This implementation guide is designed to help health care delivery organizations implement SMBP into practice or optimize existing SMBP processes. It includes change ideas, implementation tips, and tools to set up SMBP successfully based on one's unique goals, environment, and community.

Self-measured Blood Pressure Monitoring

Implementation Guide for Health Care Delivery Organizations

National Association of Community Health Centers

NATIONAL ASSOCIATION OF Community Health Centers

Self-Measured Blood Pressure Monitoring: Implementation Guide for Health Care Delivery Organizations

July 2018

Background and Rationale:
Over 75 million (1 in 3) U.S. adults have high blood pressure (BP), or hypertension (HTN), which is a major risk factor for heart disease, stroke, and kidney disease. [1] Heart disease and stroke are among the most widespread and costly health problems facing the nation, accounting for between $316.6 and $329.7 billion in health care expenditures and lost productivity annually.[2] Controlling high blood pressure is the single most effective clinical intervention in terms of lives saved,[3] but currently, only about half of those with HTN have it under control.[1] Self-measured blood pressure monitoring (SMBP), also known as home BP monitoring or out-of-office BP measurement, is an effective approach to lower BP and improve control among patients with HTN[4] but is significantly underutilized in the United States.[5]

In 2017, the American College of Cardiology, the American Heart Association, and others issued a new clinical practice guideline for hypertension, which explicitly recommends out-of-office BP measurement to confirm diagnosis of hypertension and for medication titration, in conjunction with telehealth counseling or other clinical interventions. The guideline further recommends using out-of-office BP measurement, team-based care, and telehealth strategies for follow up and monitoring of patients after initiation of drug therapy for hypertension.[6] Thus, **there is strong evidence and justification for health care delivery organizations to start integrating out-of-office blood pressure measurement, also called SMBP, into their standard of care for hypertension.**

Overview: This implementation guide is designed to help guide health care delivery organizations to implement SMBP into practice or optimize their existing SMBP processes in a systematic way. It includes change ideas, implementation tips, and tools and resources to set up SMBP successfully based on your goals, environment, and community partners/assets.

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[3] Farley TA1, Dalal MA, Mostashari F, Frieden TR. Deaths preventable in the U.S. by improvements in use of clinical preventive services. Am J Prev Med. 2010 Jun;38(6):600-9. PMID: 20494236

[4] Guide to Community Preventive Services. Cardiovascular Disease Self-Measured Blood Pressure Monitoring Interventions for Improved Blood Pressure Control. https://www.thecommunityguide.org/sites/default/files/assets/CVD-Self-Measured-Blood-Pressure_4.pdf. Page last updated: November 28, 2016. Accessed July 2018.

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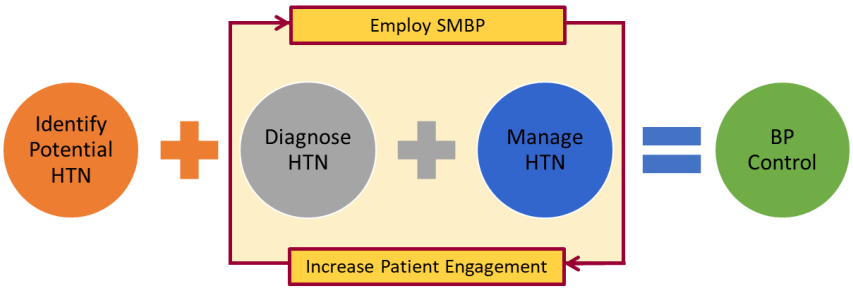
[6] Whelton PK, Carey RM, Aronow WS, Casey DE Jr, Collins KJ, Dennison Himmelfarb C, DePalma SM, Gidding S, Jamerson KA, Jones DW, MacLaughlin EJ, Muntner P, Ovbiagele B, Smith SC Jr, Spencer CC, Stafford RS, Taler SJ, Thomas RJ, Williams KA Sr, Williamson JD, Wright JT Jr. 2017 ACC/AHA/ AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA guideline for the prevention, detection, evaluation, and management of high blood pressure in adults: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Hypertension. 2017; epublished ahead of print. ttp://hyper.ahajournals.org/content/early/2017/11/10/HYP.0000000000000065

Applications: The primary focus of this SMBP Implementation Guide is optimizing use of SMBP in managing hypertension; however, SMBP is also recommended for diagnosing hypertension and is effective in increasing patient engagement – all critical steps in blood pressure control (see diagram below). The strategies and tools in this change package may also be adapted to other chronic conditions where patient-generated health data plays a central role, e.g., weight and diabetes management.

Steps to Identify and Control Hypertension



How the Implementation Guide is Organized: This change package is organized into three sections – overview diagrams, details of key change concepts and ideas, and tools/resources. The change concepts and ideas are further arranged into three tables: key foundations, individual patient supports, and population health management. These three tables align with tools and strategies (e.g., CDS/QI Worksheets) that can be used to enhance care workflows with SMBP to optimize hypertension management.

How to Use this Implementation Guide:

If you are just starting your SMBP implementation:

1. Focus on the Overview Diagrams for Planning SMBP (pp. 5-9) to help put some structure around what you want to accomplish, your scope, and staffing needs.

2. Review the Overview Diagrams for Implementing SMBP (pp. 10-12) to get a sense of the main foundational pieces that need to be in place and the important patient support and population health components of a successful SMBP initiative.

3. Consider the change concepts/ideas in the tables (pp. 13-26) that provide details for successful implementation and associated tools and resources.

If you are already doing SMBP and are looking to optimize your approach:

1. Review the overview diagrams (pp. 5-12) to ensure you are addressing the major elements to implement SMBP successfully.

2. Then dive into the details (pp. 13-26) to shore up areas where your approach most needs attention.

Acknowledgments and Contributors

We would like to thank the following individuals for developing and authoring this document:

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Acronyms

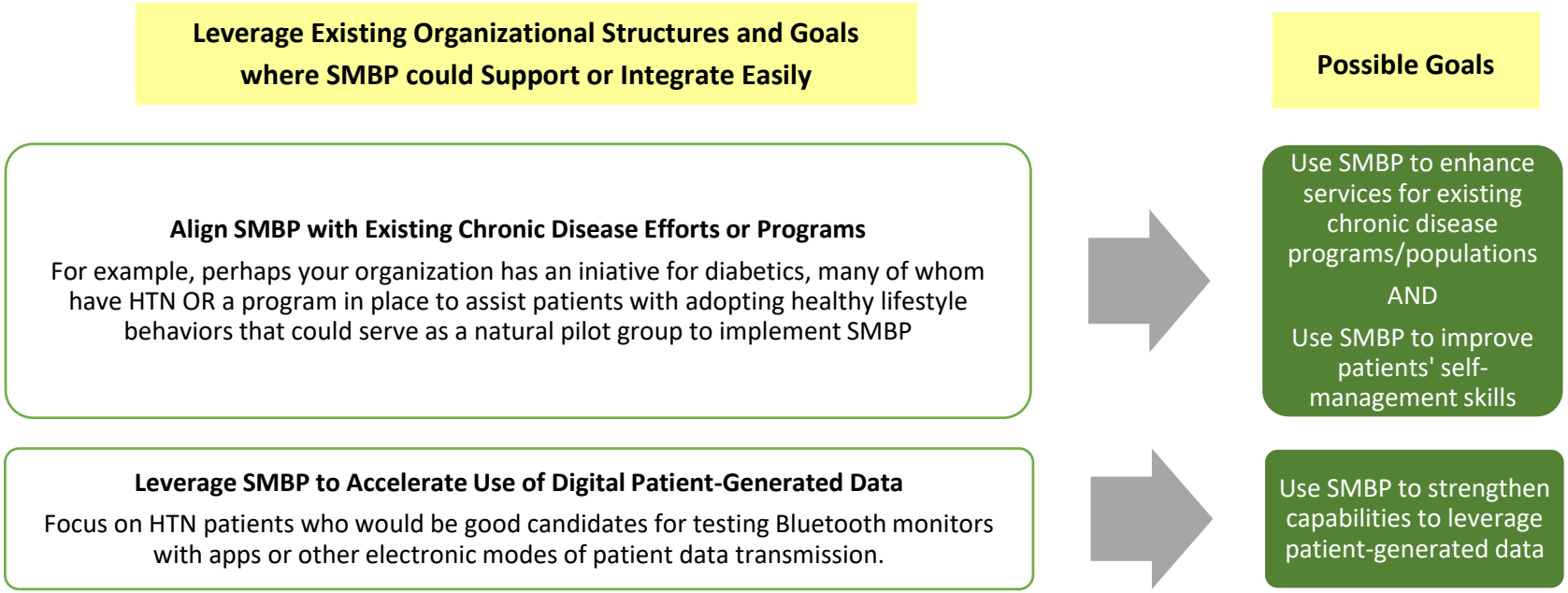
AHA	American Heart Association
AMA	American Medical Association
BP	Blood Pressure
BPSM	Blood Pressure Self-Monitoring (YMCA Program)
CCM	Chronic Care Management
CDC	Centers for Disease Control and Prevention
CDS	Clinical Decision Support
CHW	Community Health Worker
CMS	Centers for Medicare and Medicaid Services
CPT	Current Procedural Terminology
EHR	Electronic Health Record
FQHC	Federally-qualified Health Center
HIT	Health Information Technology
HRSA	Health Resources and Services Administration
HTN	Hypertension
ICD	International Classification of Disease
NACHC	National Association of Community Health Centers
QI	Quality Improvement
SMBP	Self-measured Blood Pressure Monitoring

OVERVIEW DIAGRAMS FOR PLANNING SMBP

I. Planning your SMBP Program – Determining your Goals and Target Population

How broadly should you focus? Ideally, 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 SMBP goals with your current environment and where you can do the most good? The following diagram is designed to assist with this first important step in planning your SMBP program. The ideas below do not represent an exhaustive list of possible SMBP goals and population targets, but rather, are intended to serve as a launch pad to help you think about ways to get the most out of SMBP.

Diagram 1: SMBP Program Planning: Goals and Target Population



Use Data to Determine in which Populations you can achieve the Most Impact Using SMBP	Possible Goals
Risk Stratify your Uncontrolled Hypertension Patients Consider factors like whether the most recent office BP was Stage 2: Systolic ≥ 140 or diastolic ≥ 90 mm Hg and/or HTN patients have multiple co-morbidities, such as diabetes or hypercholesterolemia.	Use SMBP to help the highest risk patients achieve BP control
Target Newly Diagnosed Hypertension Patients Did many of your patients receive a HTN diagnosis in the last 6 months?	Use SMBP to engage and help titrate medications for newly diagnosed HTN patients
Target Patients with Potential Undiagnosed Hypertension Do many of your patients have multiple elevated BP readings in the past 12 months without a diagnosis of HTN? OR are many of your patients coded with elevated BP without a diagnosis of HTN (ICD-9 786.3 or ICD-10 R03.0)?	Use SMBP to improve timely and accurate HTN diagnosis, including ruling out white coat effect
Target Hypertension Patients with Medication Adherence Challenges Use a self-reported tool like the Morisky scale[1] to assess medication adherence among HTN patients 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 covered.[2]	Use SMBP to engage and help titrate medications for HTN patients with medication adherence barriers
Target Hypertension Patients with Office Visit Barriers Would certain HTN patients benefit from less frequent in-office visits (i.e., have restricted numbers of visits from their payer (e.g., has Medicaid as an insurer) OR have transportation barriers OR are frequent no shows?	Use SMBP to engage HTN patients who are better served out of the clinic

1. Morisky DE, Ang A, Krousel-Wood M, Ward HJ. Predictive Validity of A Medication Adherence Measure in an Outpatient Setting. *Journal of clinical hypertension (Greenwich, Conn)*. 2008;10(5):348-354.
2. Crowe M. Do you know the difference between these measures? *Pharmacy* Times, July 5, 2015. https://www.pharmacytimes.com/contributor/michael-crowe-pharmd-mba-csp-fmpa/2015/07/do-you-know-the-difference-between-these-adherence-measures. Accessed June 28, 2018.

II. Planning for SMBP – Outlining Scope, Staff, Support Activities, Data, and Community Linkages

There are many considerations in setting up a successful SMBP implementation. Answering the questions below will help ensure your SMBP model meets important goals efficiently in your practice environment. Your answers provide a roadmap for building solid foundations and reengineering care processes to address key SMBP activities.

Diagram 2: SMBP Model Design Checklist and Key Questions

SMBP Scope	Key SMBP Staff	SMBP Patient Identification/ Support Activities	SMBP Data Management	Community Linkages
Who is your target population? (see previous diagram) **Home BP Monitors** ❑ Will monitors be loaned or provided to keep? OR, will patients be asked to purchase them? ❑ How many monitors are needed? ❑ Where will funding for monitors and additional staff time come from? ❑ Do local insurers cover monitors? ❑ If loaned, how long may patients keep monitors? ❑ What controls are in place if patients do not return monitors? ❑ How are monitors inventoried and managed and where are they physically stored?	**SMBP Coordinator** ❑ Does she/he have the authority, time, and skills to coordinate all aspects of the program? If not, how will you address? **SMBP trainers** ❑ Do you have enough trainers to be available daily? **SMBP Clinical Champion** ❑ Do you have a champion for every implementation site? ❑ Do they have the time to invest to facilitate program success? ❑ Is he/she open to change and new ideas? ❑ Is he/she a key influencer to others?	**Patient Identification** ❑ How will patients be identified? Registry queries and outreach calls? And/or at the point of care based on selection criteria? ❑ How will you know if appropriate patients are being identified and offered SMBP? **Patient Communication** ❑ Who on the care team recommends SMBP? ❑ Who will provide outreach support for SMBP patients? **SMBP Training and Follow-up** ❑ Who trains the patient on SMBP? ❑ How will the patient connect with the SMBP trainer (e.g., warm hand-off, follow-up visit)? ❑ Is the initial follow-up appointment a telephone encounter or a face-to-face visit?	**How will SMBP Data be Recorded, Transmitted, and Managed?** ❑ How will patients record/share data back with the care team? ❑ Do providers want SMBP averages only or individual BP readings as well? ❑ Who is responsible for preparing and managing SMBP data? ❑ Where will staff document SMBP data? EHR? Population health management system? Spreadsheet?	**What role could community partners play to support or optimize the efficiency/capacity of your SMBP efforts?** ❑ Supply funds to purchase home BP monitors? ❑ Provide SMBP trainers? ❑ Conduct outreach calls? ❑ Supply SMBP support programs? ❑ Supply Lifestyle management educators/ programs? ❑ Coordinate or supply transportation resources? ❑ Coordinate or supply food security resources?

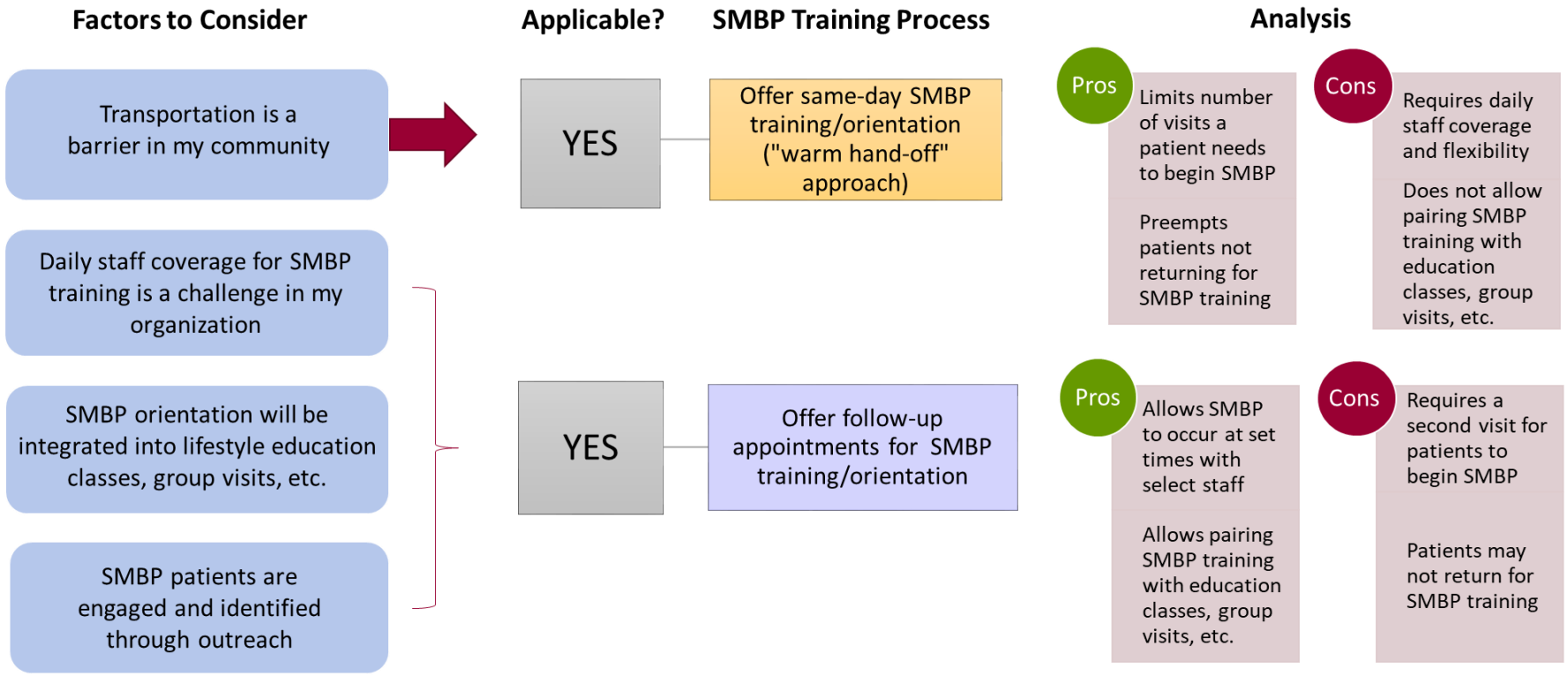
*See diagram on p. 8: Aligning SMBP Patient Training Approach to One's Local Environment

III. Aligning SMBP Patient Training Approach to one's Local Environment

One key aspect of SMBP is patient orientation and training. Determining whether SMBP training occurs through a "warm hand-off" from the recommending provider to an SMBP trainer at the same appointment or takes place at a separate follow-up appointment should be decided thoughtfully, considering patient, practice, and environmental factors.

The diagram below shows several factors to consider when deciding how to design your staffing and administrative processes around training and orienting SMBP patients and offers suggested approaches depending on whether the factor applies to your organization. If the factor is *not* applicable, then you could consider offering either same-day or follow-up appointments for SMBP training/orientation – or both.

Diagram 3: Designing SMBP Patient Training/Orientation Approach



IV. Optimizing Support for SMBP Tasks

Some SMBP tasks must be done by a licensed clinician and some must be done by the patient. However, there are several tasks shown in the center column of the table below that can be completed by a non-licensed person. Most fall under SMBP enrollment, training, and outreach shown in the Individual Patient Support Activities diagram below (Diagram 6). The tasks table can help your team think through options for SMBP-related responsibilities and how the expanded care team and external partners can play a role in optimizing your SMBP model. Sequence the initial design and testing of your SMBP model inside of your organization first; these tests will reveal gaps or tasks where external partners could collaborate to provide specific assistance to optimize the efficiency or capacity of your SMBP model.

Diagram 4: SMBP Essential and Optional Tasks by Role

Must Be Done by a Licensed Clinician	Can Be Done by a Non-licensed Person (e.g., medical assistant, local public health department, community health organization, community health workers)	Must Be Done by Patient
1. Diagnose hypertension 2. Prescribe medication(s) 3. Provide SMBP measurement protocol 4. Interpret patient-generated SMBP readings 5. Provide medication titration advice 6. Provide lifestyle modification recommendations	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 lifestyle modification education	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

Optional Tasks – Can be Done by a Non-licensed Person
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)

OVERVIEW DIAGRAMS FOR IMPLEMENTING SMBP

The following three overview diagrams outline critical foundational steps (I), key individual patient support components (II), and population health management activities (III) for implementing SMBP.

I. Key Foundations

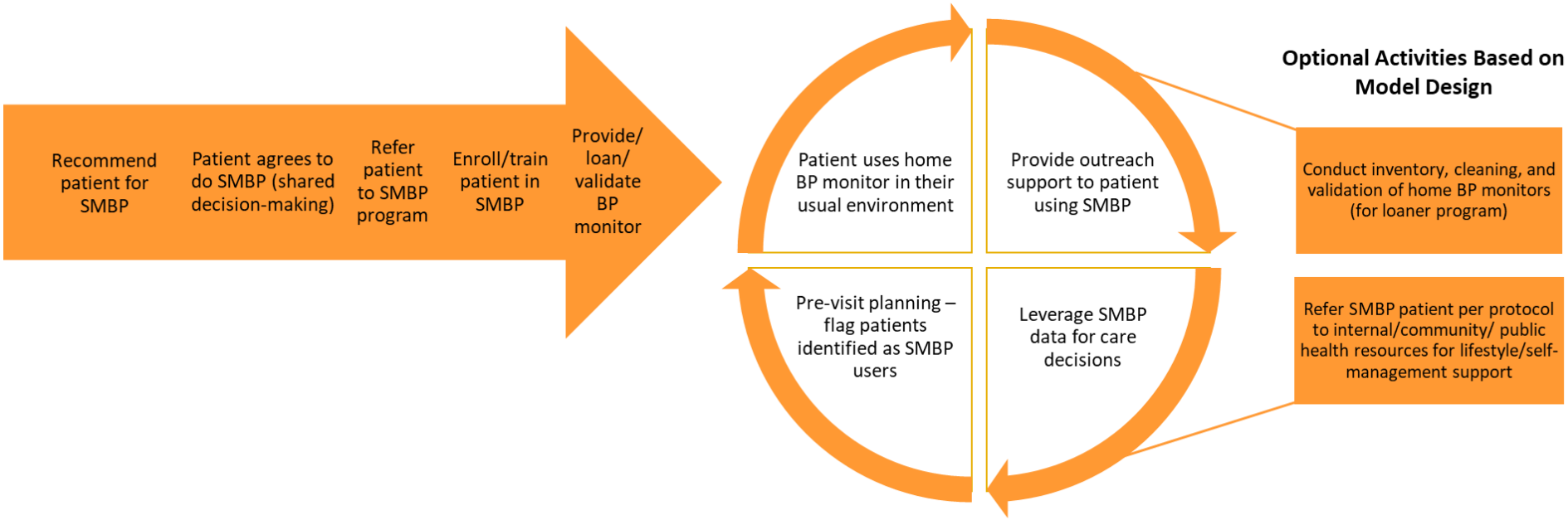
To implement SMBP successfully, solid groundwork to support necessary care process changes must be in place. The steps in the diagram below represent the main care delivery, infrastructure, and people foundations that need to be in place prior to offering SMBP to patients. Each step represents a change concept that is further broken down into change ideas described later in the Key Foundational Steps table below, which also contains links to tools to help you with these steps.

Diagram 5: Key Foundational Steps

II. Key Individual Patient Support Activities

Because successful SMBP relies as much on the patient as the care team, there are several key steps to identify, engage, prepare, and support individual patients to use SMBP, as well as equip care teams to leverage the pattern of data from SMBP for better and timelier care decisions. SMBP pilots have surfaced essential individual patient support activities summarized in the Key Individual Patient Support Activities diagram below and detailed in the Individual Patient Support Activities table. If an organization is using a model where home blood pressure monitors are loaned to patients, inventorying, cleaning, and validating devices also becomes a critical step. Similarly, if SMBP is paired with lifestyle or self-management support programs, this referral component may also become a key activity.

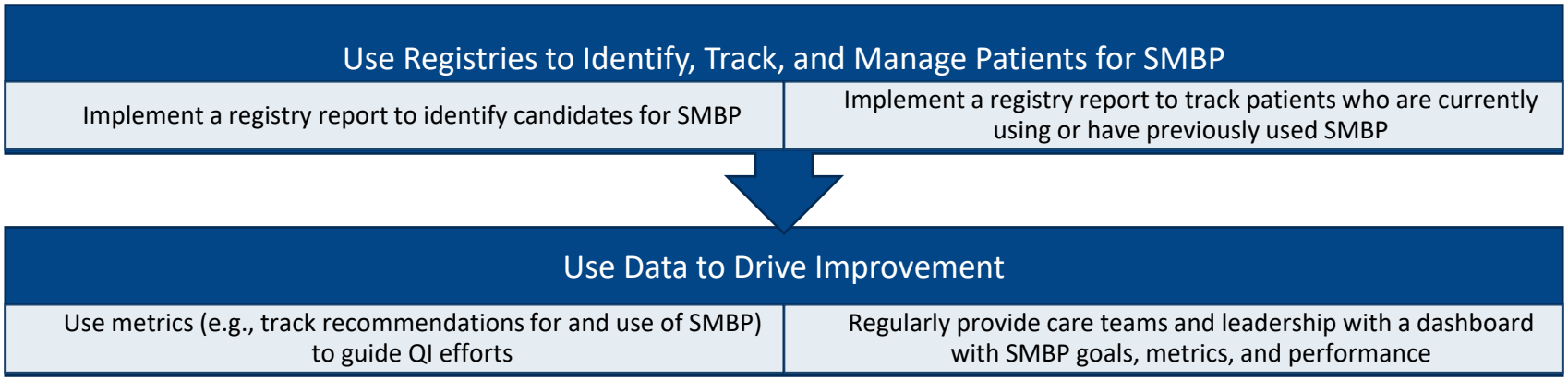
Diagram 6: Key Individual Patient Support Activities



III. Key Population Health Management Activities

There are two main change concepts under population health management that are important to plan for and address so that SMBP candidates can be identified, prioritized, tracked, and managed, and to ensure SMBP processes and related outcomes can be evaluated and yield data to drive improvement. Because standardized measures do not yet exist for assessing processes like recommendation/referral for SMBP and SMBP use, you should establish and agree upon specifications for these metrics and related goals. This change package includes SMBP measures that have been tested in pilot implementations (see Appendix B: NACHC, Million Hearts® Accelerating SMBP Project Measure Specifications).

SMBP Overview Diagram 3: Key Population Health Management Activities



DETAILED SMBP CHANGE CONCEPTS and IDEAS

The following three tables describe evidence-based and emerging best practices as change concepts and change ideas in the areas of Key Foundations, Individual Patient Supports, and Population Health Management. The tables also include detailed implementation pearls/tips for success and associated tools/resources for offering effective clinic-based SMBP. The SMBP guidance and tools can also be applied in collaborative models for SMBP-enabled hypertension management that include community partners.

TABLE 1. KEY FOUNDATIONS

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Make SMBP a Practice Priority	Consider funding to support acquiring home BP monitors and staff time required for program	• Check with insurers, HRSA QIAs, and others for grant opportunities • Check with local public health department and other local sources for seed funding and/or possible people resources to assist with non-clinical SMBP activities (see Diagram 4: SMBP Essential and Optional Tasks by Role table) • Attend community expos and functions for health care leadership to meet with potential funding source organizations	• CMS, New FQHC Care Management Services – payment update • American College of Physicians, Chronic Care Management Toolkit: What Practices Need to do to Implement and Bill CCM Codes • CDC, Self-Measured Blood Pressure Monitoring – Action Steps for Public Health Practitioners – p. 8, Apdx. A, B
	Ensure leadership prioritizes SMBP activities	• Leaders must allocate sufficient staff and resources to achieve the program goals • Make SMBP part of organization Quality Improvement Plan, integrate into existing programs and standardize across all sites	See Check/Reinforce Foundations in HRSA's Guide to Improving Care Processes and Outcomes
	Designate SMBP Champion(s)	• Designate executive, clinical, and care team "drivers" to lead your SMBP effort for each care delivery site • Ensure champions are able to devote appropriate time and be present on site • Ensure champions are versed in change management; SMBP is a departure from the office-based reading as the reference standard and requires a different level of partnership with patients • Consider clinical and non-clinical staff, as well as external personnel (e.g., from community organizations) • Consider a patient champion as implementation unfolds to help engage peer patients	
	Ensure care team engagement in using SMBP for managing hypertension (and collaborating with community partners for SMBP support, if applicable)	• Define and cultivate the 'win-win' with clinicians, care teams, and staff to foster full engagement with SMBP activities • Use SMBP checklists and process maps specific to each role to clarify responsibilities/who does what, when • Have staff members participate as an SMBP patient to create buy-in/identify refinements • Make SMBP part of assigned duties and performance incentives • Check in regularly with teams; if applicable, invite community partners to participate • Schedule re-engagement and re-training activities routinely • Communicate information about SMBP to all providers, even those not participating in an initial pilot – yields a consistent message and broader sharing of information	• See Check/Reinforce Foundations in HRSA's Guide to Improving Care Processes and Outcomes • Appendix A: HRHCare, SMBP Program Role-Specific Quick Guide (example) • NACHC Video: *Self-measurement: How Patients and Care Teams are Bringing Blood Pressure to Control* (English)

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Make SMBP a Practice Priority (Continued)	Establish Practice Goals and Incentives around SMBP	• Ensure full care team understands organization goals for implementing SMBP • Define measures and targets for care team SMBP recommendations and patient use • Establish care team incentives and reward/recognize achievements • Foster a collaborative culture of excellence through transparency in progress toward goals down to the care team level • Consider refining SMBP-related goals to reflect learning and results after a few months of implementation	Appendix B: NACHC, Million Hearts® Accelerating SMBP Project Measure Specifications
	Begin drafting a SMBP policy/protocol that defines overall approach	• Include established practice goals and incentives • Ensure the scope of SMBP initiative is defined in writing (see Diagram 2: SMBP Model Design Checklist and Questions) • Review protocol draft with champion team and with entire staff • Create teaching manual and/or scripts for providers/staff as part of protocol; include Marketing department for brochure and signage ideas and placement • Consider developing materials to inform providers/staff about SMBP and that can be given to patients (e.g., brochures, checklists, posters) • Obtain feedback from providers, staff, and patients as SMBP implementation unfolds • Include the Quality and Operations departments to avoid duplicating processes when adding SMBP to practice protocols	• Appendix C: White House Clinics, *Protocol: SMBP Program* • Appendix D: Affinia Healthcare, SMBP Patient Criteria and Workflow • Appendix E: ARcare/KentuckyCare, SMBP Workflow Swim Lane Diagram

Develop Policy/ Protocol Section on Processes to Identify Candidates for SMBP	Establish patient selection criteria and identification procedures for SMBP	• Fully develop selection and exclusion criteria for overall policy/protocol using evidence-based resources, considering the following:
		  ○ Define clearly how patients will be identified (e.g., from a registry, pre-visit planning report, chart reviews? By outreach or at the point-of-care or both?) And by whom (by providers? case managers? pharmacists? others?)
		  ○ Consider piloting SMBP with an existing patient cohort
		  ○ If loaning out home BP monitors, consider additional prioritization criteria
		  ○ Determine how to assess whether staff are identifying patients appropriately and consistently
		• Consider a patient readiness assessment, but avoid overly strict subjective selection criteria; take the time to stress the value of SMBP, provide a great explanation about how to do it and why monitors need to be returned and patients will rise to the occasion more often than not
		• Plan for how a patient may refer friends/family for SMBP or other healthy lifestyle offerings
			• AMA/Johns Hopkins Medicine, SMBP Program: Engaging Patients in Self-Measurement; Patient Selection Criteria for a Blood Pressure Monitor Loaner Program, p. 10
			• AMA/AHA TargetBP, Patient-measured BP; Identify Patients for SMBP
			• Appendix F: Affinia Healthcare, Counseling/Educational Factors

	Develop registry report to identify SMBP candidates	• Adapt query criteria on existing hypertension registries	

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Develop Policy/ Protocol Section on Processes to Identify Candidates for SMBP (Continued)	Develop/modify workflow for how SMBP candidates will be proactively identified and engaged at the point of care	• Engage site-based SMBP teams in overall workflow design and in adapting and integrating workflows into site and care team-specific preferences/procedures • Make the process for discussing SMBP with patients as easy as possible • Design opportunities for multiple staff at various point in the encounter to discuss SMBP with patients • Create a checklist of SMBP selection criteria • Sequence SMBP recommendation and initial engagement depending on whether provider is running behind; when practical, use time after patient is roomed and waiting for the provider to introduce, orient/train, and educate patient (e.g., show How to use your Home BP Monitor Video) • Choose easy to see/recognize items to cue providers to discuss SMBP with identified patients, e.g., heart magnet, a laminated card, or a small sticker or simple red heart drawn on the patient's pre-planning paperwork	• See Appendix C: White House Clinics, *Protocol: SMBP Program* • See Appendix D: Affinia Healthcare, SMBP Patient Criteria and Workflow • See Appendix E: ARcare/KentuckyCare, SMBP Workflow Swim Lane Diagram
	Configure pre-visit planning report to identify SMBP candidates at point of care	• Ensure pre-visit planning report displays at least the past 2 office BP readings; use color coding to flag elevated readings – these are potential SMBP candidates • Integrate SMBP candidate identification into existing pre-visit planning reports	Appendix G: Whitney M. Young, Jr. Health Center, Azara Pre-visit Planning Report

Develop Policy/ Protocol Section on Processes to Support SMBP Data Collection, Manage-ment, and Response	Establish when and how often patients take home BP readings	• Base guidance to patients on latest evidence for SMBP data needed to be clinically actionable (number of readings over what timeframe)
		• Establish clear protocol for *recommended* number of days/readings to do SMBP vs. *minimum* days/readings for sufficient for clinical action, as well as the follow-up appointment timeframe, e.g.:
		  ○ 2 measurements each AM and PM for 7 consecutive days – guideline communicated to patient
		  ○ 2 measurements each AM and PM for at least 3 consecutive days – guideline communicated to clinic staff to define "use of SMBP"
		• Have patients begin their home BP readings at least a week to 10 days prior to their next visit to help ensure minimum SMBP use criteria is met and provide recent data
		• Include when and how often patients take home BP readings in their SMBP agreement/contract that is signed both by clinic staff and patient
		• Allow clinicians to modify SMBP schedule based on patient factors, but ensure clinically meaningful pattern of data is still obtained
			• Highlights from the 2017 Guideline for the Prevention, Detection,
			• Evaluation and Management of High Blood Pressure in Adults – new blood pressure targets and treatment recommendations
			• AMA/AHA TargetBP: Patient-measured BP – How It Works
			• CDC, Self-Measured Blood Pressure Monitoring: Action Steps for Clinicians, *Appendix A: Proper SMBP Preparation and Technique, p. 20*
			• Appendix H: NACHC, Sample Approach for Using Self-Measured Blood Pressure Monitoring Data to Control High Blood Pressure

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Develop Policy/ Protocol Section on Processes to Support SMBP Data Collection, Manage-ment, and Response (continued)	Establish methods for patients to communicate SMBP readings back to the care team	• Incorporate methods/options for patients to communicate SMBP readings back to the care team into enrollment information and SMBP protocol • Communication method should factor in individual patient preferences and barriers • Use technology-based options to increase SMBP data validity and reliability • Bluetooth connectivity options for transferring data between the home BP monitors and clinics decreases patient workload and enables readings to be transferred to the care team via a portal ahead of the appointment • If using BP monitor memory as a data collection method, ensure patient is the only user or ensure monitor has settings to accommodate multiple users • If using paper logs, ensure it offers sufficient space to record all SMBP readings • Consider data management options outside the practice, such as state/regional health information exchange portals	• AMA/AHA Target BP: Patient-Measured BP Tools and Downloads (e.g., see BP recording log) • Welch Allyn Home App: Directions for Use • Welch Allyn Home Clinical Portal: User Manual • Appendix I: Open Door Family Medical Centers, *Home Blood Pressure Log* • Appendix J: Whitney M. Young, Jr. Health Center, *Hixny Patient Portal*
	Establish systems to document/track SMBP data and how SMBP readings are averaged	• Use automated approaches when possible, e.g., population health management system, web-based program, or spreadsheet, instead of manual calculator • Centralize tracking of SMBP data if implementing at multiple sites • Have expanded care team members average home BP readings prior to provider encounter, if no automated process is in place to average readings • If storing SMBP averages in a spreadsheet, consider HIPAA policies • Spreadsheets can allow for AM/PM comparisons, and serve as a tool to show patients their BP measurements over time • Consider exporting or receiving BP readings from the home monitor in batches (e.g., 7 days) and average each batch; transmit/document home BP average into the EHR, but also to have individual readings available to providers, if desired	• AMA/Johns Hopkins Medicine, SMBP Program: Engaging Patients in Self-Measurement: Documentation, p. 14 • Target BP: Blood Pressure Average Calculator • TargetBP: Patient-measured BP – How It Works
	Configure HIT systems or other tools to capture SMBP-related data elements	• Use structured data fields within EHR and population health management systems to ensure all pertinent information is documented and to allow for tracking/reporting; if necessary, work with HIT vendors to configure • Think ahead about what you want to measure and be sure you can retrieve that data; it might not be in the EHR – you may need to custom configure structured fields • Distill data capture down to essential data elements to increase fidelity to documentation protocol and simplify data capture requirements; additional helpful elements can be added as SMBP experience and success build	• Appendix K: HealthEfficient, SMBP EHR Documentation – eClinicalWorks *from Million Hearts® SMBP Intervention Configuration Guide* • Appendix L: White House Clinics, SMBP Average EHR Documentation – NextGen from *Protocol: SMBP Program*
	Define care team responsibilities for collecting, averaging, interpreting, and documenting SMBP	• Define staff responsibilities and expectations around documenting the initial SMBP patient encounter AND the follow-up data review encounter(s) • Detail SMBP data protocol in writing (e.g., What data will be recorded? All home BP readings? Just the average? Will data be batched? How will the provider be notified?)	See Appendix H: NACHC, Sample Approach for Using Self-Measured Blood Pressure Monitoring Data to Control High Blood Pressure
	Establish process to communicate SMBP data to provider for clinical action	• Create a script to inform provider of patient SMBP status and elicit provider action • Establish process for extremely high or low home BP readings to be communicated with urgency to provider	Appendix M: ARcare/KentuckyCare, SMBP Staff to Provider Communication Script

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Develop Policy/ Protocol Section on Processes for Engaging Patients in SMBP	Develop policies and procedures for offering SMBP to patient candidates	Policies and procedures for offering SMBP to patients should: • Align with scope and goals of the SMBP implementation • Ensure shared decision-making is built into SMBP discussions with patients • Ensure patients meet selection criteria before being offering SMBP; limit exceptions to providers and capture reasons to inform potential criteria refinements • Ensure patients understand SMBP is not just an opportunity for a "free" BP monitor, but a commitment to invest in one's health and modify behaviors/titrate medication as needed	See Appendix C: White House Clinics, *Protocol: SMBP Program*
	Establish action/ documentation step that will initiate SMBP activities for patients who agree to proceed	If possible, make SMBP initiation step an activity within a health IT system, such as SMBP referral or order/flag in an EHR, to enable easier tracking and referral	See Appendix K: HealthEfficient, SMBP EHR Documentation – eClinicalWorks *from ® SMBP Intervention Configuration Guide*
	Establish thresholds and process for how elevated SBMP readings are handled by patients at home (e.g., self-titration of medication, seeking emergency care, etc.)	• Develop clear policies and procedures for how patients should respond to their BP readings, including what to do if BP readings are much higher or lower than expected and whether/when/how to self-titrate medications • Ensure relevant patient education materials include contact information for SMBP team and provider	*The British Journal of General Practice*. Patient self-monitoring of blood pressure and self-titration of medication in primary care (2013) (journal article)

	Establish processes for patient enrollment/ orientation/monitor training (e.g., how to operate BP monitor, how to take accurate SMBP readings, how to record BP readings, how often to measure, what to do if there are very high readings, etc.)	• Develop an SMBP enrollment form (with 'loaner agreement' if applicable)
		• Ensure process is in place for SMBP orientation/training soon after provider recommendation.
		  ○ If possible, ensure multiple staff are trained and available every day to orient/train patients on SMBP to enable a same-day "warm hand-off" after SMBP recommendation or to maximize patient options for follow-up visits
		  ○ Define parameters for "soon after provider recommendation" to track fidelity to protocol
		• Ensure training room has a place for patient's arm to rest at the level of their heart and feet to be supported
		• Consider shifting sequence of intake/rooming procedures so that blood pressure measurement is last, enabling the patient to rest for 5 minutes to align with guideline recommendations and patient instructions for home readings
		• Consider staff who already have a rapport with hypertension patients to be SMBP trainers and/or consider expanded care team, community organization/public health department staff (e.g., YMCA Healthy Heart Ambassadors) or volunteers (e.g., pharmacy students) to assist with SMBP orientation and non-clinical support tasks (see Diagram 4: SMBP Essential and Optional Tasks by Role table)
			• AMA/Johns Hopkins Medicine, SMBP Program: Engaging Patients in Self-Measurement; Patient enrollment process…, p. 11
			• See Diagram 3 above: Designing SMBP Patient Training/Orientation Approach
			• See "Loaner approach" row (row following next below) for examples of loaner agreements
			• Appendix N: ARcare/KentuckyCare, SMBP Patient Enrollment and Follow-up Process
			Appendix O: Finger Lakes, Patient Enrollment Form

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Develop Policy/ Protocol Section on Processes for Engaging Patients in SMBP (continued)	Develop/adopt/adapt patient materials to support SMBP	• Develop brochures about SMBP; distribute in both medical and other areas throughout your facility • Place posters illustrating proper technique for measuring BP at home in exam rooms and in SMBP orientation/training room as visual reminder • Build patient testimonials about SMBP benefits into media materials • Be mindful of literacy and language barriers: provide materials in languages spoken by patients, be brief and concise, use pictures, and/or enlarge and simplify materials provided by associations and other organizations • Since many patients might not be literate in their native language, use videos that explain SMBP's importance and how to perform measurements; when possible, use voice over in patients' native languages • Make SMBP videos available on waiting room media and on organization website • Develop instructions and visual materials for patients to help them understand when their BP readings are or are not in the normal range, when they may need to contact the care team, and what to do if they have high or critical home BP readings • Consider putting self-care goals on patient SMBP materials • Consider pre-assembling pocket folders for SMBP trainers/educators that organizes patient materials	• NACHC Video: *How to Use your Home Blood Pressure Monitor* (English) and (Spanish) • NACHC Video: *Self-measurement: How Patients and Care Teams are Bringing Blood Pressure to Control* • AMA SMBP Training Video (English) and (Spanish) • AMA/Johns Hopkins Medicine, SMBP Program: Engaging Patients in Self-Measurement, pp. 11-12 • Target BP: Patient-Measured BP Tools and Downloads (e.g., see how to measure BP accurately) • Appendix P: Affinia, Blood Pressure Self-Management Program Brochure • Appendix Q: ARcare/KentuckyCare *Stay in the Green* • Appendix R: Hudson River Healthcare, *Hypertension Action Plan* • Appendix S: Whitney M. Young, Jr. Health Center: Hypertension Zones • Appendix T: Open Door Family Medical Centers: SMBP Program Patient Orientation Slides • Appendix U: Health Quality Partners of Southern California, *How Do I Take My Blood Pressure?* • Appendix V: Open Door Family Medical Centers, Infographic: *Blood Pressure Measurement Instructions* (English and Spanish)

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES

Develop Policy/ Protocol Section on Processes for Engaging Patients in SMBP (continued)	If using a home BP monitor loaner approach, establish procedures to manage the monitors, including for cleaning, calibrating, and inventorying the devices	• Create inventory control system ensuring cleaning between patients, especially in high-volume clinics with a relatively low inventory of home BP monitors
		• If using a decentralized process (multiple sites), clearly define how tracking will be done in each clinic so the overall SMBP Coordinator has a master inventory
		• To track home BP monitors, create a log sheet with the patient's name, BP monitor serial number, issued and return dates, and cleaning status
		• Label home BP monitors with the clinic name and phone number
		• Upon return, clear data from the monitor; then wipe monitor with antiseptic wipes, allowing it to dry before returning to plastic storage bag or box
		• To calibrate the monitor the patient is using, have the them take readings on it and compare to readings on an office BP device before they leave the clinic
		• Establish a process to verify cleaning and calibration is being done
		• For patients overdue in returning a loaned monitor, limit follow-up – e.g., two phone calls and a letter – to avoid creating a barrier to care; if reminders do not yield a returned monitor, consider the device lost; reinforce in patient communications that their relationship with the practice/care team is not adversely affected
		• Consider using clinic-generated tracking numbers for home BP monitors that are simpler and easier to read
		• Consider having staff test the returned home BP monitors against an automatic BP machine using their own BP measurements
		• Consider incentives to promote patient compliance in bringing back home BP monitors to follow-up SMBP appointments
			• CDC, Self-Measured Blood Pressure Monitoring: Action Steps for Clinicians, *Appendix C: How to Check a Home Blood Pressure Monitor for Accuracy, p. 24*
			• CDC, Guideline for Disinfection and Sterilization in Healthcare Facilities, p. 11 – Definition of Noncritical Items; p. 83-84 Recommendations for Disinfection and Sterilization in Healthcare Facilities, and Selection and Use of Low-Level Disinfectants for Noncritical Patient-Care
			• Target BP Patient-Measured BP Tools and Downloads:
			  ○ Device accuracy test
			  ○ Loaner device agreement
			  ○ Inventory management
			• Appendix W: Open Door Family Medical Centers, Blood Pressure Monitor Loan Agreement/BP chart (English/Spanish)
			• Appendix X: Finger Lakes, SMBP Patient Loaner Agreement
			• Appendix Y: Whitney M. Young, Jr. Health Center, SMBP Loaner Policy & Procedure – Cleaning of Home Monitor BP Cuffs

	Establish intervals for patient follow-up visits for care team to review and act on SMBP data	• Establish clear protocol for follow-up appointment timeframe • BP responses to medication changes can take time to stabilize; these factors should inform the follow-up timeframe and whether the patient repeats SMBP use • Determine what timeframe works best for adherence based on patient feedback and actions and practice capacity (e.g., number of monitors) • Establish clear protocol for appointment scheduling process; if patient cancels appointment, build in a way to reschedule them at the time of cancellation	See Appendix C: White House Clinics, *Protocol: SMBP Program* See Appendix H: NACHC, Sample Approach for Using Self-Measured Blood Pressure Monitoring Data to Control High Blood Pressure

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Develop Policy/ Protocol Section on Processes for Engaging Patients in SMBP (continued)	Develop procedures for conducting outreach to check in with patients who are using SMBP	• Develop plan for patient outreach soon after SMBP enrollment/training visit to: ensure patient feels comfortable using a home BP monitor and is able to adhere to SMBP plan; answer questions; confirm follow up appointment • Engage expanded care team, front desk staff, or community resources such as local public health department to conduct outreach • Align outreach scripts with those already in use for other purposes • Provide outreach staff with 'FAQs' to support their patient conversations – e.g., pose/address within a script issues that patients may raise • Ensure patient preference for mode of communication is determined and used • Consider using health center patient portal or secure patient communication software to communicate with SMBP patients	Appendix Z: Hudson River Healthcare, Outreach Letter Template for SMBP Patients
	Develop methods to incentivize and/or celebrate successfully completing a cycle of SMBP	• Offer a welcome bag or kit to go with the SMBP that might include recipes, exercise ideas, meditation/relaxation ideas, etc. • Offer other incentives for participation and compliance, i.e., gift cards, coupons, fitness center memberships, healthy food vouchers, stress balls, and items to prevent injury and promote physical activity, e.g., a gardening kneepad • Brand incentive items with health care organization name • Consider a graduation celebration, e.g., develop a certificate or provide some other token of completion to SMBP patients	Appendix AA: Whitney M. Young, Jr. Health Center, *Certificate of Completion*
Develop Policy/ Protocol Section on Leveraging Community Resources to Support SMBP and/or Self-Manage-ment **(Optional)**	Identify and meet with community organizations to coordinate/integrate relevant capacity/resources	• Sequence building external partnerships into your SMBP model after completing foundational work and testing internal SMBP processes; this will help reduce program setup complexity and reveal gaps that community resources can help fill • Leverage existing relationships, when possible • Research insurance company disease management programs that align with SMBP • Reach out to public health (e.g., state/local health department) and community health organizations (e.g., YMCA) to explore offerings that could support SMBP • Be creative and stay open to adapting to available resources • Define partner responsibilities early in collaboration to avoid confusion/competition • Communication and patience are important…take time to meet in person and to understand expectations and optimize collaborative approach • Consider whether patient population has barriers (e.g., transportation, money for fees) to accessing external resources and how they could be mitigated	

CHANGE CONCEPTS	CHANGE IDEAS	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Develop Policy/ Protocol Section on Leveraging Community Resources to Support SMBP and/or Self-Manage-ment **(Optional)** (Continued)	Develop a protocol that outlines policies and procedures for leveraging community resources to support SMBP and/or self-management	• Hold regular meetings with community partners • Establish referral system with local community organization(s) for patients who would benefit from self-management/lifestyle management support programs; ensure approach includes crosscheck to confirm receipt of referrals • Develop a tool to track community program referrals, enrollments, communication • Jointly develop an community program enrollment letter to add to patient record • Develop a decision matrix for use by community organizations to guide actions to respond to elevated BP measured during community programs; establish communication procedures in the event of a true emergency • Consider arranging for community representative to have office hours on site at the clinic for community program enrollment or program delivery • Consider arranging for community programs to be delivered in other sites frequented by patients (e.g., houses of worship, libraries, beauty/barber shops, etc.)	YMCA Blood Pressure Self-Monitoring (BPSM) Program Appendix AB: Gateway Regional YMCA and Samuel U. Rodgers Health Center YMCA Blood Pressure Self-Monitoring Clinical-Community Protocol
	Establish criteria for referring patients to community SMBP and/or self-management support programs	• Find out what eligibility criteria community organization programs (e.g., YMCA Blood Pressure Self-Monitoring Program) have and incorporate into referral approach • Focus on patients motivated to engage in additional self-management support • Consider referring patients whose BP is between 130-139 mmHg systolic or 80-89 mmHg diastolic (2017 Stage 1 Hypertension criteria) to healthy lifestyle programs before initiating medication therapy • Consider community programs as self-management resources that can be leveraged before, during, and/or after successful completion of a health center's internal SMBP process	• Highlights from the 2017 Guideline for the Prevention, Detection, Evaluation and Management of High Blood Pressure in Adults – new BP targets/treatment recommendations • See Appendix D: Affinia Healthcare, SMBP Patient Criteria and Workflow • See Appendix E: ARcare/KentuckyCare, SMBP Workflow Swim Lane Diagram
Prepare Care Teams to Implement SMBP	Train and evaluate staff on SMBP protocol	• After engaging care team in developing the SMBP protocol, educate the full care team on it together (include administrative and call center staff) • Ensure that staff members are enthusiastic about SMBP and well-versed in its benefits so they can effectively encourage and support patient participation • Create a checklist to help staff remember and execute key SMBP steps • Use multiple modalities to train and validate staff competency in and adherence • Reinforce protocol during routine meetings (quality, operations, clinical) • Incorporate SMBP education and promotion into routine new hire orientation • Reexamine/Reeducate/discuss program with staff periodically to sustain momentum, enhance program and keep up-to-date with the latest evidence • Evaluate staff BP measurement execution and training techniques and related SMBP activities as part of regularly scheduled competency assessments	• Appendix AC: ARcare/KentuckyCare Staff Checklist for SMBP Training (training of SMBP patients) • Appendix AD: ARcare/KentuckyCare Staff Training Manual – Using i2iTracks to Support Million Hearts® • AMA/AHA TargetBP: Measure Accurately • Welch Allyn Home App: Directions for Use • Welch Allyn Home Clinical Portal: User Manual
Prepare for Productive SMBP Visit Before Encounter	Contact patients to confirm upcoming appointments and instruct SMBP users on how to prep for visit	• Use a script or checklist to contact patients currently performing SMBP before their follow-up appointment to remind them about the appointment, taking/transmitting readings prior to the visit as discussed, bringing in the monitor, etc. • Clearly identify person responsible for reminder call • Use patient-preferred method for outreach	

TABLE 2. INDIVIDUAL PATIENT SUPPORTS[7]

CHANGE CONCEPT	CHANGE IDEA	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Prepare for Productive SMBP Visit Before Encounter (continued)	Leverage pre-visit planning and care team huddles per SMBP protocol to identify new candidates and returning SMBP users	• Ensure care teams have a copy of eligibility criteria easily accessible and are following it to identify SMBP candidates • Ensure visits for returning SMBP users are prepped per protocol • Home BP monitor availability may be a limiting factor in teeing up new candidates - keep a 'waiting' list of patients in event there are not loaner monitors available when a patient is a good candidate • Utilize expanded care team members to set up SMBP surveys and educational materials as part of pre-visit planning to reduce enrollment time	See Appendix C: White House Clinics, *Protocol: SMBP Program*
	Receive/process home BP data for current SMBP users	• Take great care to ensure data accuracy/integrity, especially for any manual handling (e.g., calculations, transfers from one data source to another) • Receiving/processing home BP data can happen at various times, e.g., prior to or during an office visit depending on patient preferences and SMBP protocol; ensure protocol workflows are followed for each circumstance • Ensure all staff (front desk, call center, pharmacy, behavioral health, etc.) are aware of avenues patients may use to communicate readings to the health center, if multiple methods are offered in the SMBP protocol	See Foundational rows for "Develop Policy/ Protocol Section on Processes to Support SMBP Data Collection, Management, and Response"
Address SMBP as Part of Intake/ Rooming	Provide SMBP patient education and promotion materials in waiting rooms and exam rooms	• Use multiple modes of communication for SMBP promotion and education e.g., display information in waiting and exam rooms, and on bathroom doors; use videos on waiting room TV monitors and/or tablets; and have portable materials, like brochures and other paper handouts • Assess patient use of and response to materials to optimize their uptake and value	See "Develop/adopt/adapt patient materials to support SMBP" for tools and resources
	Provide cues that remind care team members to discuss/ recommend SMBP to identified patients	• Identify a care team member to provide the care team with a verbal reminder of SMBP availability during morning huddles • Some information (e.g., SMBP-related orders, documentation templates) can be teed up as part of the huddle • Consider non-technological cues like door magnets or laminated cards	

[7] All of the change concepts and ideas in Tables 2 and 3 should be executed per the SMBP protocol developed as part of the foundational work

CHANGE CONCEPT	CHANGE IDEA	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Address SMBP during Provider Encounter	Provider takes next steps on engaging new SMBP candidates	• Recommendation from provider can be strongest determinant in recruitment efforts • Use shared decision-making with new SMBP candidates • SMBP can help assess more rapidly and fully the interplay between lifestyle changes and BP; inform patients that lifestyle changes may help them decrease the number and/or dose of medications for hypertension, and possibly wean off medications all together • Encourage script use (from SMBP protocol, see Foundations) in recommending SMBP to ensure it is offered uniformly and comprehensively; modify script as needed • Use a checklist for steps to initiate SMBP upon patient agreement; e.g., having nurse escort patient to the SMBP trainer for a "warm hand-off," and completing EHR documentation such as SMBP referral or order/flag • Encourage use of a comprehensive SMBP encounter documentation template (see Foundations) to record and monitor SMBP data from different encounter types, e.g., phone messages and return appointments	
	Leverage SMBP data for care decisions (and retrieve monitors, as appropriate) with current users	• Share SMBP data with providers based on their preferences/policies (see Foundational rows for "Develop Policy/ Protocol Section on Processes to Support SMBP Data Collection, Management, and Response") e.g., SMBP averages only, also individual readings, only outliers, etc. • If possible, have care team prepare SMBP data for provider interpretation and action prior to provider encounter (i.e., if received digitally through a portal, data can be prepared before the visit; if received via the monitor memory or a paper log, data can be prepared when patient is roomed) • If SMBP averages are high, notify provider face-to-face to ensure clinical action at or prior to that visit; method of communication about SMBP data with the provider is important to ensure they see it before the patient leaves • Seek ways to minimize manual data entry and averaging done by staff to save time and minimize errors; i.e., use a Bluetooth blood pressure monitor that exports data automatically, ideally, directly into the EHR • Use SMBP data in shared decision making approach to modify treatment plan as needed, to determine need for further SMBP, and to cultivate deeper patient engagement/empowerment from the SMBP experience • As part of loaner monitor return process, supply patient with a list of validated home BP monitors they can purchase and local store/website sources	AMA/AHA Target BP: Patient-Measured BP Tools and Downloads (e.g., see BP recording log)

CHANGE CONCEPT	CHANGE IDEA	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
	If part of SMBP protocol, leverage community/public health resources for SMBP and/or self-management support programs	• Follow SMBP protocol regarding referral of SMBP patients to external partners for additional self-management support/healthy lifestyle resources or home visits (e.g., hypertension patients with Stage 1 hypertension could initially be referred to healthy lifestyle resources along with SMBP, while patients with Stage 2 hypertension use SMBP to help titrate medication first) • For patients being referred to external partners, time from referral to contact should ideally be short, e.g., 48 hours or less • If community partner is having trouble connecting with a patient, the partner should contact the referring facility for patient follow up; sometimes patients need extra encouragement from an established relationship • For SMBP patients who have been working with external partners, review any information from them and leverage in assessment/plan • Consider using SMBP to get patients' blood pressures to control, then refer to lifestyle management programs that can help sustain improved outcomes	Appendix AE: Whitney M. Young, Jr. Health Center, *HTN Community Health Worker Home Visit Referral EHR Screen Shot and Form AND YMCA Community Referral Form*

Follow-up on SMBP after Provider Encounter	Complete enrollment/training for interested candidates (during same day or subsequent visit)	• Strive for same-day enrollment and training, e.g., offer option for provider to do "warm hand-off" with SMBP trainer during an already scheduled visit
		• Use expanded care team or community organization staff (e.g., YMCA Healthy Heart Ambassadors) as SMBP trainers
		• Plan for sufficient time for orientation/training
		• Orientation/training should include demonstrating how to use the BP monitor and cuff, ensuring the patient can operate the monitor before they leave (teach back), demonstrating and stressing proper technique for accuracy, and how to transmit/communicate BP readings back to the clinic
		• Teach based on patient's learning style
		• If patient or care team do not have time for SMBP enrollment/training during scheduled visit, ensure provider sends in-office SMBP referral (e.g. telephone encounter, in some EHRs) as soon after visit as possible
		• If patient has to return for subsequent SMBP enrollment/training, determine optimal timing with the patient and schedule the return visit
		• Provide patient with easy to understand SMBP materials (e.g., one-page quick reference guide) and/or access via the portal (e.g., to a video)
		• Remind patient that all BP measurements will record
		• Include an update of SMBP patient's phone number at enrollment
		• Consider using Bluetooth BP monitors to allow SMBP readings to be transmitted to the care team without the patients having to schedule a visit:
		  ○ Be sure patients are able to set up and maintain Bluetooth connectivity; patients may not have reliable cell service or may change phones frequently
		  ○ Ensure that Bluetooth monitor is synced to a patient's smartphone (using app) before they leave the clinic
			See tools and resources in Key Foundations table.

CHANGE CONCEPT	CHANGE IDEA	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Follow-up on SMBP after Provider Encounter (continued)	Conduct routine outreach to ensure patient is able to do SMBP successfully, address barriers/ questions; address titration needs, medication adherence and lifestyle	• Contact patients after they initially take the BP monitor home to check in on any barriers or questions to performing SMBP and again before their follow-up appointment to remind them about the appointment and to bring in their monitor • Address social determinants of health issues for patients, as available, including transportation needs	
	Use web portal and/or other channels per protocol to monitor SMBP readings and conduct targeted outreach and medication titration	• Bluetooth devices may offer a web portal that enables accessing patient data between visits; other options include health care organization or health information exchange portals, where patients may manually enter their data and choose to share it with their care team	• Appendix AF: Welch Allyn BP Home Clinical Portal Screen Shots • See Appendix J: Whitney M. Young, Jr. Health Center, *Hixny Patient Portal*
Support SMBP Unrelated to Visits	Provide additional clinical supports: text/email/patient portal messages focused on SMBP use, healthy lifestyle, medication adherence, etc.	• Incentivize patients with lifestyle change support opportunities (e.g., free exercise classes and nutrition seminars) • Consider using automated appointment reminder systems/population health texting programs/apps for keeping touch with SMBP patients throughout use	
	Communicate with community partners regarding each patient's participation in SMBP and/or self-management support programs and other relevant patient health information	• Ensure consistency of materials being distributed to patients between health care delivery and community organizations	

	Conduct routine inventory, cleaning, and calibration of home BP monitors for loaner program		• See CDC, Guideline for Disinfection and Sterilization in Healthcare Facilities, p. 11
			• See Target BP Patient-Measured BP Tools and Downloads:
			  ○ Device accuracy test
			  ○ Loaner device agreement
			  ○ Inventory management

TABLE 3. POPULATION HEALTH MANAGEMENT

CHANGE CONCEPT	CHANGE IDEA	IMPLEMENTATION PEARLS/TIPS FOR SUCCESS	TOOLS AND RESOURCES
Use a Registry to Identify, Track, and Manage SMBP Patients	Use a registry report to identify candidates for SMBP	• Consider expanding population of SMBP candidates in phases to include others beyond those initially targeted	See "Develop registry report to identify SMBP candidates" row for registry report example
	Use a registry report to track patients who are currently using or have previously used SMBP	• Create "dummy" CPT codes to identify patients who are enrolled in program • If partner community organizations are using registry reports to track and contact patients currently doing SMBP, e.g., for outreach to assess adherence, answer questions, and provide support as needed, ensure patient materials obtain the patient's permission	
Use Data to Drive Improvement	Use metrics (e.g., counts of recommendations for and use of SMBP) and related impact on BP control to guide QI efforts	• Regularly assess SMBP uptake and effects; use learning to improve SMBP program efficiency, effectiveness and overall value • Ensure key SMBP metrics are being interpreted and documented consistently as intended in the specifications. For example, if a patient takes a monitor home two separate times, is that two uses of SMBP or are they counted one time for using SMBP once or more in the past year? Is recommendation documented to capture how many patients the provider offers SMBP to or how many actually say yes (e.g., triggering a referral or other action in the EHR)?	See "Establish Practice Goals and Incentives around SMBP" row for SMBP measure specifications examples
	Regularly provide to care teams and leadership a dashboard with SMBP goals, metrics, and performance	• Use dashboards to assess SMBP performance and direct incentives to accelerate progress toward goals • Consider ways to leverage dashboards to spur collaboration and healthy competition among care teams • Consider SMBP progress in light of broader efforts to manage hypertension and improve BP control • Show how SMBP impacts other quality outcomes	

APPENDICES

Appendix A: HRHCare, SMBP Program Role-Specific Quick Guide

Appendix B: NACHC, Million Hearts® Accelerating SMBP Project Measure Specifications

Appendix C: White House Clinics, *Protocol: SMBP Program*

Appendix D: Affinia Healthcare, SMBP Patient Criteria and Workflow

Appendix E: ARcare/KentuckyCare, SMBP Workflow Swim Lane Diagram

Appendix F: Affinia Healthcare, Counseling/Educational Factors (Readiness to Learn/Barriers to Learning)

Appendix G: Whitney M. Young, Jr. Health Center, Azara Pre-visit Planning Report

Appendix H: NACHC, *Sample Approach for Using Self-Measured Blood Pressure Monitoring Data to Control High Blood Pressure*

Appendix I: Open Door Family Medical Centers, *Home Blood Pressure Log*

Appendix J: Whitney M. Young, Jr. Health Center, *Hixny Patient Portal*

Appendix K: HealthEfficient, SMBP EHR Documentation – eClinicalWorks

Appendix L: White House Clinics, SMBP Average EHR Documentation – NextGen from *Protocol: SMBP Program*

Appendix M: ARcare/KentuckyCare, SMBP Staff to Provider Communication Script

Appendix N: ARcare/KentuckyCare, SMBP Patient Enrollment and Follow-up Process

Appendix O: Finger Lakes, Patient Enrollment Form

Appendix P: Affinia, Blood Pressure Self-Management Program Brochure

Appendix Q: *ARcare/KentuckyCare,* Patient Education Material - *Stay in the Green*

Appendix R: Hudson River Healthcare, *Hypertension Action Plan*

Appendix S: Whitney M. Young, Jr. Health Center: Hypertension Zones Sheet

Appendix T: Open Door Family Medical Centers: SMBP Program Patient Orientation Slides

Appendix U: Health Quality Partners of Southern California, *How Do I Take My Blood Pressure?*

Appendix V: Open Door Family Medical Centers, Infographic: *Blood Pressure Measurement Instructions* (English and Spanish)

Appendix W: Open Door Family Medical Centers, Blood Pressure Monitor Loan Agreement/BP chart (English and Spanish)

Appendix X: Finger Lakes, SMBP Patient Loaner Agreement

Appendix Y: Whitney M. Young, Jr. Health Center, SMBP Loaner Policy & Procedure – Cleaning of Home Monitor BP Cuffs

Appendix Z: Hudson River Healthcare, Outreach Letter Template for SMBP Patients

Appendix AA: Whitney M. Young, Jr. Health Center, *Certificate of Completion*

Appendix AB: Gateway Regional YMCA and Samuel U. Rodgers Health Center YMCA Blood Pressure Self-Monitoring Clinical-Community Protocol

Appendix AC: ARcare/KentuckyCare Staff Checklist for SMBP Training (training of SMBP patients)

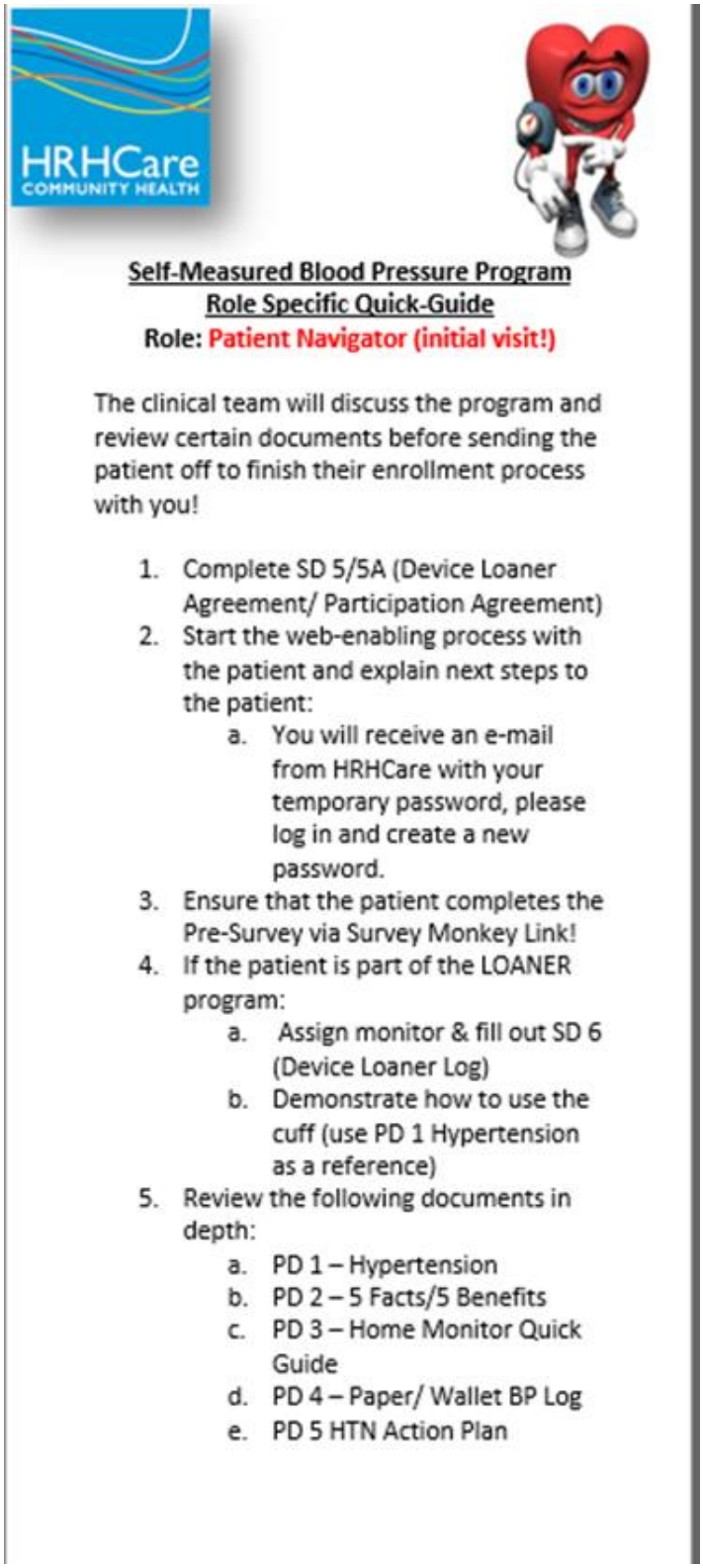
Appendix AD: ARcare/KentuckyCare Staff Training Manual – Using i2iTracks to Support Million Hearts®

Appendix AE: Whitney M. Young, Jr. Health Center, *HTN Community Health Worker Home Visit Referral EHR Screen Shot and Form AND YMCA Community Referral Form*

Appendix AF: Welch Allyn BP Home Clinical Portal Screen Shots

Appendix A: SMBP Program Role-Specific Quick Guide

Source: Hudson River Healthcare



HRHCare
COMMUNITY HEALTH

Self-Measured Blood Pressure Program
Role Specific Quick-Guide
Role: Patient Navigator (initial visit!)

The clinical team will discuss the program and review certain documents before sending the patient off to finish their enrollment process with you!

1. Complete SD 5/5A (Device Loaner Agreement/ Participation Agreement)
2. Start the web-enabling process with the patient and explain next steps to the patient:
    a. You will receive an e-mail from HRHCare with your temporary password, please log in and create a new password.
3. Ensure that the patient completes the Pre-Survey via Survey Monkey Link!
4. If the patient is part of the LOANER program:
    a. Assign monitor & fill out SD 6 (Device Loaner Log)
    b. Demonstrate how to use the cuff (use PD 1 Hypertension as a reference)
5. Review the following documents in depth:
    a. PD 1 – Hypertension
    b. PD 2 – 5 Facts/5 Benefits
    c. PD 3 – Home Monitor Quick Guide
    d. PD 4 – Paper/ Wallet BP Log
    e. PD 5 HTN Action Plan

Appendix B: Million Hearts® Accelerating SMBP Project Measure Specifications

Source: National Association of Community Health Centers

Measure Type	Measure Name	Measure Definition	Numerator	Denominator
Short-term Outcome	Recommendation of SMBP	% of patients with a diagnosis of primary/essential HTN and a recommendation to use SMBP in the past 12 months	Number of patients in denominator who have a recommendation to use SMBP documented in the past 12 months.	Patients ages 18 to 85 with a diagnosis of essential HTN recorded in the EHR as an encounter assessment or in a structured field on the problem list anytime during or prior to the measurement period and seen for at least one medical visit in the past 12 months. Excludes pregnancy and ESRD.
Short-term Outcome	Referral to Community SMBP Support Program	% of patients with a diagnosis of primary/essential HTN and a referral to a community SMBP suport program in the past 12 months	Number of patients in denominator who have a referral to a community SMBP support program (e.g., the YMCA BPSM Program) documented in the past 12 months.	Patients ages 18 to 85 with a diagnosis of essential HTN recorded in the EHR as an encounter assessment or in a structured field on the problem list anytime during or prior to the measurement period and seen for at least one medical visit in the past 12 months. Excludes pregnancy and ESRD.
Intermediate Outcome	Use of SMBP among HTN Patients	% of patients with a diagnosis of primary/essential HTN who used SMBP in the past 12 months. Individual measurements will be averaged to generate a mean systolic and a mean diastolic SMBP reading.	Number of patients in denominator who supplied at least 6 SMBP measurements to the health center in the past 12 months. The 6 measurements must have occurred over a continuous 3-day period with one measurement in the morning and one in the evening (2 per day total).	Patients ages 18 to 85 with a diagnosis of essential HTN recorded in the EHR as an encounter assessment or in a structured field on the problem list anytime during or prior to the measurement period and seen for at least one medical visit in the past 12 months. Excludes pregnancy and ESRD.

Appendix C: Protocol: SMBP Program

Source: White House Clinics

Protocol: Self-Measured Blood Pressure Monitoring Program

Application: All Health Help, Inc. Clinics

Effective Date: /2017 **Date of Last Revision: /2017**

Purpose:

The purpose of this protocol is to outline guidelines for enrollment and management in White House Clinic's self-measured blood pressure monitoring (SMBP) program. The SMBP program will be used to help in the diagnosing and management of hypertension in the adult patient population across White House Clinics.

This protocol is not meant to be an exhaustive process for management of patients with hypertension or to replace the organization's agreed upon clinical guidelines. Additionally, as referenced on the National Guideline Clearinghouse, the following guidelines are not intended to supersede clinical judgment of the provider for specific patients.

Protocol:

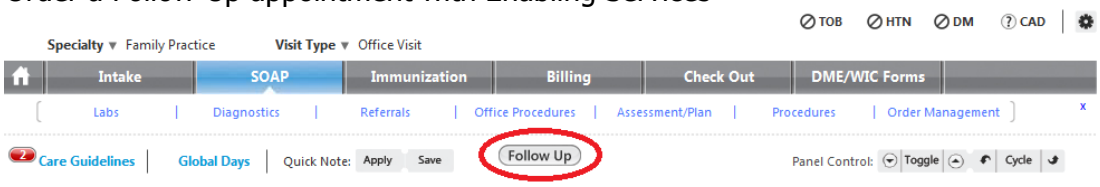
Referral:

1. Referral into the SMBP program will be at the discretion of the care team, using the following guidelines:
    a. The patient has a measured blood pressure > 140/90 mmHg on the first and subsequent readings during an office visit.
    b. The patient has elevated readings persisting for two or more subsequent office visits.
    c. The patient has a diagnosis of hypertension, is being ruled out for a diagnosis of hypertension, or has white coat hypertension.
    d. The practice's device has a cuff size appropriate for the patient.
        Recommended cuff sizes for accurate measurement of blood pressure:

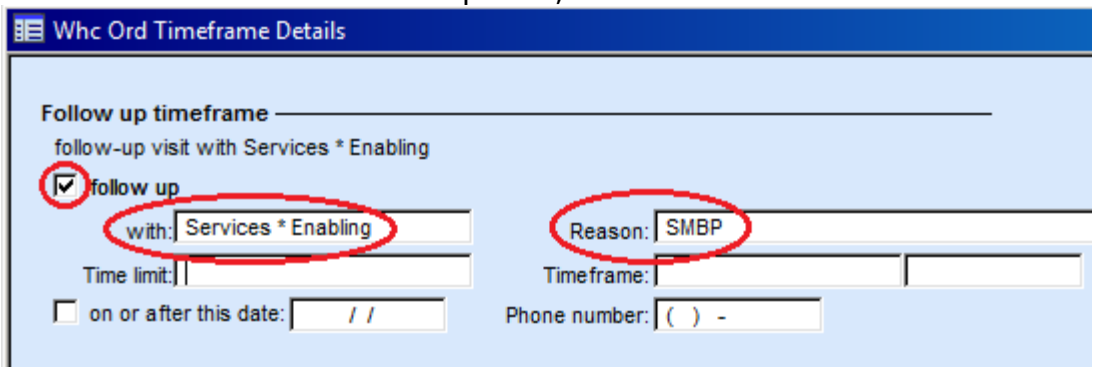
Arm circumference	Cuff size
22 to 26 cm	12 x 22 cm (small adult)
27 to 34 cm	16 x 30 cm (adult)
35 to 44 cm	16 x 36 cm (large adult)

    e. The patient has the aptitude to take an accurate measurement and willingness to take blood pressure readings consistently. The patient must also be capable of documenting the readings if the loaner device does not have memory storage capability.
    f. The patient meets the above criteria and has expressed a desire to take blood pressure readings at home, but is unable to purchase a home blood pressure device AND/OR the clinician feels home measurement will only be needed for a short period of time and patient purchase would be unnecessary. Additionally, the patient agrees to return the blood pressure monitoring device.
2. The provider or other designated staff member will discuss with the patient the loaner program and expectations on actively participating in self-measured blood pressure at home.
3. The provider will refer patients to Enabling Services for enrollment into the SMBP program.

a. Order a Follow-Up appointment with Enabling Services



b. Check the follow up box. Order the follow up with "Services * Enabling", and type "SMBP" for the reason. Enter the timeframe requested, and submit the order.

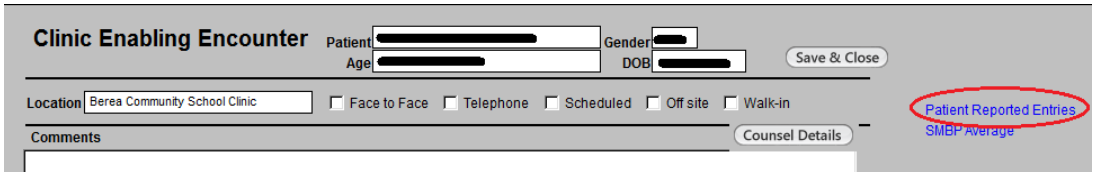


4. The Health Educator will educate the patient on proper use of the blood pressure monitor.
    a. Choose the appropriate monitor
        i. Measure the patient's arm to ensure correct cuff size
        ii. Determine patient's desire to use Bluetooth-linked device or memory-storage device
            1. If Bluetooth-linked device is chosen, download the free Welch Allyn Home app from the Google Play Store or the App Store, following instructions included with the device: "Pair your smartphone with the blood pressure (BP) monitor"
            2. If memory-storage device is chosen, educate patient on the importance of writing down readings or not allowing others to take readings on the device due to its single-user memory storage.
        iii. Complete SMBP Monitor Loan Log
    b. How to measure blood pressure accurately
    c. Functionality and use of the blood pressure monitor
    d. How to read and understand the digital display
5. The Health Educator will orient the patient to the SMBP program:
    a. Educate the patient on high blood pressure. Visit details will be documented in an Enabling Services encounter.
    b. Complete the SMBP Agreement (attachment 1) and have the patient initial and sign the agreement. The patient will take a copy of the signed agreement with them.
    c. Keep the duplicate of the agreement to be scanned into the patient's medical record.
    d. The Health Educator will provide the following handouts and review with the patient:
        i. Enabling Services Blood Pressure Flyer
        ii. **Self-Measured Blood Pressure at home: Patient Information**
        iii. **Self-Measured Blood Pressure Technique**
        iv. **BP log wallet card**
6. The Health Educator will order a follow-up for Enabling Services, to be completed approximately one week prior to the patient's follow-up with the provider.
    a. The Health Educator will remind the patient of their enrollment in the SMBP program. The Health Educator will remind the patient to bring their paper log and loaned BP monitor with them to their follow-up appointment with the provider.

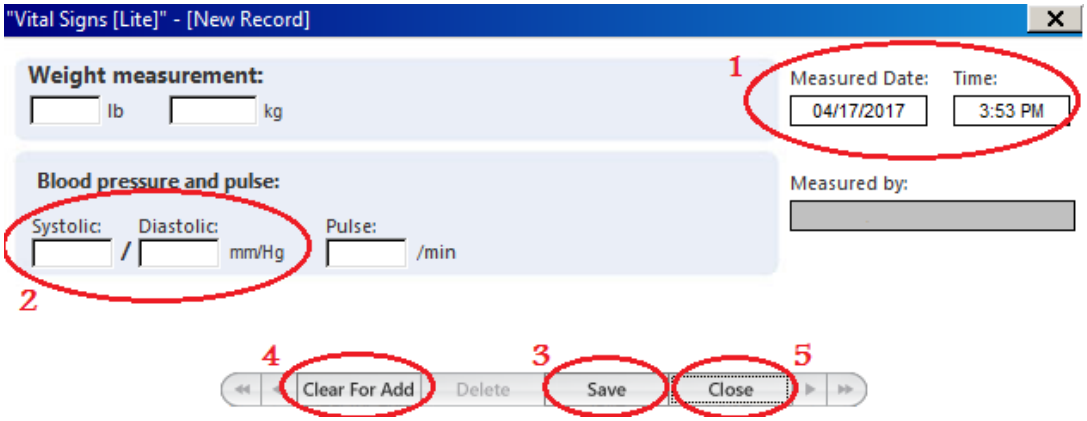
7. A credentialed team member will use a teach-back method through the process of validating the machine's readings against WHC equipment. Validation should take approximately 10 minutes.
    a. Have the patient sit down with his or her arm at heart level. The arm should be completely relaxed.
    b. Allow the patient to rest for 5 minutes.
    c. Avoid any conversation during the measurements to prevent an increase in blood pressure.
    d. Take a total of five sequential same-arm blood pressure readings, no more than 30 seconds apart:
        i. Have the patient take the first two readings with the WHC loan device.
        ii. The MBO team member will take the third reading, preferably with a mercury sphygmomanometer or comparable device.
        iii. The patient will take the fourth reading.
        iv. The fifth and final reading will be taken by the MBO team member.
    e. Compare the difference between the readings from the two cuffs.
        i. BP readings should decline over the five measurements. The final reading may be as much as 10 mmHg systolic BP lower than the first.
        ii. If the difference is 5 mmHg or less, the comparison is acceptable.
        iii. If the difference is greater than 5 mmHg but less than 10 mmHg, do the calibration again.
        iv. If the difference is greater than 10 mmHg, the device may not be accurate for the patient.
            1. If the device is determined to be inaccurate for the patient, attempt calibration of a second device. If the second device is also inaccurate, MBO staff should inform the provider, who will determine next steps for the patient's enrollment in SMBP.

Follow-Up:

1. The patient will return the loaned device, along with recorded readings, at the follow-up appointment with the provider.
2. The Health Educator will document all readings in the following manner:
    a. Verify the patient met the minimum number of measurements for participation in the SMBP Program. At a minimum, this is defined as at least 6 measurements over 3 days.
    b. Enter all the home measurements into the vitals history.
        i. Open the "*WHC Enabling Encounter" template
        ii. Select Patient Reported Entries

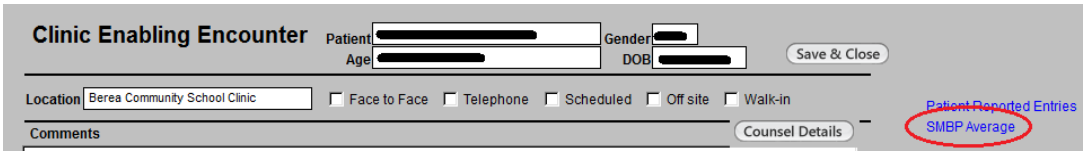


iii. Right-click and select "Add New"

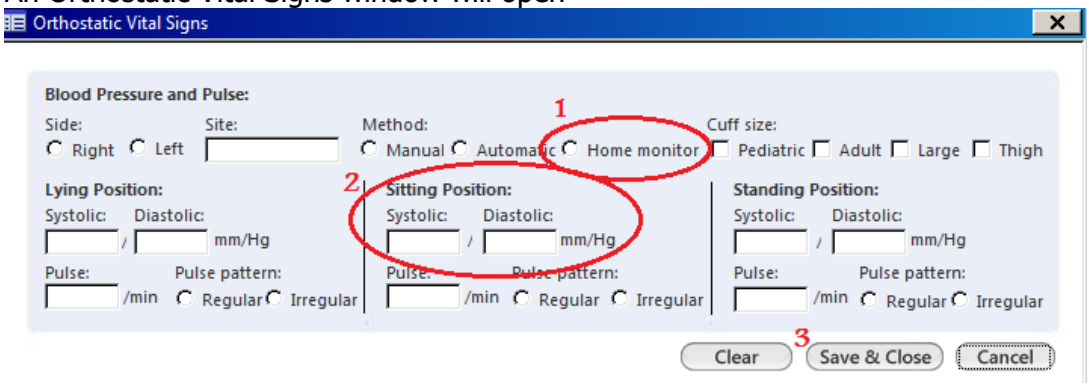


1. Enter the date and time of the original reading
2. Enter the reading
3. Save
4. Click "Clear For Add". Repeat steps 1-4 for each measurement on the patient's log
5. Close after entering all readings.

c. Take an average of all readings provided by the patient.
   i. Add all systolic numbers together and divide by the total number of readings received.
   ii. Add all diastolic numbers together and divide by the total number of readings received.
   iii. From the Enabling Encounter, select "SMBP Average".

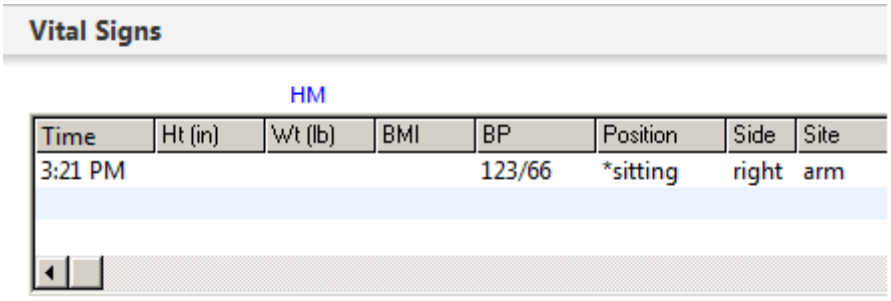


iv. An Orthostatic Vital Signs window will open

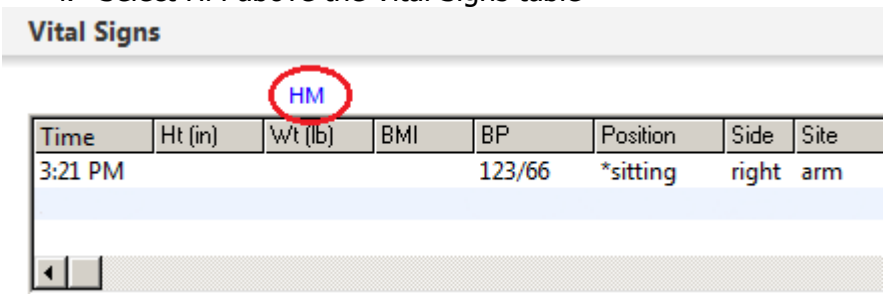


1. Select the Home monitor radio button
2. Enter the average of all self-measured readings
3. Save & Close

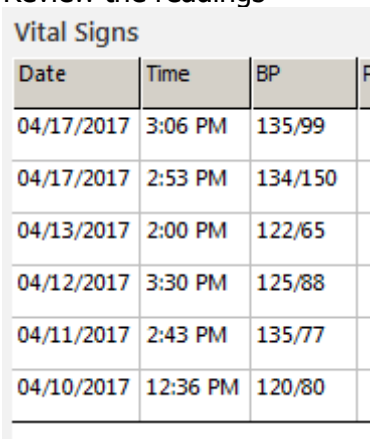
3. When the patient returns for a follow-up appointment with the provider:
    a. The provider will review the patient's averaged SMBP reading in the Vital Signs table.



    b. The provider will review the patient's home readings.
        i. Select HM above the Vital Signs table



        ii. Review the readings



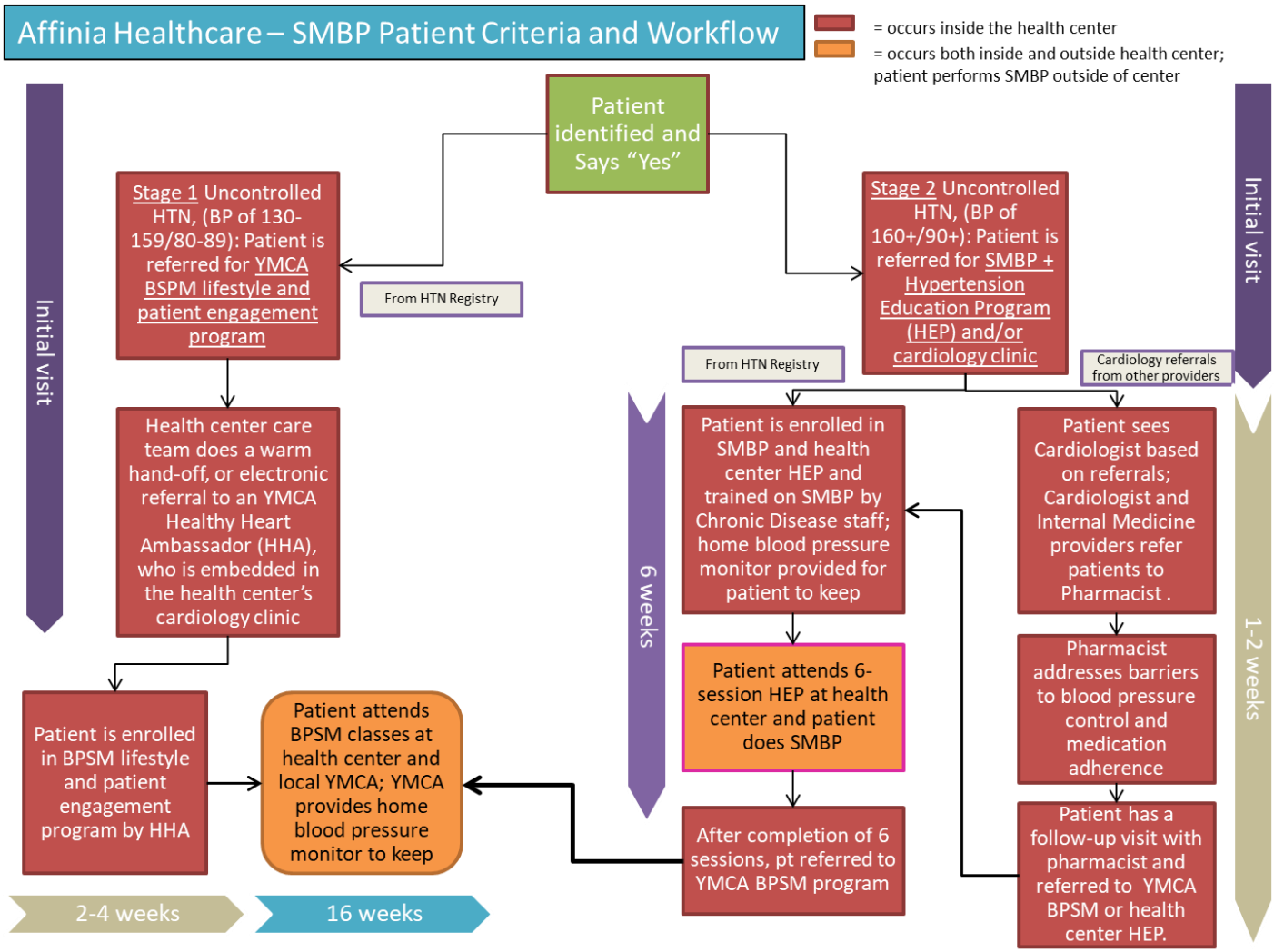
    c. The provider will determine whether continued loaning of the monitor is appropriate. If long-term monitoring is appropriate, the provider will work through traditional protocol to obtain a monitor for the patient.

Returned Device:

1. The Health Educator will place the blood pressure device in [*a location to be cleaned*] and notify medical back office staff.
2. EPA-registered disinfectants that are labeled for use in healthcare will be used for disinfection, and will be used per manufacturer's recommendations.
3. The disinfected blood pressure device will be stored with cleaned inventory to be loaned to another patient.

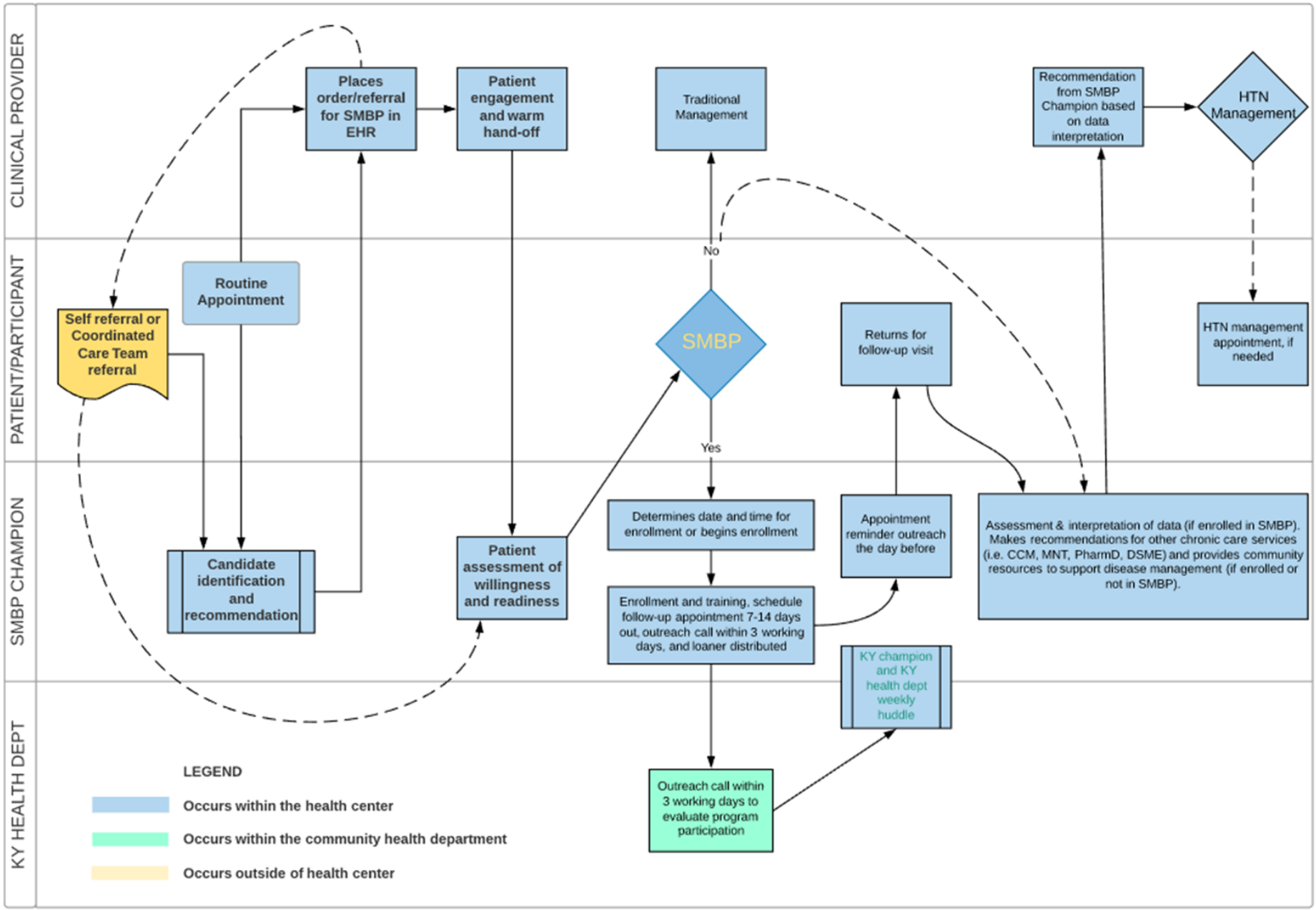
Appendix D: SMBP Patient Criteria and Workflow

Source: Affinia Healthcare



Appendix E: SMBP Workflow Swim Lane Diagram

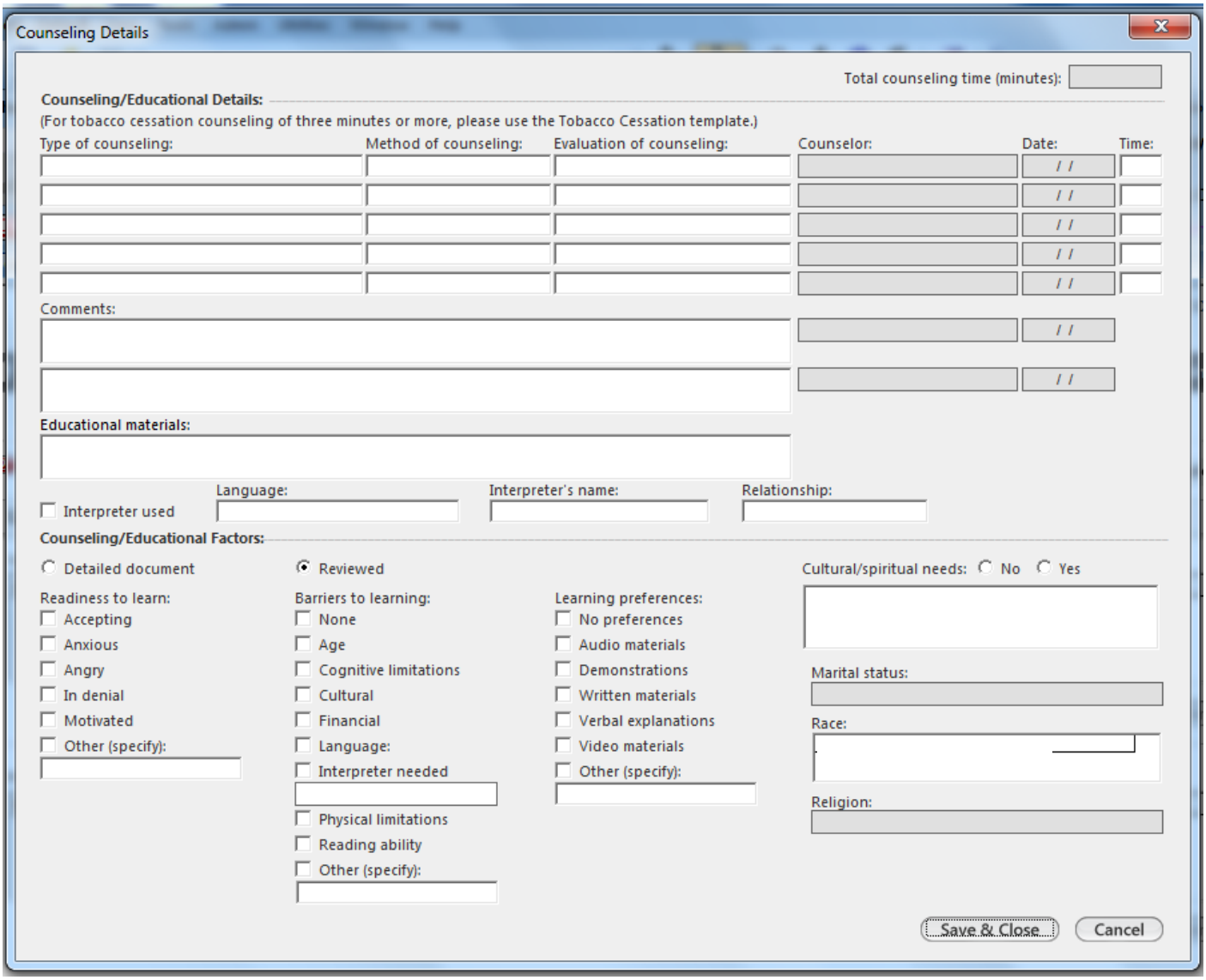
Source: ARcare/KentuckyCare



Appendix F: Counseling/Educational Factors (Readiness to Learn, Barriers to Learning)

Source: Affinia Healthcare

Clinical patient identification criteria are essential in SMBP implementation, e.g., targeting uncontrolled hypertension patients and/or patients with multiple co-morbidities, etc. (see Diagram 1: SMBP Program Planning: Goals and Target Population). In addition, factors that may be worth considering include readiness and barriers to learn/change behavior. The EHR screen shot below shows how one organization documented these additional patient selection criteria for SMBP.



Appendix G: Azara Pre-visit Planning Report

Source: Whitney M. Young, Jr. Health Center

Azara Daily Report - Pre-Visit Planning - Circled items indicate HTN prompt

Visit Planning for 6/1/2018 - 6/1/2018

Run on 6/1/2018 8:59:36 AM

13 Scheduled Appointments

[redacted]

8:30 AM | [redacted] Visit Reason: A-CPE

[redacted]
DOB: [redacted]

Sex at Birth: F
Gender Identity: Female
Sexual Orientation: No

Phone: [redacted]
Language: English

Last Phys:
Portal Access: N

PCP: [redacted]
Payer: CDPHP MEDICAID
Care Manager: Unassigned Care Manager

Diagnoses (0)

Risk Factors (1)
TOB

Alert	Message	Most Recent Date	Most Recent Result
Pap	Missing		
Pap HPV	Missing		
HIV	Missing		
AUDIT	Missing		
Depr Screen	Missing		
BMI & FU	Missing		

8:30 AM | [redacted] Visit Reason: A-15 MIN

[redacted]
DOB: [redacted]

Sex at Birth: M
Gender Identity: Male
Sexual Orientation: Straight

Phone: [redacted]
Language: English

Last Phys: [redacted]
Portal Access: N

PCP: [redacted]
Payer: CDPHP DENTAQUEST MEDICAID
Care Manager: Unassigned Care Manager

Diagnoses (1)
DEPRP

Risk Factors (1)
TOB

Alert	Message	Most Recent Date	Most Recent Result
HIV	Missing		
AUDIT	Missing		

9:00 AM | [redacted] Visit Reason: SAMEDAY

[redacted]
DOB: [redacted]

Sex at Birth: F
Gender Identity: Female
Sexual Orientation: Straight

Phone: [redacted]
Language: English

Last Phys: [redacted]
Portal Access: N

PCP: [redacted]
Payer: FIDELIS MEDICARE
Care Manager: Unassigned Care Manager

Diagnoses (4)
CMP MD
DEPRP SUD

Risk Factors (1)
TOB

Alert	Message	Most Recent Date	Most Recent Result
AUDIT	Missing		
BMI & FU	Missing Follow-up	[redacted]	18.47
PCV >=65	Overdue		
Pneumo	Missing		
Statin Rx	Overdue		

Appendix H: Sample Approach for Using SMBP Data to Control High BP
Source: National Association of Community Health Centers

Sample Approach for Using Self-Measured Blood Pressure Monitoring (SMBP) Data to Control High Blood Pressure

1/17/2018

Background

In general, SMBP yields a pattern of blood pressure (BP) readings taken at different times of the day in a person's normal environment. Together, out-of-office BP readings provide more accurate data than a single clinical office BP reading across visits[i], and allow clinicians to make better, timelier decisions about managing a patient's blood pressure. [ii] Having people with hypertension use a home BP monitor regularly engages them in their own care and provides data that supports high-quality and joint decision-making.[iii]

Because the use of patient-generated data in clinical settings is relatively new, including SMBP data, we wanted to provide some guidance and structure around how to collect, prepare, and interpret SMBP data. The following offers a sample protocol or approach that health centers can adopt or adapt to help facilitate using SMBP data as a tool to help their patients achieve BP control.

This sample approach/protocol is informed by the following recommendations outlined in the *2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults*: [iv]

1. Out-of-office BP measurements are recommended to confirm the diagnosis of hypertension and for titration of BP-lowering medication, in conjunction with telehealth[8] or clinical interventions.[9]

2. Adults initiating a new or adjusted drug regimen for hypertension should have a follow-up reassessment of adherence and response to treatment at **monthly** intervals until their BP treatment target is achieved. Reassessment should include the following:

    - BP measurement
    - Detection of orthostatic hypotension in selected patients (e.g., older or with postural symptoms)
    - Identification of white coat hypertension or a white coat effect
    - Documentation of adherence
    - Identifying and addressing obstacles to adherence
    - Monitoring of the response to therapy
    - Reinforcement of the importance of adherence
    - Reinforcement of the importance of treatment
    - Assistance with treatment to achieve BP target

3. Follow-up and monitoring after initiation of drug therapy for hypertension control should include systematic strategies to help improve BP, **including use of home blood pressure monitoring (HBPM)**, team-based care, and telehealth strategies.

NOTE: Home blood pressure monitoring (HBPM) and self-measured blood pressure (SMBP) have essentially the same

[8] Includes the use of monitoring devices (e.g., Bluetooth-enabled home blood pressure monitors) that permit the sharing of patient self-management parameters with healthcare clinicians in real time and the delivery of feedback and guidance to patients when they need it.

[9] Includes team-based care, nurse case management, pharmacist case management, patient education, behavioral telephone intervention, tele-monitoring, and internet-based BP management tools.

meanings. HBPM is SMBP done at home, as opposed to other locations outside of a clinical facility, such as at a community organization or pharmacy. From this point forward, this document will use the term SMBP to mean SMBP done at home.

The sample approach/protocol below describes a scenario worth striving for that should be tempered by clinical judgment and modified for feasibility based on individual needs/social determinants of health.

Sample Approach for Using Self-Measured Blood Pressure Monitoring (SMBP) Data to Control High Blood Pressure

Instructing Patients on Collecting SMBP Data

1. Patients should be instructed to follow the steps to take their own blood pressure accurately, including proper preparation, positioning, and measurement.[v]

2. At a minimum, patients should be asked to take at least 2 blood pressure readings, 1 minute apart, in the morning before taking any medications and in the evening before supper, for 7 consecutive days prior to their follow-up visit appointment date.

NOTE: This many readings may not be feasible for many patients; the minimum number of measurements suggested for clinically meaningful application is 1 measurement in the morning and 1 measurement in the evening for 3 consecutive days.[10]

3. For patients scheduled for a follow-up visit (e.g., one month interval for medication change), SMBP should be done for at least the 7 days prior to the follow-up visit to allow for therapeutic changes to take effect and to supply the most current and clinically meaningful data.

NOTE: Practices may opt to have patients record SMBP readings for longer time frames. However, practices should consider SMBP "fatigue" for patients, the clinical relevance of multiple weeks of readings, and the staff and health IT requirements for batching and averaging multiple weeks of data prior to pursuing this option.

4. Encourage patients to form a habit of taking their BPs regularly, morning and evening, and sharing the pattern of readings taken in the week prior to an appointment with their clinical team. This approach helps cement the practice of SMBP in the patient's routine while right-sizing the data capture, transmission, and analysis burden.[vi]

5. To ensure patients remember to produce actionable SMBP data between visits, planned outreach to remind patients 10 days prior to their next scheduled appointment (or planned SMBP data submission via phone, portal, other) may be helpful.

6. Patients should be equipped with information about what to do if they have a home BP reading that is higher or lower than a certain threshold (tailored to individual patients as defined by the clinical practice).

[10] At least one SMBP average must meet the 2x/day for 3 consecutive days criteria for that data collection period to meet the numerator criteria for the Million Hearts® Accelerating SMBP Project "Use of SMBP" measure. The "Use of SMBP" measure specifications are based on an adaption of evidence from the Finn-Home Study, which indicates home BP measurements recorded twice in the AM and twice in the PM for 3 consecutive days or once in the morning for 7 days produced clinically meaningful data.[3]

Acquiring Data from SMBP Devices

1. Data should be transmitted electronically to clinical practices and into health IT systems, or via entry by staff while reviewing the memory of the patient's home blood pressure monitor.

NOTE: Only validated home blood pressure monitors[vii] with memory storage of at least 30 readings, but preferably more, should be used. Paper logs are not recommended, as patients may make err in, selectively transmit, or alter SMBP readings.

2. Patients should be reminded not to mix data from other people into their SMBP readings (i.e., avoid having family members or friends use the home BP monitor or ensure they use the device only when set to an alternate user (e.g. user 1 vs. user 2)). When the data is reviewed, care teams should confirm data quality and, if applicable, which user represents the patient.

NOTE: Existing technologies for electronic SMBP data transmission link Bluetooth-enabled home blood pressure monitors to smartphone apps and/or online web portals. Emerging technologies may enable direct transmission of Bluetooth-enabled home blood pressure monitor data directly into electronic health record or population health management systems.

3. Patients should always bring their home BP monitor in to their follow-up appointment to confirm SMBP readings stored in the device memory, device memory management, and other activities, as needed, such as demonstrating competency in using the home BP monitor, and calibrating an individual's home BP monitor against the office standard blood pressure device (annually).

Preparing SMBP Data for Clinical Interpretation and Action

1. During the SMBP use period, patients can produce varying amounts and patterns of data. These readings must be processed to 1) determine if the readings constitute "use of SMBP" (i.e., a minimum of AM and PM readings each day for 3 consecutive days), and 2) inform decision making about blood pressure management.

NOTE: The SMBP use period is defined as the time between when a patient is instructed by the care team to use a home BP monitor to measure their own blood pressure and when the patient engages with the care team for follow-up assessment and management (e.g. follow-up visit, telephone call, or other practice access to the SMBP data and action upon it).

2. SMBP readings taken in the week prior to the next patient contact (visit, call-in, or data access) may be the most clinically meaningful; at a minimum, practices should average readings from the last 7 days before the patient contact for clinical application.

NOTE: The care team may have to look back further than 7 days to obtain sufficient SMBP measurements to meet the minimum criteria for an SMBP average to have clinical application.

3. In addition to SMBP average(s), when possible, document/retain and offer clinicians the pattern of individual SMBP readings from the last 7 – 14 days prior to the next patient contact.

4. Average systolic and diastolic blood pressure readings into one SMBP average measurement (systolic/diastolic) by adding all of the systolic and separately all of the diastolic readings together and dividing each sum by the total number of systolic/diastolic readings obtained in the time frame. For example, if there are 10 BP readings over 7 days (that meet the minimum SMBP use criteria), add the systolic values together and divide by 10 and add the diastolic values together and divide by 10 and combine to get the SMBP average reading (systolic/diastolic).

NOTE: There are tools that may help with averaging data, such as the Blood Pressure Average Calculator. HIT

systems may also produce SMBP averages automatically as technologies improve.

Interpreting and Using SMBP Data to Control Hypertension

SMBP readings can be interpreted using the Categories of BP in Adults table from the *2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults* paired with the corresponding values of SBP/DBP for Clinic and HBPM measurements in the following table.

Categories of BP* in Adults (Clinic Measurements)

BP Category	Systolic Blood Pressure (SBP)		Diastolic Blood Pressure
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

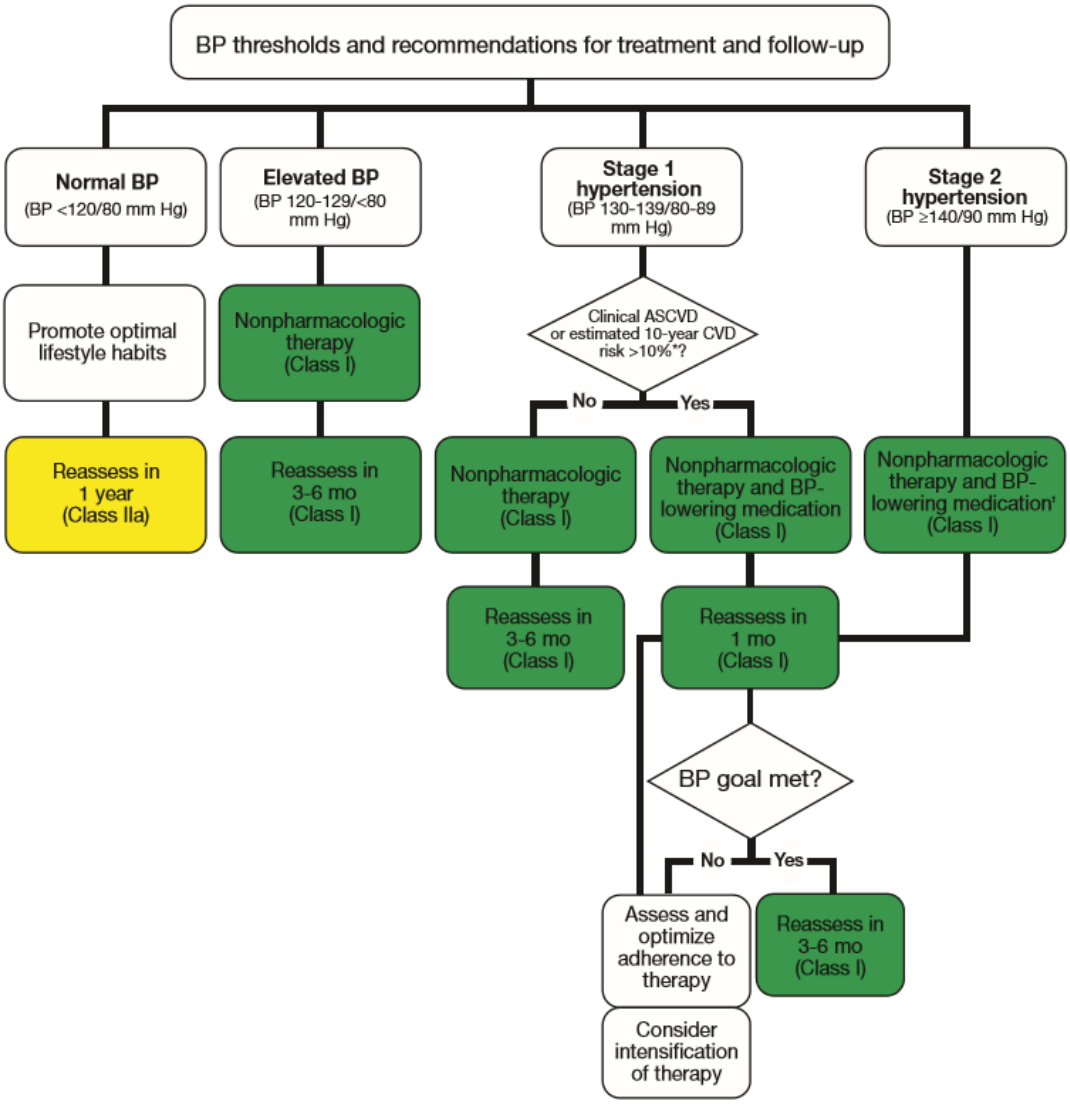
*Individuals with SBP and DBP in 2 categories should be designated to the higher BP category. BP indicates blood pressure (based on an average of ≥2 careful readings obtained on ≥2 occasions, as detailed in DBP, diastolic blood pressure; and SBP systolic blood pressure).

Corresponding Values of SBP/DBP for Clinic and HBPM Measurements

Clinic	HBPM
120/80	120/80
130/80	130/80
140/90	135/85
160/100	145/90

Treatment and follow-up recommendations for managing high blood pressure in patients should be guided by the *2017 Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults*; individual patient management should be based on clinical judgment, risk/benefit analysis, and patient preference. The following diagram can be used to understand BP thresholds and recommendations for treatment and follow-up.[viii]

BP Thresholds and Recommendations for Treatment and Follow-up.[4]



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Finger Lakes Community Health, Geneva, NY
Hudson River Healthcare, Peekskill, NY
Open Door Family Medical Centers, Ossining, NY
Samuel U. Rodgers Health Center, Kansas City, MO
Shawnee Christian Health Center, Louisville, KY
White House Clinics, Richmond, KY
Whitney M. Young, Jr., Health Center, Albany, NY

For More Information
Meg Meador, MPH, C-PHI
Clinical Affairs Division
National Association of Community Health Centers
mmeador@nachc.org

Appendix I: Home Blood Pressure Log

Source: Open Door Family Medical Centers

		MORNING			EVENING			
	DATE	TIME	READING 1	READING 2	TIME	READING 1	READING 2	NOTES
Example	*July 9*	*9:00 am*	*135/90*	*135/90*	*6:00 pm*	*137/90*	*140/90*	*I forgot to take my medicine today.*
			/	/		/	/	
			/	/		/	/	
			/	/		/	/	
			/	/		/	/	
			/	/		/	/	
			/	/		/	/	
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			/	/		/	/	
			/	/		/	/	

Appendix J: Hixny (Health Information Exchange New York) Patient Portal

Source: Whitney M. Young, Jr. Health Center

Hixny

We are excited to release our new patient self-entered data functionality in HIXNY's patient portal. Over the next few weeks, we will be choosing a site to pilot this new functionality with patients and providers relating to hypertension control.

Our newly developed functionality has added a tab to the patient portal where certain information can be entered from home directly by the patient.

For our pilot study, we intend to assess the functionality and utility for patients and providers of self-entered blood pressure. Patients will enter morning and evening blood pressures into the patient portal where it is averaged into daily blood pressure readings.

Once patients have entered morning and evening data for a minimum of three consecutive days, the system will average blood pressure scores over the three days.

This single averaged score (generated from morning and evening blood pressures over three or more consecutive days) will then generate a Continuity of Care Document (CCD) accessible to the provider in the HIXNY provider portal. This CCD can then be imported into the institution's electronic health record and viewed locally to inform clinical decisions.

Our overall aims for this pilot are the following:

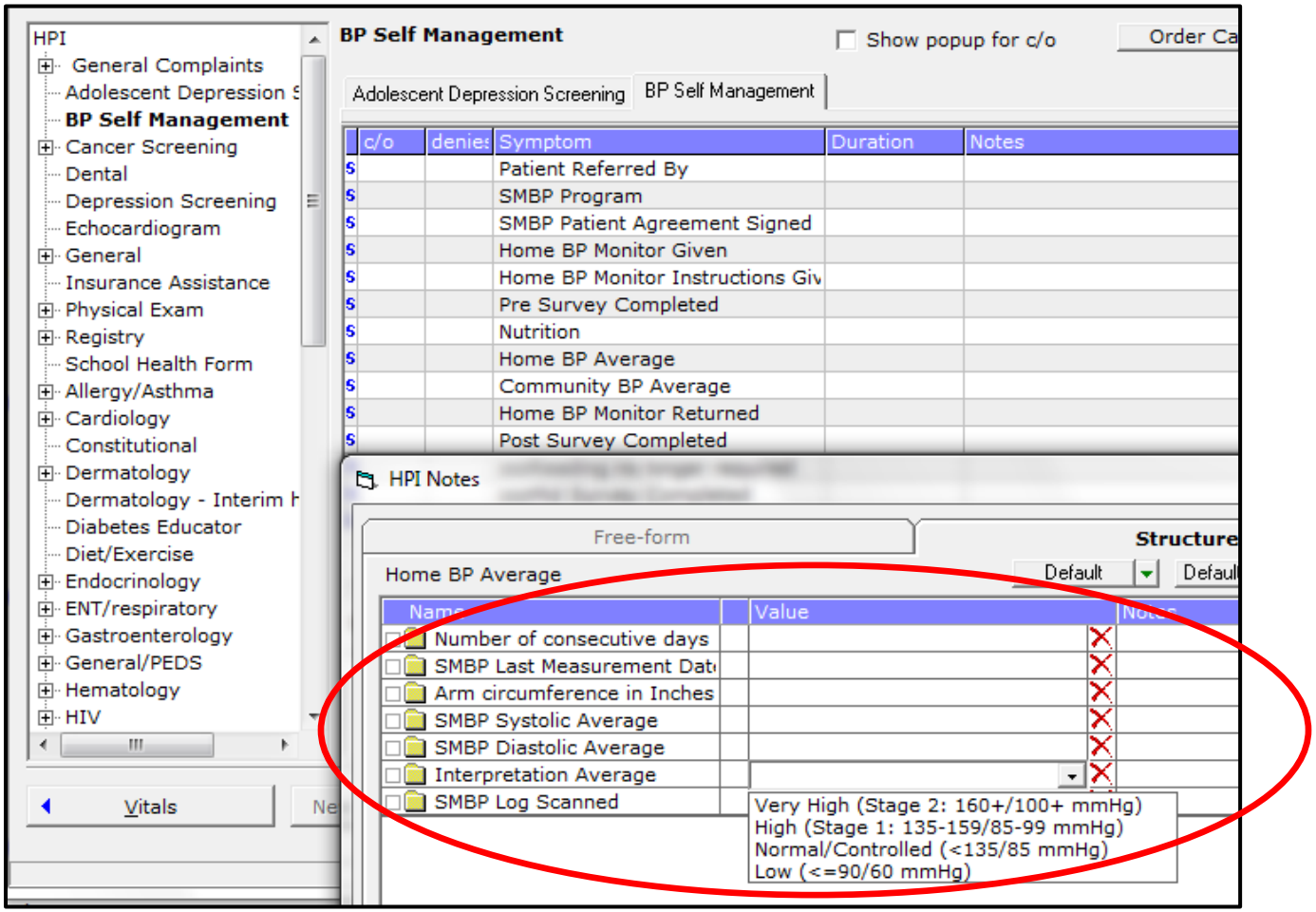
1. Determine utility of patient self-entered data in clinician practice
2. Understand patient use and identify potential barriers to utilization
3. Empower patients to consistently enter blood pressure data for improved provider/patient communication

As this is a pilot study, we are looking for sites who routinely work with patients to monitor daily blood pressures, and for whom clinical action could be made using averaged blood pressures.

We have allocated a stipend from our DOH supported grant, and would be willing to work with your institution to ensure adequate funds are provided for time spent working on this initiative.

Appendix K: SMBP EHR Documentation – eClinicalWorks

Source: HealthEfficient, Million Hearts® SMBP Intervention Configuration Guide

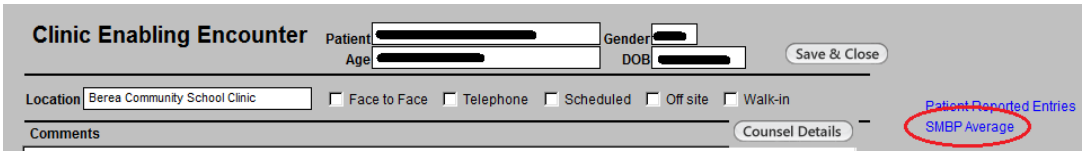


- Structured data
- Doubles as visit checklist
- Interpretation drawn from SMBP average
- "Dummy" billing codes created to track productivity, visit times, no-show rate, and other reports

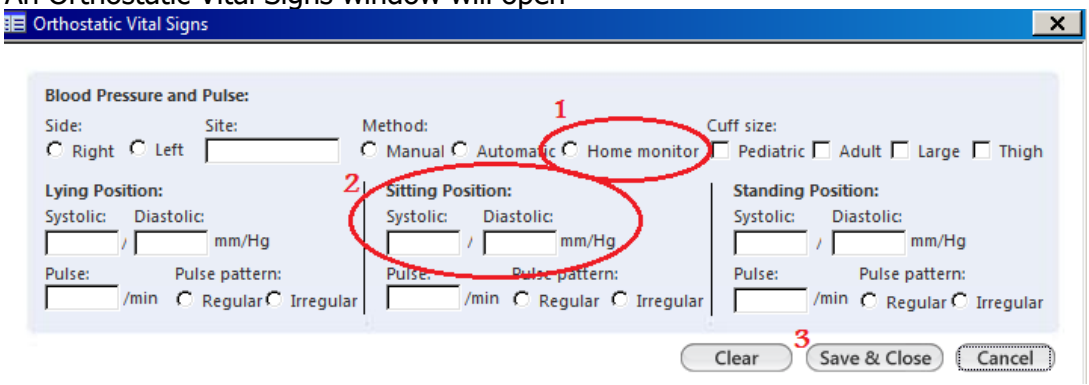
Appendix L: SMBP Average EHR Documentation Example – NextGen

Source: White House Clinics, SMBP Protocol

a. Take an average of all readings provided by the patient.
   i. Add all systolic numbers together and divide by the total number of readings received.
   ii. Add all diastolic numbers together and divide by the total number of readings received.
   iii. From the Enabling Encounter, select "SMBP Average".



   iv. An Orthostatic Vital Signs window will open



1. Select the Home monitor radio button
2. Enter the average of all self-measured readings
3. Save & Close

Appendix M: SMBP Staff to Provider Communication Script

Source: ARcare/KentuckyCare

Patient has successfully completed x days of home blood pressure monitoring; BP Log is located in patient documents. Self-measured BP average is __/__ (normal/stage __). Next BP follow up with you is scheduled for __/__/__. Please advise if you'd like this appointment to be sooner. If applicable, please specify recommendation for continued home monitoring frequency.

Appendix N: SMBP Patient Enrollment and Follow-up Process

Source: ARcare/KentuckyCare

1. Educator contacts patient (warm hand off in clinic or telephone outreach)
2. Participant assessment/offers enrollment
3. Engagement through a bi-directional discussion of the purpose, benefits, risk, confidentiality, patient rights, and cost/compensation of program (once patient decides to participate)
4. Enrollment on day and time convenient for participant (ideally, same day)
5. Consent and Loaner agreement completed
6. Education and training (disease process, use of equipment, action to take, how to communicate SMBP readings to educator)
7. Schedule day and time for follow-up phone call (within 3 working days)
8. Schedule day and time for follow-up visit in health center (within 7-14 days)
9. Compensation with gift cards if participant returns equipment and completes program as designed. (Participant initials receipt of gift cards on original contract).
10. Document Order in Success EHS electronic health record.
11. Returned equipment is cleaned based on infection control policy.

Appendix O: Self-Measured Blood Pressure Monitoring Patient Enrollment Orientation
Source: Finger Lakes Community Health

Finger Lakes
COMMUNITY HEALTH

Self-Measured Blood Pressure Monitoring
Patient Enrollment Orientation

Patient: _____ Date of Birth: _____

Orientation checklist will be completed upon enrollment in the self-measured blood pressure monitoring loan program.

	Confirm the patient meets the criteria for patient selection
	Instruct the patient on the loaner program and expectations of measurements
	Completion of the SMBP Patient agreement
	Educate the patient on the use of the blood pressure monitor:
	• How to measure blood pressure accurately
	• Functionality and use of the blood pressure monitor
	• How to read and understand the digital display
	Have patient re-demonstrate the application and use of the self-measurement blood pressure monitor
	Provide the following handouts to the patient and review them together
	• Self-measured blood pressure at home: patient information
	• Self-measured blood pressure technique
	• High blood pressure (hypertension) overview
	• Self-measured blood pressure flow sheet
	Fill out the "BP monitor loan log"
	Complete and have the patient sign the "patient participation and loaner device agreement"
	Inform patient on specifics of how they should communicate blood pressure measurements back to the office
	Document participation in program in patient medical record

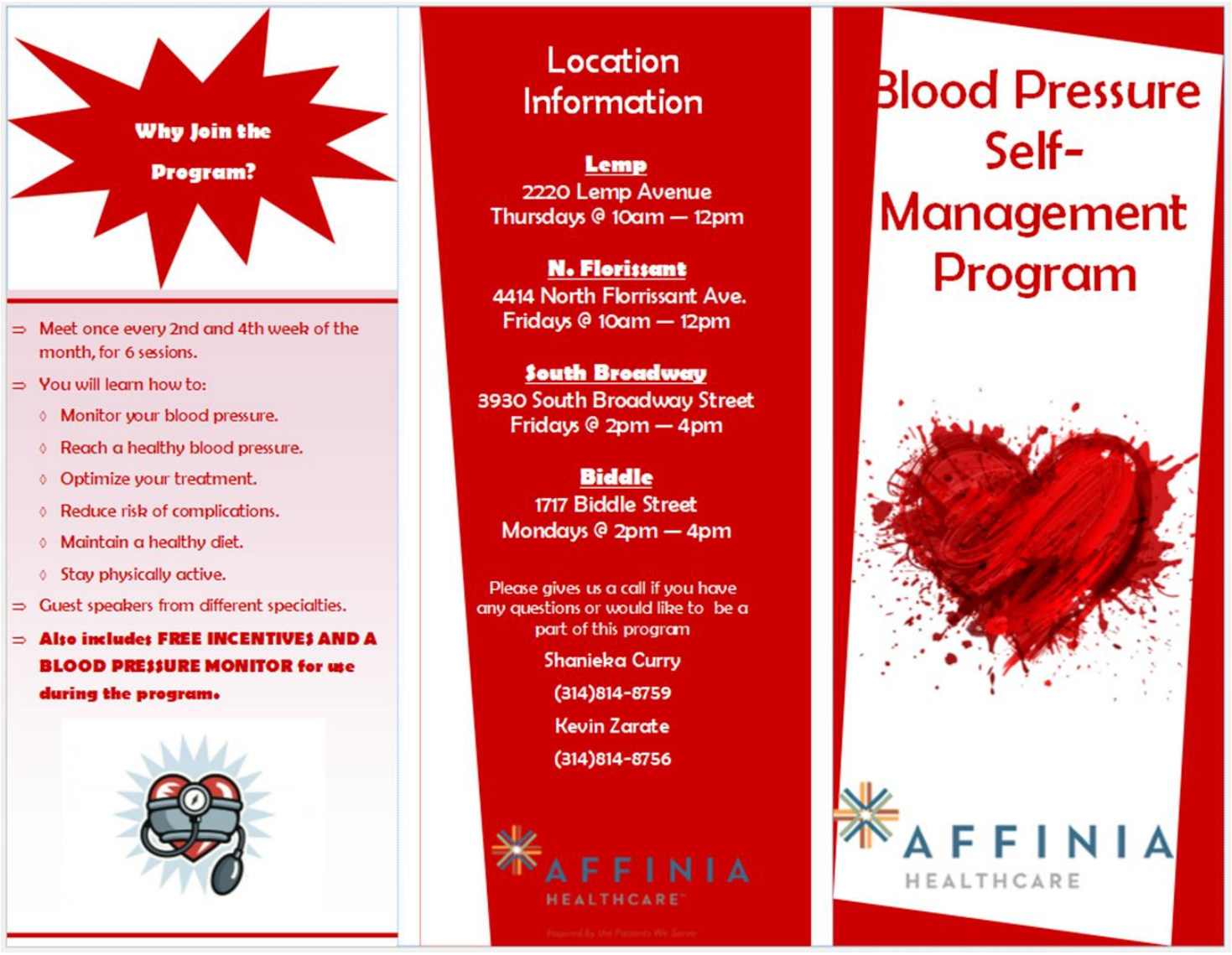
Patient Signature: _____

Finger Lakes Community Health Staff Signature: _____

Date: _____

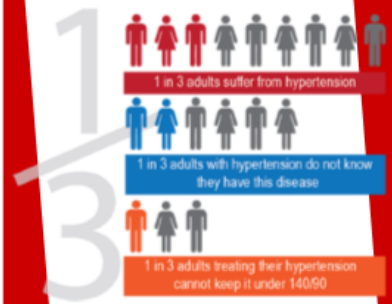
Appendix P: Blood Pressure Self-Management Program Brochure

Source: Affinia Healthcare



High Blood Pressure Health Facts

- High blood pressure puts you at risk for heart disease and stroke, which are the leading causes of death.
- High blood pressure was a primary or contributing cause of death for more than 410,000 Americans in 2014—that's more than 1,100 deaths each day!



- Unhealthy behaviors can increase your risk for high blood pressure, including:
  - Smoking tobacco.
  - Eating foods high in sodium and low in potassium.
  - Not getting enough physical activity.
  - Obesity
  - Drinking too much alcohol.

Session 1:
Blood Pressure Monitor Set-up
Develop Action Plan and Set Smart Goals

Session 2:
Prevention and Control
Medication Education

Session 3:
Understanding Cholesterol
Nutrition: DASH diet

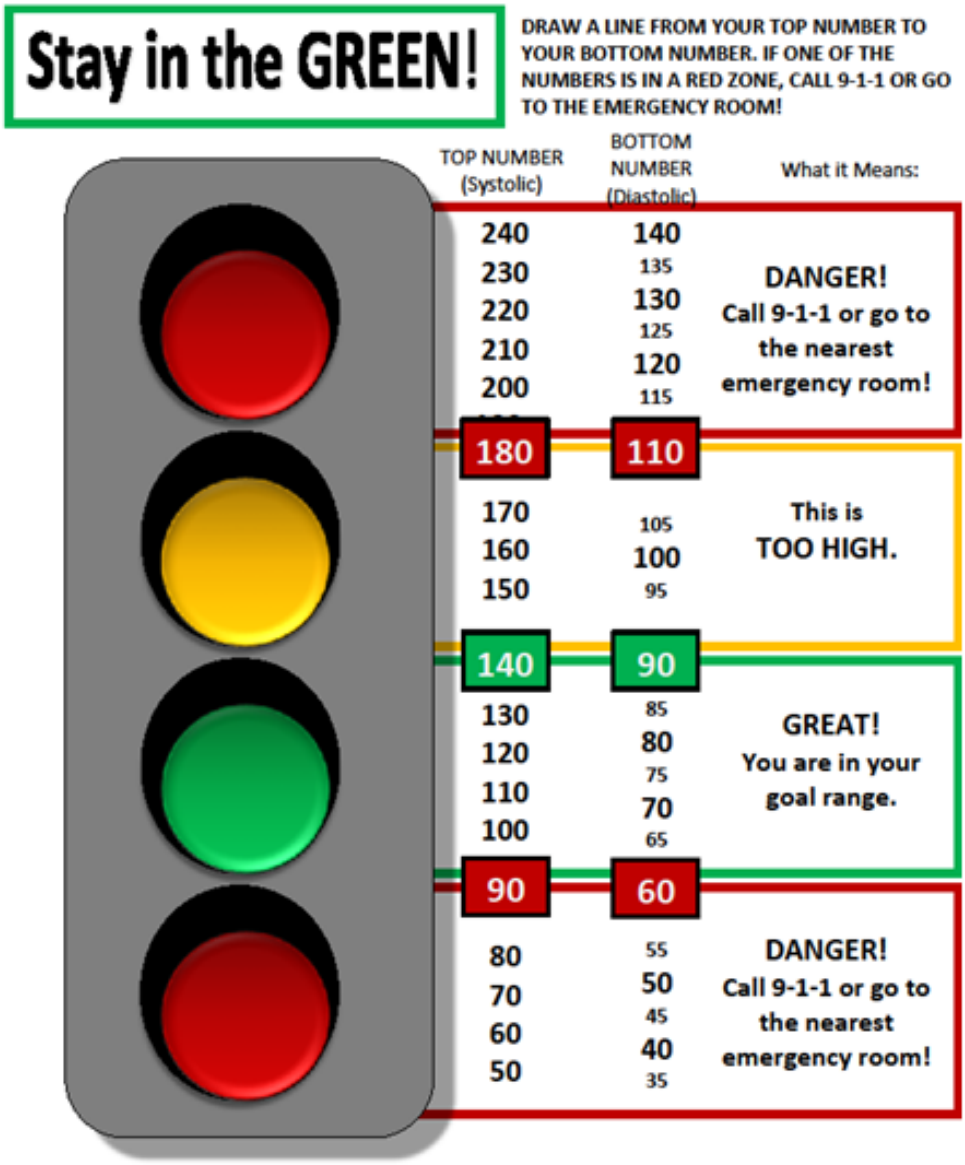
Session 4:
Reading Food Labels
Nutrition Bus
Cooking Demonstration
Exercise

Session 5:
Healthy Habits with the City of St. Louis
- Medication Non-adherence Risk
- Depression and Stress
- BMI and Weight loss
- Smoking

Session 6:
Certificates and Incentives

Appendix Q: Patient Education Material - Stay in the GREEN!

Source: ARcare/KentuckyCare



NOTE: When using or adapting patient materials, be sure to consult the latest hypertension clinical guidelines for blood pressure thresholds and other clinical specifics.

Appendix R: Hypertension Action Plan

Source: Hudson River Healthcare

NOTE: When using or adapting patient materials, be sure to consult the latest hypertension clinical guidelines for blood pressure thresholds and other clinical specifics.

HTN Action Plan

Patient Name: _____ Date of Birth: _____

Provider Name: _____ Phone: _____

Green Zone: Great Control **Normal 120/80** **Mild 140/90 -150/100**

- No shortness of breath
- No swelling
- No chest pain
- No decrease in your ability to
- maintain your activity level
- Continue sodium restricted diet
- Keep all doctor appointments

You are doing well, keep it up!

MEDICINE	HOW MUCH	WHEN TO TAKE IT

Yellow Zone: Caution **Moderate HTN > 150/100 – 190/100**

Blood Pressure Reading	Reason/ Symptom	Actions
Your blood pressure is outside normal range SBP – 150-90 DBP 91-100	Forgot to take blood pressure medication or missed a dose	Take blood pressure medication immediately and repeat blood pressure in 1 hour. If blood pressure reading has improved, no further action needed
Your blood pressure is outside normal range SBP – 150-190 DBP- 91-100	Took medication as prescribed, experiencing pain not related to chest pain (i.e. knee or other joint), jaw, neck, back pain, shortness of breath or headache	Call primary care office to schedule an appt. within one week to address pain and advise that blood pressure is high
Your blood pressure is outside normal range SBP – 150-190 DBP – 91-100	Took medication as prescribed. Not sure about source of pain/ not feeling like your normal self	Call primary care office to schedule an appointment to be seen (same day or next day)

Red Zone: Stop & Think **Severe HTN >190/100**

Blood Pressure Reading	Reason/ Symptom	Actions
Your blood pressure is outside normal range SBP > 190 DBP > 100	Forgot to take blood pressure medication or missed a dose	Take blood pressure medication immediately and repeat blood pressure in 1 hour. If blood pressure is still high, call your primary care office to be seen same day
Your blood pressure is outside normal range SBP > 190 DBP > 100	Took medication as prescribed, experiencing any pain	Call primary care office to be seen same day
Your blood pressure is outside normal range SBP > 190 DBP > 100	Took medication and have headache, chest pain or shortness of breath or do not feel like yourself	Call 911 or go to your nearest ER or Urgent Care.

Appendix S: Hypertension Zones Sheet

Source: Whitney M. Young, Jr. Health Center

Note: To be used along with information from the care team communicating to the patient what their normal blood pressure range is.

Hypertension (High Blood Pressure)

Every Day	• Eat a healthy diet • Exercise regularly • Reduce the sodium in your diet
Green Zone	**ALL CLEAR! You are at goal when in this zone and are considered stable.** • Not experiencing fatigue, confusion, dizziness or headaches • Usual medications control your blood pressure • Following diet and exercise program
Yellow Zone	**CAUTION!!! Call your Doctor if you experience:** • Blood pressure readings that are outside your normal range • Headaches • Nosebleeds • Ringing in the ears • Lightheadedness • Palpitations
Red Zone	**EMERGENCY!!! Call 911 or have someone take you to the Emergency Room!!** • Sudden numbness or weakness of the face, arm or leg, especially on one side of the body • Sudden confusion, trouble speaking or understanding • Sudden trouble seeing in one or both eyes • Sudden trouble walking dizziness • Loss of balance or coordination • Sudden severe headache

Key Contacts- Fill in numbers for:
Primary Physician: _____
Specialist: _____
VNA: _____
Other: _____
_____

Appendix T: SMBP Program (Excerpts) Patient SMBP Orientation Slide Presentation

Source: Open Door Family Medical Centers

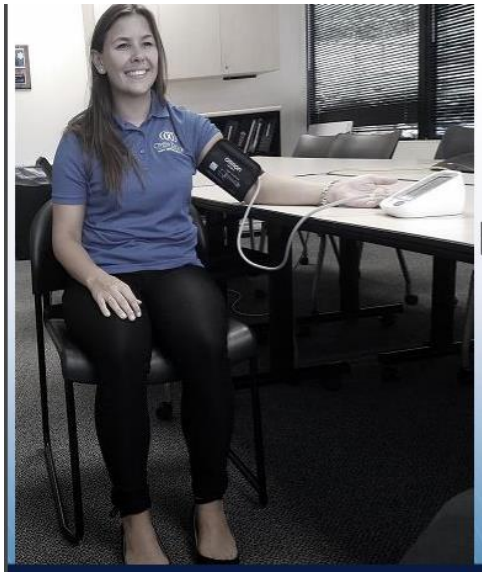
How can monitoring at home help me?

- Helps you have better control by knowing your numbers and sharing with your Provider.
- Makes sure that your medicine is the correct dosage (not too much / not too little).
- Checks to see if your readings are different in the office than they are at home, which helps us determine your true blood pressure.

If you follow your doctor's advice and make certain lifestyle changes, its possible to lower your Blood Pressure over time!

What do I need to do for this program?

- Learn the **proper** technique for taking Blood Pressure.
- Measure Blood Pressure for 7 days in a row, twice a day
  - Once in morning and once in evening.
  - We provide you with the machine for 1 week.
- Use the Log we provide to record your numbers.
- Follow-up visit in 1-2 weeks to submit log and return the monitor.
- Take a pre- and post- program survey to help us better serve you!



Let's learn how to properly take your blood pressure!

Open Door Family Medical Centers

Why is it important to take my blood pressure correctly?

Table 9. Blood Pressure Variability[52]

Factor	Systolic (mmHg)
Cuff too small	10–40 ↑
Cuff over clothing	10–40 ↑ or ↓
Back/feet unsupported	5–15 ↑
Legs crossed	5–8 ↑
Arm tense	15 ↑
Not resting 3 to 5 minutes	10–20 ↑
Anxiety/white coat hypertension	As much as 30 ↑
Patient talking	10–15 ↑
Labored breathing	5–8 ↑
Full bladder	10–15 ↑
Pain	10–30 ↑
Arm below or above heart level	10 ↑ or ↓ For every 1 cm above or below heart level, blood pressure varies by 0.8 mmHg.
Factor	**Diastolic (mmHg)**
Arm extended and unsupported	Diastolic ↑ 10%

Open Door Family Medical Centers

Centers for Disease Control and Prevention. Self-Measured Blood Pressure Monitoring: Actions Steps for Clinicians. Atlanta, GA: Centers for Disease Control and Prevention, US Dept of Health and Human Services; 2014.

What if my blood pressure is different at home than at the doctor's?

-Improper technique!
-Wrong cuff size
-Taking at different times during the day
-Eating, drinking or exercising right before
-White Coat HTN or Masked HTN

Open Door

Questions??

Next step: Meet with another wellness team member to take a short pre-program survey

Appendix U: Example SMBP Patient Material – *How Do I Take My Blood Pressure?*

Source: Health Quality Partners of Southern California

HEALTH QUALITY PARTNERS of Southern California

HQP rev. 1.31.17

How Do I Take My Blood Pressure?

Below are some reminders of how to prepare and get started on taking your blood pressure. Please refer to the instructions that came with your blood pressure monitor on how to use the device.

Prepare

Within 30 Minutes of taking your Blood Pressure

Do Not:

- Eat a large meal
- Smoke
- Exercise
- Take decongestants
- Have caffeine

These will cause your blood pressure to go up.

Getting Started

Do the following steps:

- Empty bladder first
- Take a seat
- Support your back
- Don't have a conversation

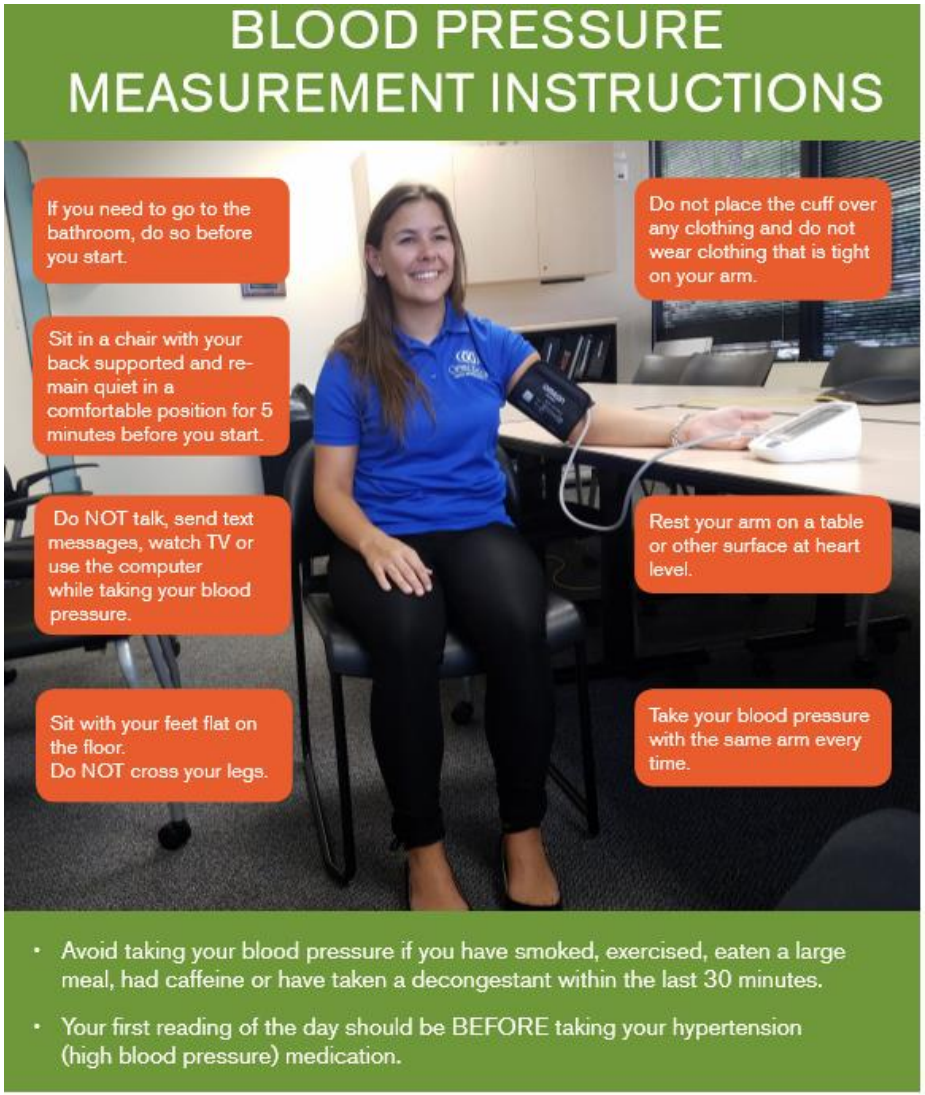
- Support your arm at heart level
- Keep legs uncrossed
- Keep your feet flat
- Put cuff on bare arm

Now that you are comfortably seated:

1. Apply the cuff securely on the upper part of your arm. The cuff should be ½ inch or 2 fingers above the crease of the elbow.
2. Push the start button to begin taking your blood pressure.
3. When the machine stops, write down the upper and lower blood pressure numbers on your blood pressure log.
4. Wait one minute and then repeat. Always check your blood pressure twice, one minute apart, then write down the numbers on your blood pressure log. Take your two blood pressure readings once in the morning and once in the evening for the next 14 days.

Appendix V: Example Infographic for Exam Rooms – *Blood Pressure Measurement Instructions* (English and Spanish)

Source: Open Door Family Medical Centers



Appendix W: Blood Pressure Monitor Loan Agreement (English and Spanish Versions)

Source: Open Door Family Medical Centers

Blood Pressure Monitor Loan Agreement

Patient's Name _____ Date of Birth: ____/____/_____

Monitor Serial Number _____

I agree to participate in the blood pressure self-management program.

- I will take my blood pressure using the monitor that I receive and will use it in the way my Wellness Coach, _____, has directed me to use it.
- I will take my blood pressure every morning and every night for _____ consecutive days.
- I will record my blood pressure levels on the recording sheet provided.
- I will return the recording sheet completed and blood pressure monitor to my Wellness Coach at my next visit on _____ at _____ am/pm.
- If I have any questions, I will call my Wellness Coach at 914-502-1448.

Your goal blood pressure level is less than _____ SYSTOLE / DIASTOLE

Your blood pressure is **too high** if it is **more** than	Your blood pressure is **too low** if it is **less** than
⇧ 180 SYSTOLE 120 DIASTOLE	⇩ 90 SYSTOLE 60 DIASTOLE
Recheck in 1 minute. If it remains in this range, call your doctor, especially if you feel dizzy, have a headache or do not feel well.	**Recheck in 1 minute.** If it remains in this range, call your doctor, especially if you feel dizzy, have a headache or do not feel well.

Signature _____ Today's Date ____/____/_____

OPEN DOOR FAMILY MEDICAL CENTERS

Acuerdo del Préstamo de Monitor de Presión Arterial

Nombre _____ Fecha de Nacimiento: ____/____/_____

Número de serie del monitor _____

Yo estoy de acuerdo en participar en el programa de manejo personal de la presión arterial.

- Voy a tomar mi presión arterial mediante el monitor que he recibido y lo voy a usar en la manera que mi entrenadora de Bienestar, _____, me dirigió.
- Voy a medir mi presión arterial cada mañana y cada noche durante _____ días consecutivos.
- Voy a registrar mis niveles de presión arterial en la hoja de registro suministrada.
- Voy a devolver mi hoja de registro completo y el monitor de presión arterial a mi entrenadora en mi proxima cita el _____ a las _____ am/pm.
- Si tengo preguntas, contactaré a mi entreadora al 914-502-1448.

Su meta presión arterial es menos de _____ SISTÓLICA / DIASTÓLICA

Su presión arterial es **muy alta** si es más de	Su presión arterial es **muy bajo** si es menos de
⇧ 180 SISTÓLICA 120 DIASTÓLICA	⇩ 90 SISTÓLICA 60 DIASTÓLICA
Vuelva a medir en 1 minuto. Si permanece en esta gama, llame a su médico, especialmente si siente mareado, tiene un dolor de cabeza o no se siente bien.	**Vuelva a medir en 1 minuto.** Si permanece en esta gama, llame a su médico, especialmente si siente mareado, tiene un dolor de cabeza o no se siente bien.

Firma _____ Fecha ____/____/_____

OPEN DOOR FAMILY MEDICAL CENTERS

Appendix X: Self-Measured Blood Pressure Monitoring Patient Participation and Blood Pressure Device Loaner Agreement

Source: Finger Lakes Community Health

Finger Lakes
COMMUNITY HEALTH

Self-Measured Blood Pressure Monitoring
Patient Participation and Blood Pressure Device Loaner Agreement

1. I agree to participate in the Blood Pressure Device Loaner Program.
2. I will take my blood pressure using the monitor provided to me and as directed by my health care provider or staff member.
3. I will record the blood pressure readings as instructed.
4. I will report these readings to my doctor's office as instructed below.
5. I will contact my doctor as instructed for any blood pressure reading of more than _____
6. I will return this monitor on the anticipated return date (listed below) as determined by my health care provider or staff member.

Blood Pressure Device identification number: _____

Anticipated Date of Return: _____

Blood pressure is to be measured and recorded twice daily, two measurements one minute apart every morning and two measurements one minute apart every evening for _____ days.

Blood pressures will be reported back to the health center every _____ days by (circle one):

Telephone

Bringing machine/blood pressure log back to the office for review

Patient portal

Blood pressure readings will be reported to _____, Finger Lakes Community Health Staff.

Patient Name (print): _____

Patient Date of Birth: _____

Patient Signature: _____

Finger Lakes Community Health Staff Signature: _____

Date: _____

Appendix Y: SMBP Loaner Program Policy & Procedure – Cleaning and Care of Home BP Monitors

Source: Whitney M. Young, Jr. Health Center

WHITNEY YOUNG HEALTH CENTER, INC

SMBP LOANER PROGRAM POLICY & PROCEDURE

Policy Number:		**Original Date:**	**05/17**
Revised Date(s):			
Policy	**Cleaning of home monitor B/P cuffs**		
Purpose:	**To ensure the proper care and cleaning of home monitoring blood pressure cuffs**		
Procedure:			
Originator:		**Owner:**	**Chief Medical Officer**
Approved By:			
Approval Signature			**Date:**

Policy: WYH will maintain the quality and safety standard of monitoring blood pressure cuffs used for SMBP by maintaining cleanliness of equipment, when returned to the center and before being loaned to another patient, consistent with manufacturer's recommendations.

Procedure:

1). Home monitoring blood pressures cuffs will be cleaned with Caviwipes upon return from patient home and before being loaned. The cuff, tubing and machine will be completely wiped with wipes and then allowed to dry.

2): The cleaning log will be kept in the same binder as the loaner agreements log and HTN Patient Education forms. The Binder will be kept in the office of the RN HTN Coordinators.

Appendix Z: Follow-up Letter Template for SMBP Patients

Source: Hudson River Healthcare

Letter to Patients with no return phone call

75 Washington Street
Poughkeepsie, NY 12601
(845) 790-7990

<Date>

Re: Self-Measure Blood Pressure Program

Dear Mr./Mrs. < >,

We are reaching out in hopes that you have continued your self-measure blood pressure readings. We are pleased to have you as part of our program and hope that you have continued to find value in participating. If not, come tell us what you didn't like about the program. We are always looking to improve to better the experience of each of our patients.

Whether you have or have not been recording your readings, we look forward to hearing from you! Please call our office at <phone #> to make an appointment.

Sincerely,

<Clinician>

Appendix AA: Certificate of Completion Hearth Health Program (focused on use of SMBP)

Source: Whitney M. Young, Jr. Health Center

Appendix AB: Gateway Regional YMCA and Samuel U. Rodgers Health Center YMCA Blood Pressure Self-Monitoring Clinical-Community Protocol

Million Hearts Blood Pressure Protocol

When patient is meeting with Ambassador in office

If BP reading is > 140/90:

1. Ask the patient to rest and recheck BP in 15 minutes.
2. Assess if patient is taking BP medicine correctly.
3. If BP is still > 140/90, repeat the BP in 15 minutes.

If BP is still > 140/90:

1. AND patient has not taken BP meds yet for the day, have them go home and take BP medication and rest. If BP is still > 140/90, instruct patient to contact Dr. [redacted] at [redacted] or his nurse [redacted] at [redacted].
2. AND patient has taken BP meds and the BP is still > 140/90, instruct patient to contact Dr. [redacted] at [redacted] or his nurse [redacted] at [redacted] for further instruction.

The Healthy Heart Ambassador will document the details of this encounter in the consult note and fax to Samuel Rodgers. This note will be scanned into the patient's medical record.

When patient calls Ambassador, or vice versa OR when Ambassador notes BP in Portal

If BP is > 140/90:

1. Ask if patient has taken his/her medicine and if so, when.
2. Assess if patient is taking BP medicine correctly.
3. If patient took medicine more than 1 hour ago, ask patient to rest and check BP in 1 hour.
4. If patient has NOT taken BP medication, ask him/her to take medicine, rest, and retake BP in 1 hour.

In 1 hour, if BP is still > 140/90, patient should contact Dr. [redacted] at [redacted] or his nurse [redacted] at [redacted] for further instruction.

The Healthy Heart Ambassador will document the details of this encounter in the consult note and fax to Samuel Rodgers. This note will be scanned into the patient's medical record.

When patient is meeting with Ambassador in office

If BP reading is > 140/90:

1. Ask the patient to rest and recheck BP in 15 minutes.
2. Assess if patient is taking BP medicine correctly.
3. If BP is still > 140/90, repeat the BP in 15 minutes.

If BP is still > 140/90:

1. AND patient has not taken BP meds yet for the day, have them go home and take BP medication and rest. If BP is still > 140/90, instruct patient to contact Dr. [redacted] at [redacted] or his nurse [redacted] at [redacted]
2. AND patient has taken BP meds and the BP is still > 140/90, instruct patient to contact Dr. [redacted] at [redacted] or his nurse [redacted] at [redacted] for further instruction.

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In 1 hour, if BP is still > 140/90, patient should contact Dr. [redacted] at [redacted] or his nurse [redacted] at [redacted] for further instruction.

The Healthy Heart Ambassador will document the details of this encounter in the consult note and fax to Samuel Rodgers. This note will be scanned into the patient's medical record.

Appendix AC: Training Manual – Staff Checklist for SMBP Training

Source: ARcare/KentuckyCare

Patient Name: Date:

DOB: Phone Number: Serial Number:

Explain the initiative, rationale and the reporting requirements.	
Measure arm for proper size cuff. (40-54 cm needs extra-large cuff)	
Assess baseline knowledge. Ask patient their BP target and normal BP value.	
Briefly describe the color zones associated with the Care Collaborative.	
Demonstrate assembly/disassembly of monitor.	
Demonstrate putting cuff on self.	
Explain how to know the cuff is placed correctly. Point out landmarks.	
Demonstrate proper positon of body and arm.	
Observe patient place cuff on self. Observe patient position.	
Have patient turn on machine to measure BP.	(record here:)
Have patient identify the color zone of current BP 3 tries. Record on CC data,	(Correct: ☐ Yes ☐No)
Coach and repeat if necessary.	
Review instructions for SMBP below*	
Provide written instruction sheet (Target BP).	
Have patient repeat instructions.	
Provide Kentucky BP Record and second sheet. Explain how to record.	
Review minimum requirements again.	
Answer patient questions and confirm commitment	
Administer survey: Record Serial Number on survey	Date Faxed:
Schedule follow-up appointment for 30 minutes	Date:
Add patient to spreadsheet.	

Document in chart.	
Call patient in 2 days to check-in. Document in chart.	Date

Call patient in 2 days to check-in. Document in chart.	Date

Enter last 7 days into BP average calculator spreadsheet and give to provider.	
Enter data on Care Collaborative tally sheet.	
Administer post-survey.	Date Faxed:
Document in chart.	
Send home records to Chris to scan into chart.	
Update spreadsheet.	

*Instructions

Measure BP BEFORE taking BP medication.

30 minutes prior to measurement

Avoid:

- Exercise
- Caffeine
- Alcohol
- Large meal
- Cold/flu/allergy medicine

Rest for 5 minutes before measuring blood pressure

Immediately before measurement

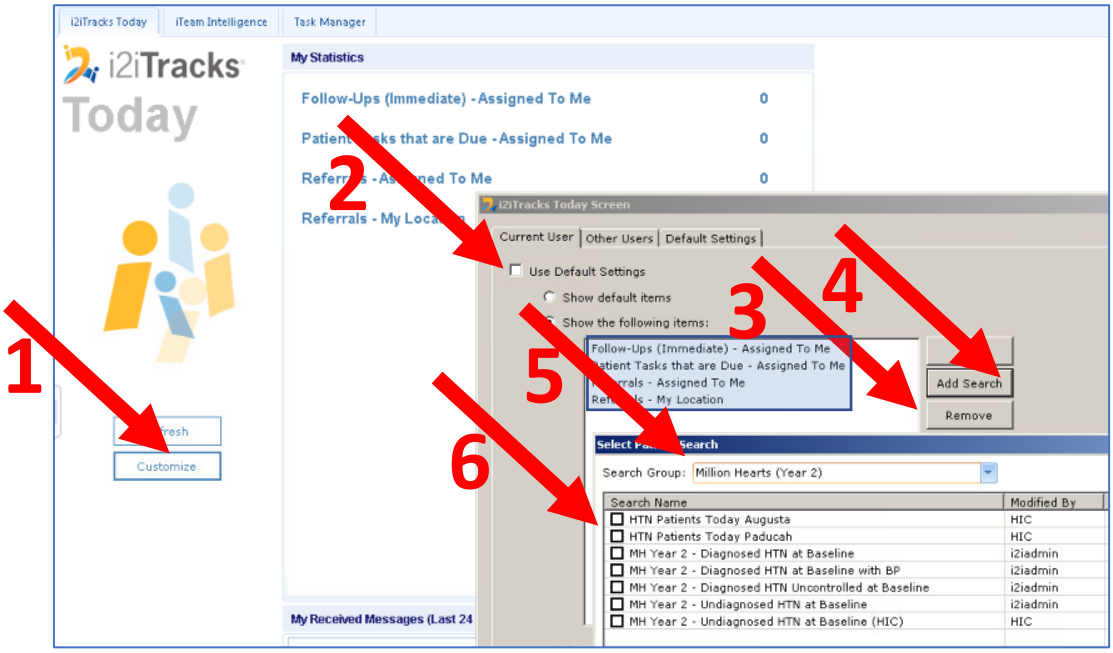
Appendix AD: Staff Training Manual – Using i2i Tracks to Support SMBP

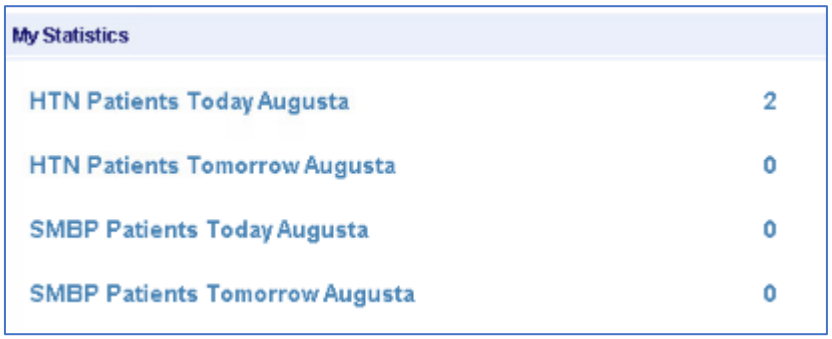
Source: ARcare/KentuckyCare

Know who to target for SMBP every day (This has been done for you already)

Setup i2iTracks Today "My Statistics"

❶Customize > ❷Uncheck "Use Default Settings" > ❸Remove unwanted items >❹ "Add Search" > ❺Navigate to "Million Hearts (Year 2)" > ❻Select your search





Patients identified in these lists have a diagnosis of hypertension on their problem list and their most recent systolic blood pressure was >=140 and/or diastolic >=90.

SMBP patients have been enrolled in the SMBP program in the past 6 months. They will display no matter what their current B/P is.

Double-click on the number OR name of list, and the patient list will display in order of appointment time. Details included in the list are shown below, including two most-recent blood pressures. (PHI is included in actual list)

NextApptTi...	NextApptResource	NextApptType	NextApptDa...	BP (Last Val...	BP (Last Da...	BP (2nd Las...	BP (2nd Las...
10:00 AM	KATINA BRISCOE, A...	DSME NURSE ONLY	10/25/2017	158/96	9/20/2017	150/85	9/14/2017
2:45 PM	JAIME WHITEHEAD,...	ESTABLISHED PATI...	10/25/2017	199/118	10/23/2017	186/89	1/20/2017

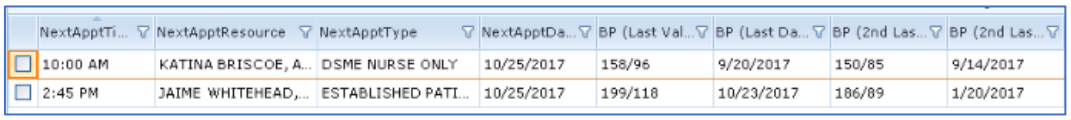
Note: If multiple blood pressures are recorded on a single day, i2iTracks will display the lowest systolic combined with the lowest diastolic, even if these did not occur together. This cannot be changed. This idiosyncrasy of i2iTracks does not affect the validity of the patients included in the query result. Blood pressures are recorded correctly in the EMR.

Record tracking information in i2iTracks (for now)

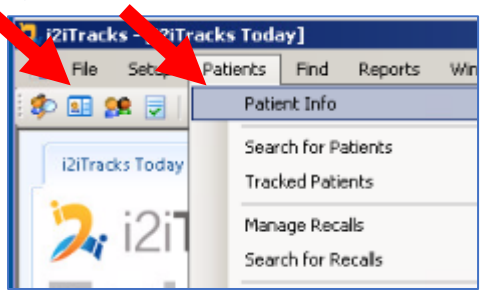
Looking up Patients

Option 1

Double-click on a patient in the list



Option 2

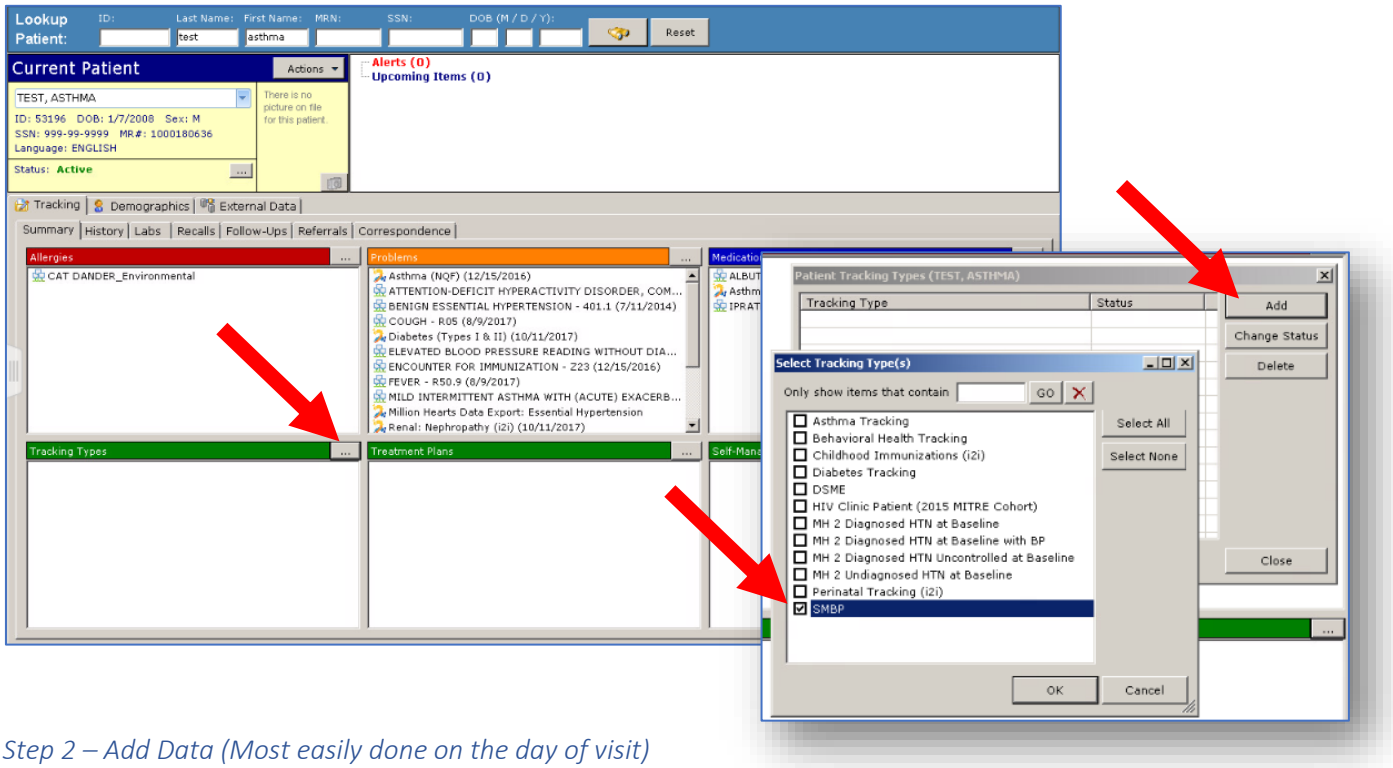


Either use the "ID card" icon or "Patients > Patient Info" from the file menu to bring up the search dialog box. Use any available option to search for the patient.

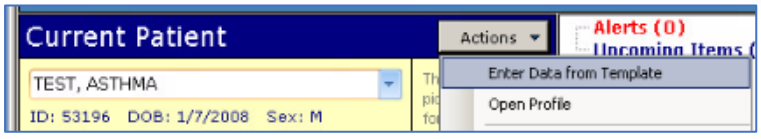
Adding Data to a Patient (Until we can get it from Success EHS and so you don't have to manage a spreadsheet)

Step 1 – Add SMBP Tracking (You only need to do this once)

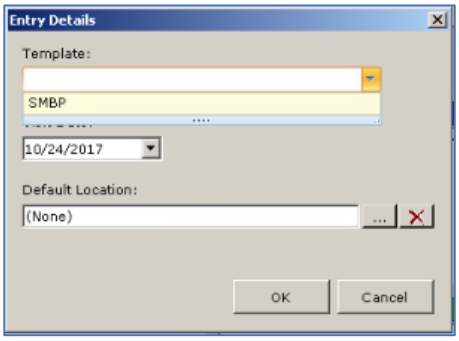
Click on the ellipsis  > Add > Select "SMBP" > OK > Close



Step 2 – Add Data (Most easily done on the day of visit)

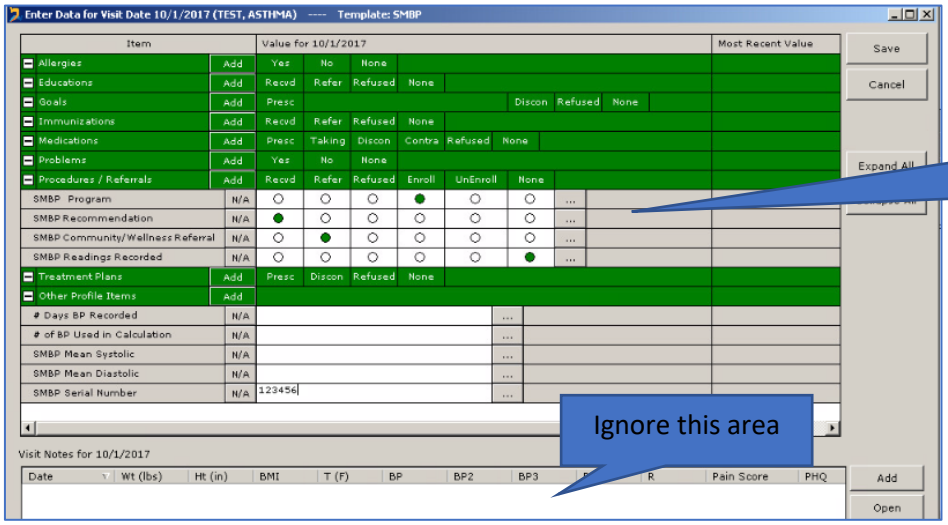


There is only one template to choose from: SMBP.



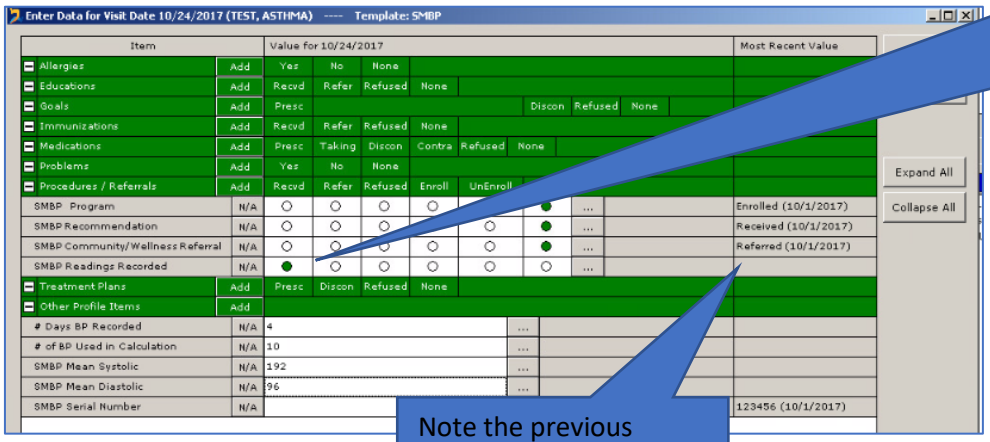
Set the date, if what you are going to record was from a prior date.

Check off or enter the details for the date of the visit. "Recvd" means it was done. Looking at the values entered below, on 10/1/2017 this patient: Was enrolled in the ARcare/KentuckyCare SMBP Program, Had the SMBP program recommended to them, was referred to the community SMBP program, and did not have any home readings recorded today. They were given a B/P cuff serial number 123456.



Check off what was done on the date you selected and that is shown at the top

Ignore this area



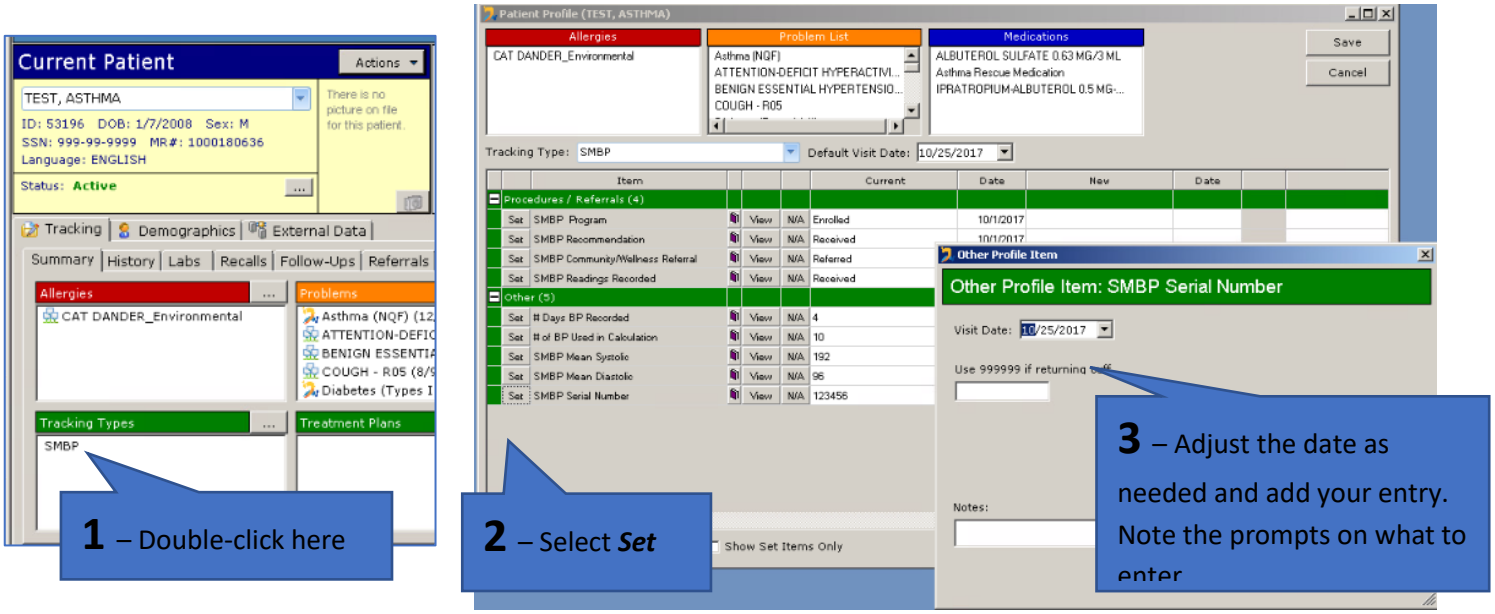
When the patient came back on 10/24/17, the blood pressures were recorded in the EMR and the mean values are added to i2iTracks. This way they can be used for reporting on the program.

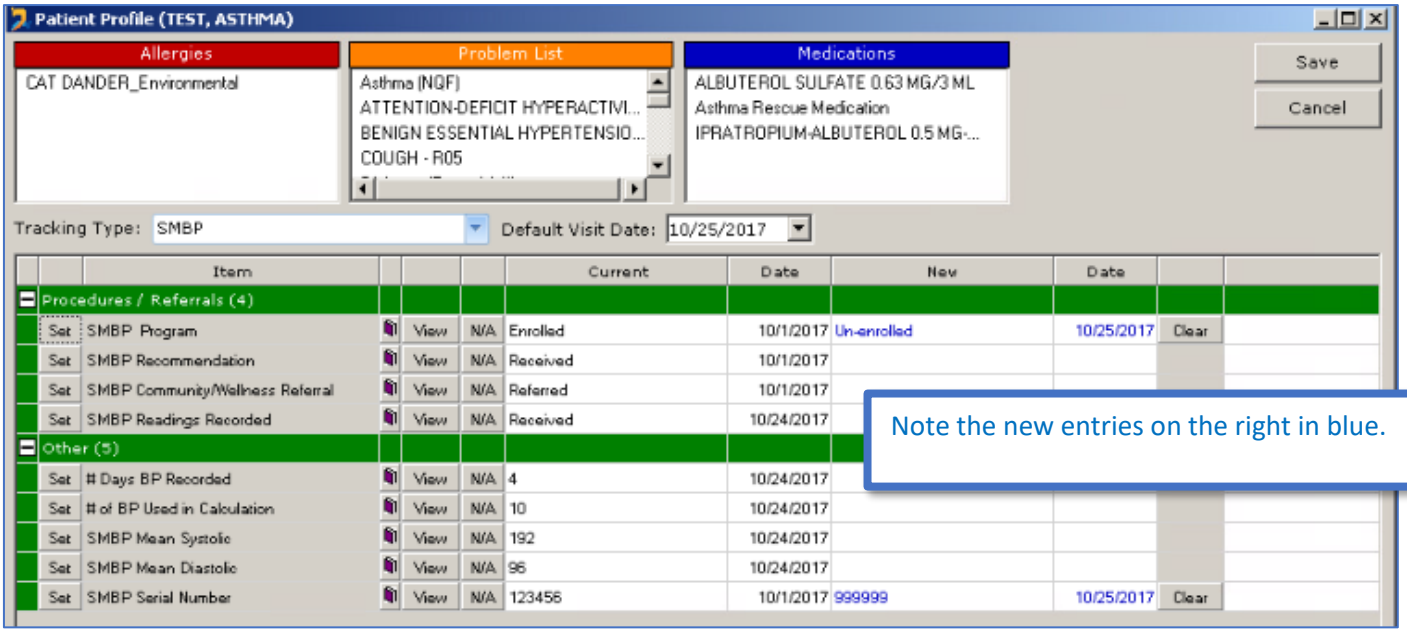
Note the previous values in the column on the right.

When do I select ***Recvd*** for *SMBP Readings Recorded?*

When the patient has recorded at least 2 B/P's for at least 3 days in the period of time that you are looking at the recordings. These days do *not* have to be consecutive.

Step 2 – Add Data (When you are adding data from multiple dates on the same patient)





Do I record these blood pressure readings?
Mr. Test recorded 2 B/P's on Monday, none on Tuesday, 3 on Wednesday, 1 on Friday, and 4 on Saturday (His wife reminded him, several times). **Yes, record these.** There are at least 2 readings on at least 3 days.
Which pressures do I use to calculate the mean systolic and diastolic?
All 10 B/P's that Mr. Test recorded over these 5-of-6 days.

Other Profile Items	Add	
# Days BP Recorded	N/A	5
# of BP Used in Calculation	N/A	10
SMBP Mean Systolic	N/A	184
SMBP Mean Diastolic	N/A	78

Reaping the Benefits – Reporting

Reports > Population Analytics > Reports > Million Hearts SMBP DRAFT

Run Date: 10/24/2017 4:07:07 PM

Date Range: 11/1/2016 - 10/31/2017

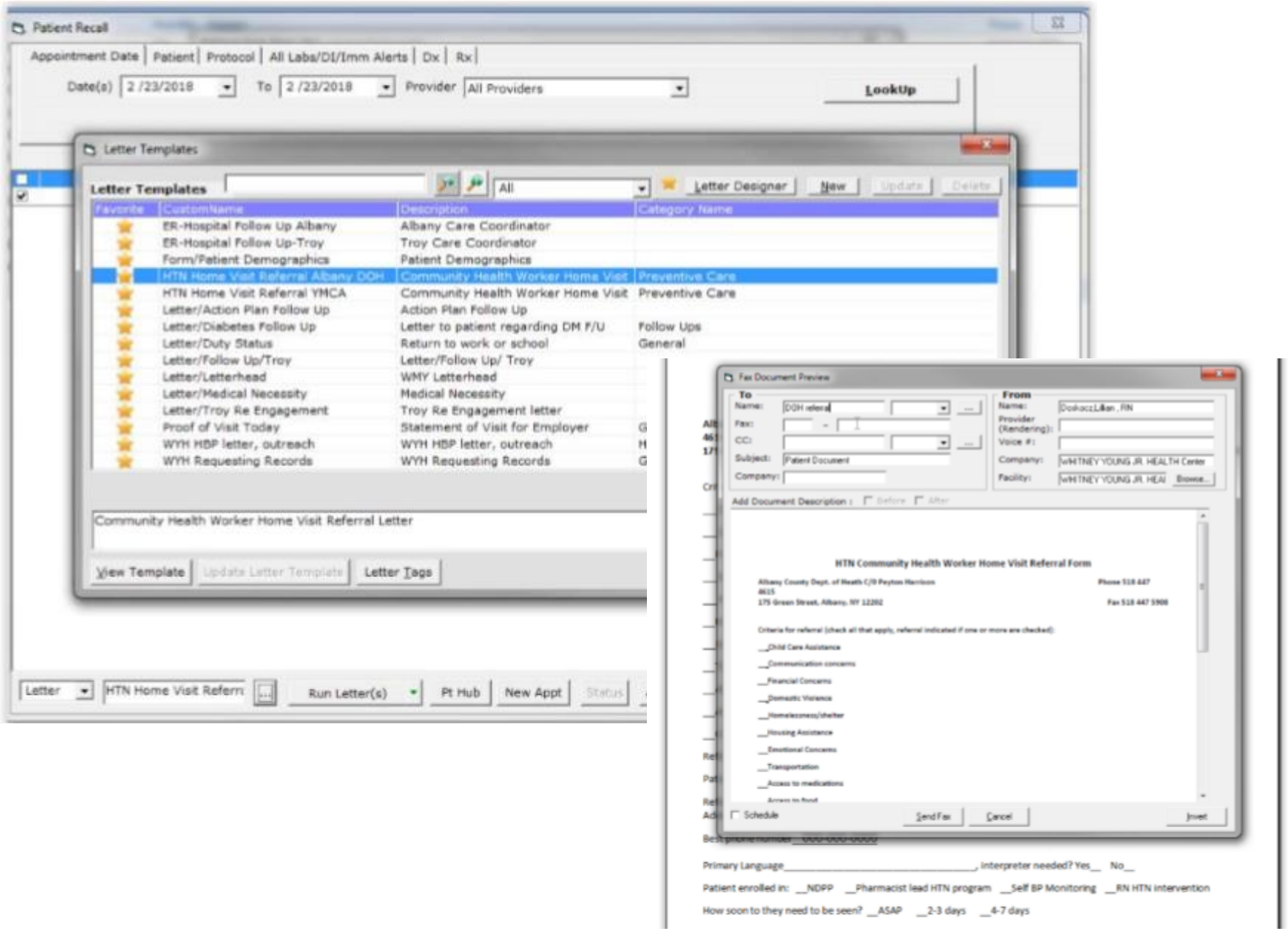
Million Hearts SMBP

Rendering Location:	ARCARE10 - AUGUSTA +101		KYCARE43 - PADUCAH +443	
Item	Value	%	Value	%
1. STRUCTURE				
A. Hypertension Prevalence				
1. DENOMINATOR: Patients 18-85 seen for at least one medical visit in the reporting period	1671	100%	2137	100%
2. NUMERATOR: Patients with Essential Hypertension on superbill or problem list during or prior to the reporting period.	847	50.69%	951	44.5%
2. SHORT-TERM OUTCOME				
A. Recommendation of SMBP				
1. DENOMINATOR: Patients with Essential Hypertension on superbill or problem list during or prior to the reporting period.	847	100%	951	100%
a. NUMERATOR: SMBP Recommended in the Past 12 Months	0	0%	0	0%
B. Referral to Community SMBP Support Program				
1. DENOMINATOR: Patients with Essential Hypertension on superbill or problem list during or prior to the reporting period.	847	100%	951	100%
a. NUMERATOR: SMBP Community Support PRogram Referral in the Past 12 Months	0	0%	0	0%
3. INTERMEDIATE OUTCOME				
A. Use of SMBP among HTN Patients				
1. DENOMINATOR: Patients with Essential Hypertension on superbill or problem list during or prior to the reporting period.	847	100%	951	100%
a. NUMERATOR: SMBP Readings recorded at least 12 times in the past 12 months	0	0%	0	0%
4. LONG-TERM OUTCOME				
A. Blood Pressure Control - NQF 0018				
1. DENOMINATOR: Patients with Essential Hypertension on superbill or problem list during the first 6 months or prior to the reporting period.	789	100%	821	100%
a. NUMERATOR: Most recent B/P <140/90	408	51.71%	415	50.55%

We are working very hard to add the required documentation to the EMR so that you only have to document in one place. We hope to have that done by Christmas. Then all of the required data will flow to i2iTracks, from the EMR, so that it can be used for the reporting.

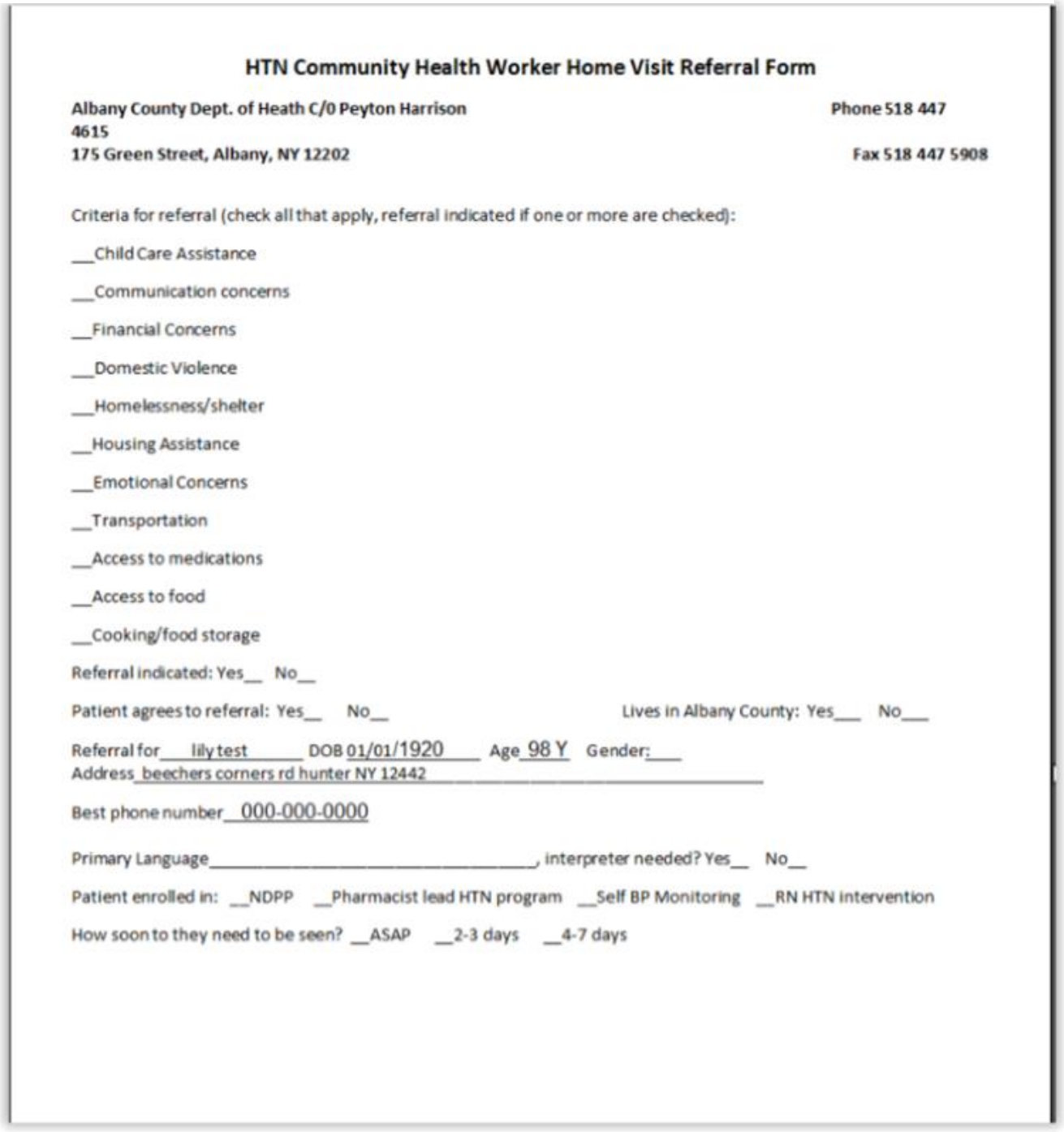
Appendix AE: HTN Community Health Worker Home Visit Referral EHR Screen Shots and Form AND HTN YMCA Community Referral Form

Source: Whitney M. Young, Jr. Health Center



Appendix AE: HTN Community Health Worker Home Visit Referral EHR Screen Shots and Form AND HTN YMCA Community Referral Form

Source: Whitney M. Young, Jr. Health Center



HTN Community Health Worker Home Visit Referral Form

Albany County Dept. of Heath C/0 Peyton Harrison **Phone 518 447**
4615
175 Green Street, Albany, NY 12202 **Fax 518 447 5908**

Criteria for referral (check all that apply, referral indicated if one or more are checked):

__Child Care Assistance

__Communication concerns

__Financial Concerns

__Domestic Violence

__Homelessness/shelter

__Housing Assistance

__Emotional Concerns

__Transportation

__Access to medications

__Access to food

__Cooking/food storage

Referral indicated: Yes__ No__

Patient agrees to referral: Yes__ No__ Lives in Albany County: Yes___ No___

Referral for___lily test_____ DOB 01/01/1920 Age 98 Y Gender:___
Address beechers corners rd hunter NY 12442

Best phone number 000-000-0000

Primary Language_____, interpreter needed? Yes__ No__

Patient enrolled in: __NDPP __Pharmacist lead HTN program __Self BP Monitoring __RN HTN intervention

How soon to they need to be seen? __ASAP __2-3 days __4-7 days

HTN YMCA Community Referral Form

North Albany YMCA Phone 518 463 9622

616 North Pearl, Albany NY 12204

Email: bluke@cdymca.org Fax: 518 463 5080

Lives in Albany County Yes NO

Client Name ___lily test_____DOB_01/01/1920_____ Gender __M, __F

Address___beechers corners rd hunter NY 12442_____

Best phone number__000-000-0000_____

Primary language_____, Interpreter __Y ___N

Criteria for referral:

___Diagnosis of HTN

___Would like to better manage blood pressure with community resources

___Interested in life style changes

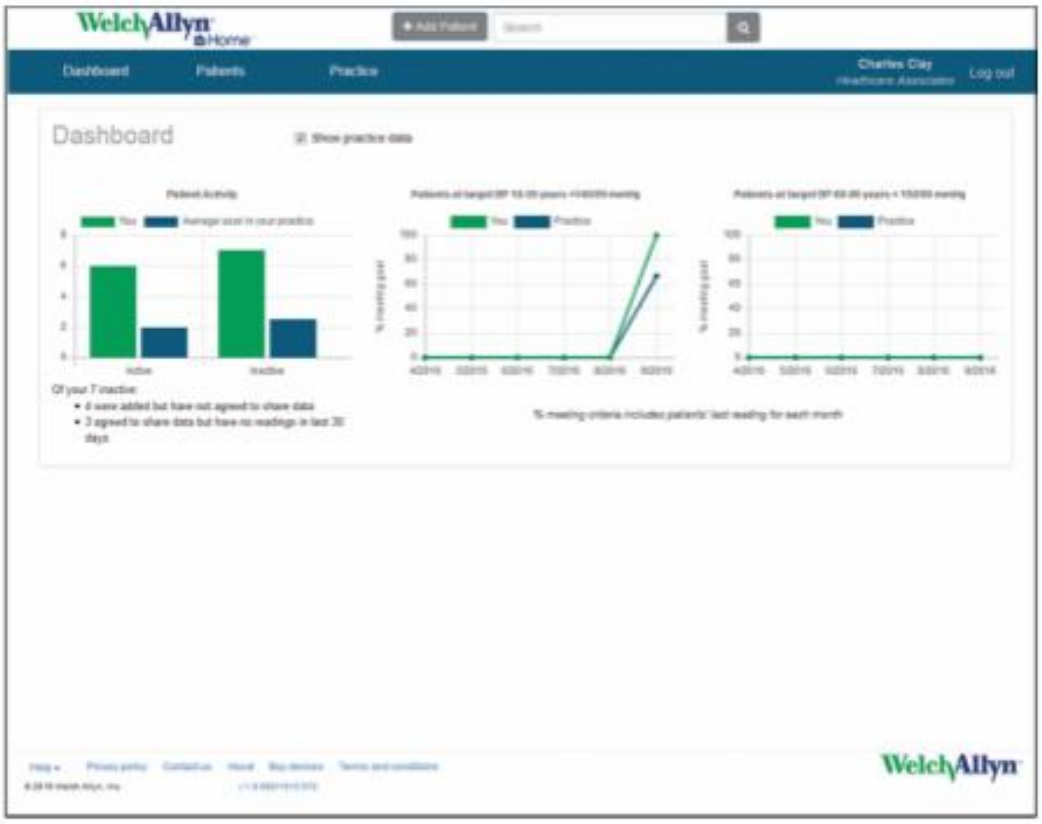
___Increase activity

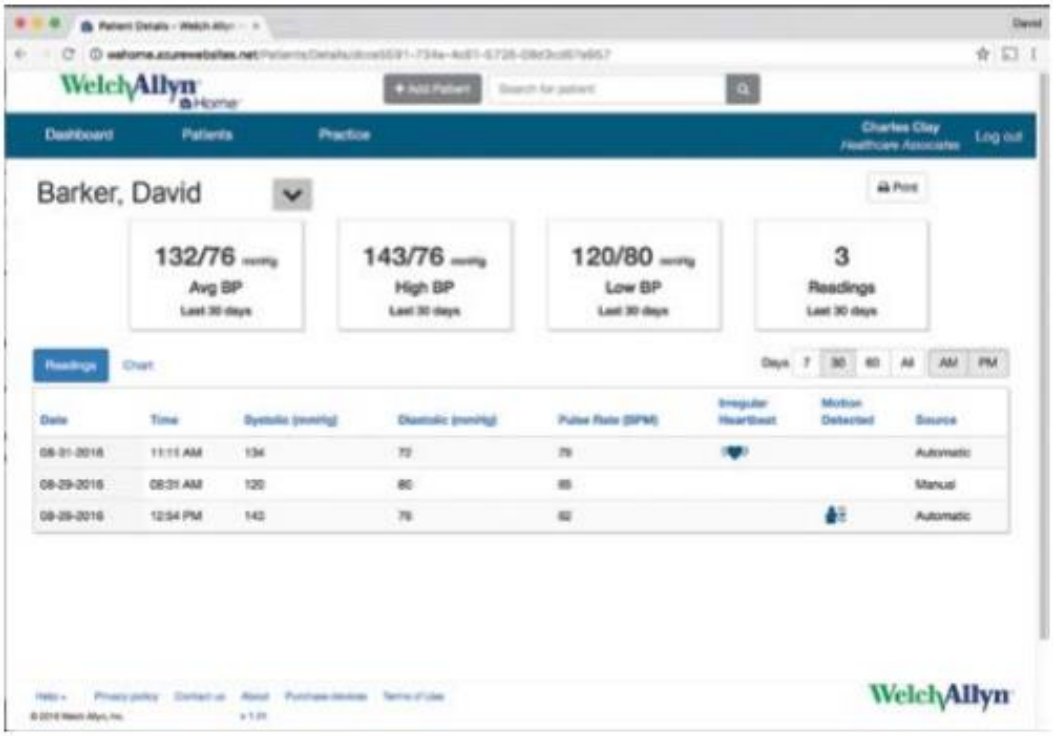
___Eat healthier

___Child care assistance

Appendix AF: Welch Allyn BP Home Clinical Portal Screen Shots

- Average SMBP measurement calculated by SMBP coach and documented in EHR progress note
- Average SMBP measurement and interpretation sent to provider in message (scripted)
- SMBP Log sheet or automated flow sheet produced from home BP monitor scanned to patient chart and addressed to primary care provider





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[ii] Magid DJ, Green BB. Home blood pressure monitoring: Take it to the bank. *JAMA*, 2013;310(1):40–41. doi:10.1001/jama.2013.6550

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[viii] American Heart Association. What's New? The 2017 Hypertension Guideline Features a Few Key Changes. Available: http://professional.heart.org/idc/groups/ahamah-public/@wcm/@sop/@smd/documents/downloadable/ucm_497446.pdf