patients using SMBP should be <130/80 especially for Stage 1 patients who entered the program with a BP in the 130s/80s range**

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Ask patient to re-start SMBP 10 days or so before their next follow up in-office or telehealth visit.
PLANNING FOR SMBP—DETERMINING YOUR GOALS AND PRIORITY POPULATION

How big do you go? Ideally and ultimately, everybody with hypertension should have their own home blood pressure monitor, but in a resource-constrained healthcare environment, that may not always be feasible...at least in the near-term. How do you best align your self-measured blood pressure monitoring (SMBP) goals with your current environment and where it will do the most good? The following diagram is designed to assist with this first important step in planning for SMBP. The ideas below do not represent an exhaustive list of possible SMBP goals and priority populations, but rather are intended to serve as a launchpad to help you think about ways to get the most out of SMBP in your practice. There may be overlap in the populations and you may choose to focus on multiple populations/goals.

### POSSIBLE PRIORITY POPULATION

<table>
<thead>
<tr>
<th>Possible Priority Population</th>
<th>Possible Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Align SMBP with Existing Chronic Disease Efforts or Programs</strong></td>
<td>Use SMBP to enhance services for existing chronic disease programs/populations</td>
</tr>
<tr>
<td>For example, perhaps your organization has an initiative for diabetics, many of whom have hypertension OR a program in place to assist patients with adopting healthy lifestyle behaviors that could serve as a natural pilot group to implement SMBP on a smaller scale.</td>
<td><strong>Use SMBP to enhance services for existing chronic disease programs/populations</strong></td>
</tr>
<tr>
<td><strong>Leverage SMBP to Accelerate Use of Digital Patient-Generated Data</strong></td>
<td>Use SMBP to enhance services for existing chronic disease programs/populations</td>
</tr>
<tr>
<td>Focus on hypertension patients who would be good candidates for testing Bluetooth monitors with apps or other electronic modes of patient data transmission.</td>
<td><strong>Use SMBP to enhance services for existing chronic disease programs/populations</strong></td>
</tr>
<tr>
<td><strong>Patients with Uncontrolled Hypertension</strong></td>
<td>Use SMBP to help the highest risk patients achieve BP control</td>
</tr>
<tr>
<td>Consider further risk stratification using factors like whether the most recent office BP was Stage 2: &gt; 140 or &gt; 90 mm Hg and/or patients have multiple co-morbidities, such as diabetes or hypercholesterolemia.</td>
<td><strong>Use SMBP to help the highest risk patients achieve BP control</strong></td>
</tr>
<tr>
<td><strong>Patients with Newly Diagnosed Hypertension</strong></td>
<td>Use SMBP to engage and help titrate medications for newly diagnosed hypertension patients</td>
</tr>
<tr>
<td>Focus on patients who received a hypertension diagnosis in the last 6 months.</td>
<td><strong>Use SMBP to engage and help titrate medications for newly diagnosed hypertension patients</strong></td>
</tr>
<tr>
<td><strong>Patients with Potential Undiagnosed Hypertension</strong></td>
<td>Use SMBP to improve timely and accurate hypertension diagnosis, including ruling out white coat effect.</td>
</tr>
<tr>
<td>Focus on patients who have multiple elevated BP readings in the past 12 months without a diagnosis of hypertension AND/OR patients coded with elevated BP without a diagnosis of hypertension (ICD-9 786.3 or ICD-10 R03.0)</td>
<td><strong>Use SMBP to improve timely and accurate hypertension diagnosis, including ruling out white coat effect</strong></td>
</tr>
<tr>
<td><strong>Patients with Medication Adherence Challenges</strong></td>
<td>Use SMBP to engage and help titrate medications for patients with hypertension who have medication adherence barriers</td>
</tr>
<tr>
<td>Use a tool like the Morisky scale⁴ to assess medication adherence among patients with diagnosed hypertension or work with pharmacists/payers to obtain prescription fill data that can help with calculating measures like the medication possession ratio or proportion of days covered²</td>
<td><strong>Use SMBP to engage and help titrate medications for patients with hypertension who have medication adherence barriers</strong></td>
</tr>
<tr>
<td><strong>Patients who Have Office Visit Barriers</strong></td>
<td>Use SMBP to engage hypertension patients who are better served out of the clinic</td>
</tr>
<tr>
<td>Certain patients with hypertension may benefit from less frequent in-office visits (i.e., have restricted numbers of visits from their payer, have work conflicts, transportation barriers, OR prefer a virtual visit due to COVID-19)</td>
<td><strong>Use SMBP to engage hypertension patients who are better served out of the clinic</strong></td>
</tr>
</tbody>
</table>

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SMBP PROTOCOL DESIGN CHECKLIST

PURPOSE:
After determining your organizational goals for implementing SMBP and your priority population(s), you are ready to develop a SMBP protocol. This protocol will help care teams operationalize SMBP successfully into care processes and workflows. The SMBP Protocol Design Checklist is based on the experiences and lessons learned of 10 health centers that implemented SMBP in a diversity of environments with a variety of staffing models and patient mixes.

INSTRUCTIONS:
Read the items in the left column and add your own notes/decisions in the right column. In some cases, the right side is pre-populated with options to check off as they apply.

### SMBP SCOPE

<table>
<thead>
<tr>
<th>Question</th>
<th>Notes/Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine organizational goals for using SMBP</td>
<td>SMBP Goals:</td>
</tr>
<tr>
<td>Determine priority population(s)*</td>
<td>Priority Population(s):</td>
</tr>
</tbody>
</table>

*See SMBP Model Design: Determining your Goals and Target Population

### HOME BP MONITORS

<table>
<thead>
<tr>
<th>Question</th>
<th>Notes/Decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine which home BP monitors to use. Choose a validated upper arm device. Consider: whether it comes with an XL cuff, Bluetooth capability, memory storage capacity, multiple users, ease of use, insurance coverage, cost</td>
<td>Selected Home BP Monitor:</td>
</tr>
<tr>
<td>Determine which “patient-facing” app you will use (see Optimizing Management of Patient-Generated Health Data for SMBP Programs)</td>
<td>Selected app:</td>
</tr>
</tbody>
</table>
| Determine how patients will obtain home BP monitors | Loaned  
Purchased by health center (for patient to keep)  
Purchased by patient  
Purchased by supporting organization (for patient to keep)  
Purchased through insurer |
| Determine how patients will physically receive their home BP monitor, if loaned or purchased by other than the patient | Full face-to-face visit  
Mailed to patient  
Quick stop by health center  
Staff delivers to patient |
| Determine number of home BP monitors to purchase (if loaned, plan on 3 devices per care team) | Number of home BP monitors to purchase: _______  
Patient Keeps: _______  
To Loan: _______ |
- **Determine number of cuff sizes to purchase**

  - **Note**: 50% of health center patients required XL cuff sizes among the 10 health centers that participated in the NACHC Accelerating SMBP Project.
  - **Recommendation**: choose a validated home BP monitor that has cuff options that fit arms up to 21.21” in circumference.

- **Number of Standard/Large Cuffs** (fits arm sizes 8.75” – 16.5”): _________
  - Patient Keeps: __________
  - To Loan: ________________

- **Number of Extra-Large Cuffs** (fits arm sizes 15.75” – 21.25”): _________
  - Patient Keeps: __________
  - To Loan: ________________

- **Determine how long patients will keep monitors** (if loaned) (e.g., 2 weeks, 1 month, etc.)
  - Our protocol: Complete this section only if you intend to loan home BP monitors to patients.

- **Determine how patients will return monitors**
  - Our protocol:

- **Determine what controls to put in place if patients do not return home BP monitors** (e.g., # of phone calls, # letters, etc.)
  - Our protocol:

- **Determine where home BP monitors will be physically stored** (consider separate locations for “clean” vs. “dirty”)
  - Our protocol:

- **Determine how home BP monitors are tracked, inventoried, cleaned, and managed**
  - Our protocol:

### KEY SMBP STAFF

- **SMBP Coordinator** (has authority, time, and skills to coordinate all aspects SMBP implementation)
  - **SMBP Coordinator:**

- **SMBP Trainers** (at least one per site; educates patient on how to use the home BP monitor, how to get home BP readings back to the care team, how often to do measurements, and proper technique)
  - **Site** | **SMBP Trainer** | **Available Daily for Warm Handoff**
  - | | 
  - | |  ❑ Yes  ❑ No
  - | |  ❑ Yes  ❑ No
  - | |  ❑ Yes  ❑ No

- **SMBP Device Manager** (tracks, inventories, cleans, calibrates, stores home BP monitors)
  - **Site** | **SMBP Device Manager**
  - | 
  - | 
  - | 

- **SMBP Clinical Champion** (has time to facilitate implementation success, key influencer)
  - **Site** | **SMBP Clinical Champion**
  - | 
  - | 
  - | 

- **SMBP Outreach Coordinator** (coordinates contacting patients to recommend SMBP and after they initiate SMBP to ensure understanding of proper measurement technique, etc.)
  - **Site** | **SMBP Outreach Coordinator**
  - | 
  - | 
  - | 

- **SMBP Data Manager** (receives, possibly enters, prepares, and manages SMBP data)
  - **Site** | **SMBP Data Manager**
  - | 
  - | 
  - | 

- **Site SMBP Trainer Available Daily for Warm Handoff**
  - Yes  ❑ No
  - Yes  ❑ No
  - Yes  ❑ No
## SMBP PATIENT IDENTIFICATION

- Determine any selection criteria beyond eligibility for population of focus (e.g., consider availability of interpreters, physical or mental capacity to use a home blood pressure monitor, safe place to store a home blood pressure monitor, no show history, patient interest, etc.)

  **Our protocol:**

<table>
<thead>
<tr>
<th>Determine patient identification methods</th>
<th>Determine how to assess if appropriate patients are being identified and offered SMBP</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the point of care:</td>
<td>Our protocol:</td>
</tr>
<tr>
<td>‣ Clinical decision support in EHR</td>
<td></td>
</tr>
<tr>
<td>‣ Clinician recommends</td>
<td></td>
</tr>
<tr>
<td>‣ Patient screening/preference survey</td>
<td></td>
</tr>
<tr>
<td>‣ Pre-visit planning</td>
<td></td>
</tr>
<tr>
<td>‣ Patient requests to do SMBP</td>
<td></td>
</tr>
<tr>
<td>‣ Registry queries and targeted outreach</td>
<td></td>
</tr>
</tbody>
</table>

## SMBP RECOMMENDATION

- Determine who recommends SMBP to the patient at the point of care

  **Our protocol:**

<table>
<thead>
<tr>
<th>Determine who recommends SMBP to the patient at the point of care</th>
<th>(If applicable) determine who conducts outreach calls to recommend SMBP to the patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>‣ Clinician</td>
<td>‣ Clinician</td>
</tr>
<tr>
<td>‣ MA</td>
<td>‣ MA</td>
</tr>
<tr>
<td>‣ Nurse</td>
<td>‣ Nurse</td>
</tr>
<tr>
<td>‣ Pharmacist</td>
<td>‣ Pharmacist</td>
</tr>
<tr>
<td>‣ Other</td>
<td>‣ Other</td>
</tr>
</tbody>
</table>

## SMBP TRAINING

- Determine who trains the patient on SMBP

  **See SMBP Task by Role**

<table>
<thead>
<tr>
<th>Determine who trains the patient on SMBP</th>
<th>Determine how the patient will connect with the SMBP Trainer (e.g., warm hand-off, follow-up visit, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>‣ Clinician</td>
<td>Our protocol:</td>
</tr>
<tr>
<td>‣ MA</td>
<td></td>
</tr>
<tr>
<td>‣ Nurse</td>
<td></td>
</tr>
<tr>
<td>‣ Pharmacist</td>
<td></td>
</tr>
<tr>
<td>‣ Other</td>
<td></td>
</tr>
<tr>
<td>Determine SMBP training curriculum/resources</td>
<td>Our protocol:</td>
</tr>
<tr>
<td>[e.g., What is SMBP? protocol (2 measurements AM and PM for 7 days) how to use the device; how to take BP at home properly (technique); how to communicate measurements to care team; what to do for an out-of-range BP; loaner agreement]</td>
<td>Our protocol:</td>
</tr>
</tbody>
</table>
## SMBP OUTREACH SUPPORT AND FOLLOW-UP

<table>
<thead>
<tr>
<th>Determine how outreach support will be provided to patients</th>
<th>Electronic patient communication (text or email programs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home visit</td>
</tr>
<tr>
<td></td>
<td>Scheduled telehealth check-in</td>
</tr>
<tr>
<td></td>
<td>Unscheduled telephone call</td>
</tr>
<tr>
<td>Determine encounter type for initial follow-up appointment</td>
<td>Face-to-face visit with:</td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
</tr>
<tr>
<td></td>
<td>Pharmacist</td>
</tr>
<tr>
<td></td>
<td>Physician/PA/NP</td>
</tr>
<tr>
<td></td>
<td>Telehealth visit with:</td>
</tr>
<tr>
<td></td>
<td>Nurse</td>
</tr>
<tr>
<td></td>
<td>Pharmacist</td>
</tr>
<tr>
<td></td>
<td>Physician/PA/NP</td>
</tr>
<tr>
<td></td>
<td>Home visits</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Develop any collaborative practice agreements needed</td>
<td>Nurse visits</td>
</tr>
<tr>
<td></td>
<td>Pharmacists:</td>
</tr>
<tr>
<td></td>
<td>Medication titration</td>
</tr>
<tr>
<td></td>
<td>Refill authorization</td>
</tr>
</tbody>
</table>

## SMBP DATA MANAGEMENT

<table>
<thead>
<tr>
<th>Determine how patients will record/share data with the care team</th>
<th>Our protocol:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determine what types of SMBP measurements clinicians want to see</td>
<td>7-day SMBP averages</td>
</tr>
<tr>
<td></td>
<td>All individual home BP readings</td>
</tr>
<tr>
<td></td>
<td>Outlier BP readings (very high or very low)</td>
</tr>
<tr>
<td>Determine what additional SMBP-related data elements are important to capture (e.g., flagging patients for SMBP, date started/completed SMBP, number of measurements/days, reason for SMBP, treatment decisions, etc.)</td>
<td>Our protocol:</td>
</tr>
<tr>
<td>Determine where SMBP data will be documented (may require custom HIT configuration) see Optimizing Management of Patient-Generated Health Data for SMBP Programs</td>
<td>Direct to EHR from Home BP Monitor</td>
</tr>
<tr>
<td></td>
<td>Manually document in EHR</td>
</tr>
<tr>
<td></td>
<td>Population Health Management system</td>
</tr>
<tr>
<td></td>
<td>Spreadsheet</td>
</tr>
<tr>
<td></td>
<td>Vendor Portal</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Determine when and at what frequency clinicians want to review SMBP data (i.e., where and in what format does it fit in the workflow)</td>
<td>Our protocol:</td>
</tr>
<tr>
<td>Determine if SMBP is having desired effect (e.g., number of patients enrolled, starting BP, Average BP on graduation, number of treatment intensifications, days/weeks between treatment intensification)</td>
<td>Our protocol:</td>
</tr>
</tbody>
</table>

## COMMUNITY LINKAGES

| Determine what role community partners could play to support or optimize the efficiency/capacity of your SMBP efforts | Conduct outreach |
| See SMBP Tasks by Role | Provide lifestyle support programs/education |
|  | Provide SMBP trainers |
|  | Supply funds to purchase home blood pressure monitors |
|  | Other |
A key part of setting up SMBP is deciding how to manage patient-generated health data. To ensure your organization is choosing an optimal data management solution/technology partner for use with your home blood pressure devices, it is important to consider the features and functionalities available in various BP telemonitoring software options.

Many home blood pressure devices enable digital data storage and transfer of SMBP data through a cellular or Wi-Fi network to a cloud-based web portal for use by the care team.

Some home blood pressure devices can connect via Bluetooth technology to a patient-facing smart phone app and then transfer the data to a cloud-based web portal via a cellular or Wi-Fi network.

**NOTE:** Some apps are manufacturer specific and others are not specific to a certain brand of home blood pressure device and can be purchased separately.

BP telemonitoring software vendors may offer an array of integration capabilities with electronic health records (EHRs) or population health management systems.
**DECISION CRITERIA:**

The criteria below indicate features of SMBP patient-facing applications, clinical team web portals, and EHR integration capabilities that organizations can consider when deciding which BP telemonitoring software solution/vendor to choose.

### Clinical Team-facing Application/Web Portal

- Configurable dashboard view (e.g., the ability to sort patients by BP reading, status, clinical site, etc.)
- Supports basic analytics
  - Number of patients enrolled
  - Baseline BP on enrollment
  - Ability to identify a cohort of patients based on date of enrollment
  - BP at graduation
  - Number of days from enrollment to graduation
  - Exportable structured data capability (specify format(s), e.g., PDF, .csv)
  - Number of active patients, inactive, graduated, re-enrolled patients
- Ability to designate status (Active, Newly enrolled, Inactive, Graduated, Re-enrolled)
- Ability to configure average systolic, diastolic, or combined BP across a specified amount of days
- Ability to indicate BPs that fall outside a specified range (outlier values)
- Allows for flexible/tailorable patient BP goal setting
- Allows the practice to purchase active user “seats” as opposed to imposing a cost per patient
- Vendor supports having a data use agreement governing how patient level data can be used by the vendor
- Vendor is willing to sign a Business Associate Agreement with the practice for privacy protections

**NOTE:** Many software vendors see themselves as engaging in a privacy agreement with the patient when the patient downloads and signs up for the patient-facing app; however, most health care organizations see themselves as the prescriber of SMBP and using the app is a component of their SMBP program, which makes a BAA desirable.

### Patient-facing Application

**Essential**

- HIPAA compliant
- Supports Android and iOS
- Free to the patient

**Nice to Have**

- Device-manufacturer agnostic
- Supports reasonable literacy level to enhance patient understanding
- Available in multiple languages with the possibility of adding languages as needed
- Supports patient education on the proper way to take a BP
- Prompts patient to take a second BP after 1 minute
- Supports text messaging communication – individual and text message blasts
- Provides technical support for patients as needed
- Allows for patient registration via cell phone number vs. email only (some patients only have a cell phone number, not an email address)
- Integrates with other health apps
Integration of BP Telemonitoring Software with EHRs (and/or Population Health Management Systems)

Potential for EHR integration that includes:

- Seamless enrollment from the EHR (receives demographic data from the EHR and recognizes if the patient has already been enrolled through this practice or through another practice; creates the clinical portal enrollment automatically and as indicated)
- The ability to send structured data available (average BP as well as individual values)
- The ability to receive critical information from the EHR (e.g., problem list information, medications)
- Customizable clinician notification cadence/content
- Configurable trigger for sending BP values

Tech support available

Standards-based (e.g., FHIR/API connection or HL7)

**NOTE:** often the limitation is with the EHR, not with the SMBP software

EHR Configuration Factors

Another important component of optimizing management of patient-generated health data for SMBP is setting up the EHR to receive data from the clinical team-facing application. Most EHRs today do not have standard places ready to ingest SMBP data, but they can be custom configured either at the practice level or by the EHR vendor. Below are a list of essential and nice-to-have data fields to support SMBP:

**Essential:**
- Average BP (labeled as such) separate and distinct from a single BP measurement
- Number of BP readings that constitute the average
- The highest and lowest measurement in the set
- Date range for the BP readings that constitute the average

**Nice to have:**
- Capture the device manufacturer and model
- Capture the device size
- Capture data related to medication adherence
- Capture the team member interacting with the patient (e.g., care manager, pharmacist, provider etc.)
- Automatically capture CPT codes indicating HTN control
### SMBP Monitoring Tasks by Role

**From:** Accelerating Use of Self-measured Blood Pressure Monitoring (SMBP) Through Clinical-Community Care Models

#### Must Be Done by Licensed Clinician

1. Diagnose hypertension
2. Prescribe medication(s)
3. Provide SMBP measurement protocol
4. Interpret patient-generated SMBP Readings
5. Provide medication titration
6. Provide lifestyle modification recommendations

#### Must Be Done by Patient

1. Take SMBP measurements
2. Take medications as prescribed
3. Make recommended lifestyle modifications
4. Convey SMBP measurements to care team
5. Convey side effects to care team

#### Can Be Done by SMBP Supporter\(^a\)

1. Provide guidance on home blood pressure (BP) monitor selection
2. If needed, provide home BP monitor (free or loaned)
3. Provide training on using a home BP monitor
4. Validate home BP monitor against a more robust machine
5. Provide training on capturing and relaying home BP values to care team (e.g., via device memory, patient portal, app, log)
6. Reinforce clinician-directed SMBP measurement protocol
7. Provide outreach support to patients using SMBP
8. Share medication adherence strategies
9. Provide healthy lifestyle education

#### Optional SMBP Supporter Tasks

1. Reinforce training on using a home BP monitor
2. Reinforce training on capturing and relaying home BP values to care team (e.g., via device memory, patient portal, app, log)
3. Reinforce knowledge of behaviors that can trigger high blood pressure

\(^a\)Medical assistant, community health worker, local public health department/community organization representative, etc.
# Aligning Your SMBP Patient Training Approach to Your Practice Environment

## Factors to Consider

| Patients are unable to attend multiple visits in a short timeframe (i.e., transportation barriers, work hours, etc.) |

**Applicable?** YES

**SMBP Training Process**

**Offer same-day SMBP training/orientation ("warm hand-off" approach)**

**Pros**
- Limits number of visits a patient needs to begin SMBP (no additional visit for SMBP training)

**Cons**
- Requires daily staff coverage and flexibility
- Does not allow pairing SMBP training with education classes, group visits, etc.

| Daily staff coverage for SMBP training is a challenge in my organization |

**Applicable?** YES

**SMBP Training Process**

**Offer follow-up appointments for SMBP training/orientation**

**Pros**
- Allows SMBP to occur at set times with select staff
- Allows pairing SMBP training with education classes, group visits, etc.

**Cons**
- Requires a second visit for patients to begin SMBP
- Patients may not keep SMBP training appointments

| SMBP patients are engaged and identified through outreach |

| SMBP orientation will be integrated into lifestyle education classes, group visits, etc. |

| Due to COVID-19, home BP monitors are mailed or delivered to patients |
ADDITIONAL RESOURCES

NACHC Million Hearts® Initiative
Self-Measured Blood Pressure (SMBP) Monitoring Tools and Resources
Buying Home Blood Pressure Monitors to Support SMBP: How to Get Started
How to Use Your Home Blood Pressure Monitor:  English  |  Spanish
Self-Measurement: How patients and care teams are bringing blood pressure to control
Health IT Checklist for Blood Pressure Telemonitoring Software

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