Check Change Control

Hypertension Management Strategies & Tools from the Physician’s Office to the Community

Promoting A Healthier Wyoming Conference
September 18, 2019
No Financial Disclosures
80 million adults have HBP

Blood Pressure Category | Systolic (mmHg) | Diastolic (mmHg)
--- | --- | ---
Normal / Ideal | less than 120 and | less than 80
Prehypertension | 120-139 or | 80-89
Hypertension stage 1 | 140-159 or | 90-99
Hypertension stage 2 | 160 or higher or | 100 or higher
Hypertensive crisis | higher than 180 or | higher than 110

Prevalence of HPB varies by race and ethnicity:

**Whites** roughly 1 in 3

**Blacks** roughly 2 in 5

**Latinos** roughly 1 in 4

**Asians** roughly 1 in 5

AHA 2015 Statistical Update
46% are uncontrolled

Most adults with uncontrolled HTN have health insurance and a usual source of care

2015 – Prevalence rate 33%
2030 – Prevalence rate 41% (projected)

62% increase in annual deaths related to hypertension

Source: CDC, AHA
From 2009 to 2012 among US adults with HBP

54.1% HBP is controlled
76.5% currently treated
82.7% are aware they have HBP
17.3% remain undiagnosed

AHA 2015 Statistical Update
Blood pressure of 130 is the new ‘high,’ according to update of guidelines.
Blood pressure of 130 is the new ‘high,’ according to update of guidelines

High blood pressure accounts for the second largest number of preventable heart disease and stroke deaths, second only to smoking.

It’s known as the “silent killer” because often there are no symptoms, despite its role in significantly increasing the risk for heart disease and stroke.
What does this mean?

• The 2017 AHA/ACC guidelines for treating high blood pressure in adults are the first comprehensive set in the U.S. since 2003.

• Rather than 1 in 3 U.S. adults having high blood pressure (32 percent) with the previous definition, the new guidelines will result in nearly half of the U.S. adult population (46 percent) having high blood pressure, or hypertension.
What’s behind these changes?

Research shows that adults with blood pressure readings considered prehypertensive under the old guidelines are already at up to double the risk of having a major cardiac event—a heart attack or stroke—compared to those with a normal blood pressure.

In addition, recent clinical trials find that lowering systolic blood pressure to 120 mm Hg results in significant cardiovascular benefit in high-risk patients compared with blood pressure control to <140 mm Hg.
2017 Guidelines

NORMAL

below 120

ELEVATED

120 to 129

HIGH

STAGE 1

130 to 139

STAGE 2

140 and above

Also called Hypertension

below 80

below 80

80 to 89

90 and above
Hypertension Management – Across the Continuum (American Heart Association tools)

**Target Blood Pressure:**
A tool for health professionals who oversee the ongoing health of a patient population

**Check Change Control Hypertension**
A self-help tool; available to patients. It can be incorporated with Target Blood Pressure initiatives within clinics, as well as employee health programs.
Hospitals

Physician Practices

Employers

Primary Care Patients

Employees

Patients

Employees

Exception: Large employers with their own Primary Care Clinic.

TBP

CCC

TBP

CCC

CCC

TBP
From Registration to Recognition
What is Target: BP?

A call to action motivating medical practices, practitioners and health services organizations to prioritize blood pressure control

Recognition for healthcare providers who attain high levels of blood pressure control in their patient populations, particularly those who achieve 70, 80 percent or higher control

A source for tools and assets for healthcare providers to use in practice, including the AHA/ACC/CDC Hypertension Treatment Algorithm and the AMA’s M.A.P. Checklist

http://targetbp.org/
Who is our Target Audience?

• Primary Care System
  - Federally Qualified Health Clinic (FQHC)
  - Practice/Clinic with mission to serve publicly insured, underinsured, or uninsured
  - Private Clinical System (non-FQHC)

• Government Agency or Organization providing care to patients
Why should a clinic participate?

• We know what medicines work but systems aren’t in place to drive control rates
• Algorithm and systems approach described in AHA’s treatment algorithm are proven to increase control rates within a clinical setting
• Sites will receive recognition from the AHA and AMA
• Help meet required performance metrics
• **Improved health and care of their patients!**

http://targetbp.org/
Resources

• Clinical checklists and resources to improve quality of BP measurement
• Algorithms and standardized treatment protocols
• Web-based trainings and peer-to-peer best practices
• Resources to empower patients to self-manage blood pressure
• Lifestyle change/ patient education resources
• Additional resources available after November
Recognition criteria and levels

- **Participation**
  - Target: BP registration
  - Submit data

- **Achievement**
  - Blood pressure control measure (NQF#18/PQRS#236)
  - ≥70% of adult patients with diagnosis of hypertension whose blood pressure adequately controlled (<140/90 mmHg) in 2019
M.A.P. Framework for Improving BP Control

All 3 are critical for control

Measure Accurately
Act Rapidly
Partner with Patients

The M.A.P. Improvement Program in Target: BP
Putting it All Together

1. Standardized BP measurement
2. Confirmatory measurement if initial bp high
3. Self-Measured BP Monitoring
4. Standardized treatment protocol
5. Single-pill combination therapy
6. Frequent follow-up visits until bp is controlled
7. Feedback using performance metrics when available
8. Patient centered communication strategies to promote treatment adherence and healthy lifestyle changes
The Importance of Measuring Blood Pressure Accurately
AMA Blood Pressure Check Challenge

• 159 students from medical schools in 37 states attending the American Medical Association’s House of Delegates Meeting in June 2015 were assessed on an 11-element skillset on BP measurement

• Only one student demonstrated proficiency on all 11 skills

• Measuring BP correctly should be taught and reinforced throughout medical school, residency, and the entire career of clinicians.

Why is accurate BP measurement important?
The need for accurate BP measurement

- To categorize level of blood pressure
- Establish BP-related cardiovascular disease risk
- To guide the management of high blood pressure

Methods of Blood Pressure Measurement
24 Hour ambulatory blood pressure monitoring (ABPM)

Self-measured blood pressure (SMBP)

Automated office blood pressure monitoring (AOBP)

Conventional blood pressure monitoring

Methods of BP Measurement
24-hour Ambulatory Blood Pressure Monitoring (ABPM)

Pros
• Most evidence for accurate diagnosis of HTN
• Most reliable for predicting future CV events
• Rule out white coat HTN
• Identify patients with masked HTN
• Provides BP information during sleep

Cons
• Device is expensive
• Inconvenient for patients
• Hard to get scheduled (specialist)
• Training required to interpret

Self-measured Blood Pressure (SMBP)

Pros
• Correlates better with 24-hour ABPM readings (compared to office BP)
• Better predictor of future CV events than conventional office BP
• Rule out white coat HTN
• Identify patients with masked HTN
• Inexpensive

Cons
• Requires the patient to have a home BP monitor
• Requires patient to be trained by a healthcare professional
• Requires clinical support for maximum benefit


Automated Office Blood Pressure (AOBP)

Pros

• Validated, automated BP monitors with multiple cuff sizes
• Monitors can take 3 BP measurements and then average them
• Provides unattended measurement, reducing white coat effect
• Intervals can be set at 1-2 minutes between measurements

Cons

• Expensive
• Perception that it will disrupt workflow

Conventional Office Blood Pressure Measurement

Pros

• Convenient
• Inexpensive

Cons

• Heavily impacted by observer (person taking the BP), patient and environmental factors
• Many offices not set up for proper positioning
• Requires time (>5 minutes) to be done effectively – but can be accomplished
• Terminal digit preference more likely if done manually
• Cannot rule out white coat HTN
• Cannot identify patients with masked HTN
• Rarely performed correctly

Office Blood Pressure Measurement

Single routine office BP – poor correlation with patient’s *true* BP. Why do we continue to use them?

- Most convenient and often the only opportunity to obtain a BP

What can we do to improve the quality of office BP measurements?

- Reduce measurement errors
- Standardize the process of measuring BP which reduces variation in measurement technique
- Perform multiple measurements and average them
Which method is preferred?
Common Errors and Solutions for Accurate Measurement
Impact on Accurate Measurements…

- Patient has legs crossed. Reading off by 2-8mmHg.
- Cuff over clothing. Reading off by 5-50mHg.
- Cuff too small. Reading off by 2-10mmHg.
- Full Bladder. Reading off by 10mmHg.
- Talking or Active Listening. Reading off by 10mmHg
- Unsupported arm/back/legs. Reading off by 6-10mmHg.
Improvement Examples

• One clinic put red graphics in every exam room by BP machine.
• Another clinic holds annual BP measuring accurately trainings for all staff.
• Some sites have purchased stools to ensure that patient’s feet are supported.
• Some sites move furniture around in rooms to allow for a more accurate measurement where arms, feet, and back are supported.
Cuff Size and Placement

A properly-fitted cuff should have

• Bladder length that is 80-100% of the circumference of the arm
• Bladder width that is at least 40% of the circumference of the arm

Six Steps to Measuring Blood Pressure Accurately
What’s Wrong With This Picture?
• Step 1: Properly prepare the patients
  • Chuck, Red graphic

• Step 2: Use proper technique for BP measurements
  • Cuff size, validate device, arm placement

• Step 3: Take proper measurements needed for diagnosis and management of HBP
  • # of measurements, 1-2 minutes apartment

• Step 4: Properly document BP readings

• Step 5: Average the readings

• Step 6: Provide BP readings to patients

Measure Accurately Tools: Technique quick-check

Technique quick-check

Excellent measurement technique requires training and skill building, but a few common problems related to patient preparation and positioning often account for unreliable readings.¹ ²

Use this tool to verify everyone in your practice or health center obtains blood pressure readings the right way and the same way every time. Complete four observations for each team member (e.g., medical assistant, nursing staff and physicians) who regularly takes blood pressure measurements, using one sheet for each person. Repeat on a quarterly or monthly basis or as needed.

<table>
<thead>
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<tr>
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</tr>
<tr>
<td>Date:</td>
</tr>
<tr>
<td>Observer name(s):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Observation location (clinic, unit, etc.):</th>
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</thead>
</table>

<table>
<thead>
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<th>Patient #1</th>
<th>Patient #2</th>
<th>Patient #3</th>
<th>Patient #4</th>
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<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. Used an automated device</td>
<td>□</td>
<td>□</td>
<td>□</td>
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Additional notes on availability, accessibility, quality and/or use patterns of blood pressure measurement devices in the practice (optional):

<table>
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<th>No</th>
<th>If no, why not?</th>
<th>Yes</th>
<th>No</th>
<th>If no, why not?</th>
<th>Yes</th>
<th>No</th>
<th>If no, why not?</th>
<th>Yes</th>
<th>No</th>
<th>If no, why not?</th>
</tr>
</thead>
<tbody>
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<td>1. Patient in the correct position</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>1.1. Seated with back supported</td>
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<td>□</td>
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<td>□</td>
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<td>□</td>
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<td>□</td>
</tr>
<tr>
<td>1.2. Feet flat on the floor or footstool</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>
Blood pressure measurement: Measure accurately

**Screening for high blood pressure**
- Use a validated, automated device to measure BP
- Use the correct cuff size on a bare arm
- Ensure the patient is positioned correctly

**If initial blood pressure is elevated, obtain a confirmatory measurement**
- Repeat above steps
- Ensure the patient has an empty bladder
- Ensure the patient has rested quietly for at least five minutes
- Obtain the average of at least three BP measurements

**Evidenced-based tips for correct positioning**
- Ensure the patient is seated comfortably with:
  - Back supported
  - Legs uncrossed with feet flat on the floor supported with a stool
  - Arm supported with the BP cuff at heart level

**7 Simple Tips to Get an Accurate Blood Pressure Reading**
1. **Use Correct Cuff Size**
   - Check the natural arm 3-6 mm Hg
2. **Put Cuff on Bare Arm**
   - If necessary, 5-10 mm Hg
3. **Don’t Have a Conversation**
   - Talking raises blood pressure 5-10 mm Hg
4. **Empty Bladder First**
   - Full bladder 10-20 mm Hg
5. **Support Arm at Heart Level**
   - Measure at arm level 0-1 mm Hg
6. **Support Back Feet**
   - Supine, 0-2 mm Hg
7. **Keep Legs Upright**
   - Crouching or lying down 5-10 mm Hg
TargetBP.org Resources for Clinical Teams

JOIN TARGET: BP

Commit to reducing the number of Americans with uncontrolled blood pressure.

Register

RECOGNITION PROGRAM

Achieve recognition for maintaining blood pressure control rates.

Learn More

DATA SUBMISSION

Submit data to be recognized by the Target BP Recognition Program.

Submit Data
Information from this presentation was obtained from the AHA/AMA Webinar titled The Importance of Measuring Blood Pressure Accurately unless otherwise noted

For additional information, please access the webinar using this link:

https://targetbp.org/tools_downloads/cme-course-measure-accurately/

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Act Rapidly: The Importance of Treating Patient’s High Blood Pressure
M.A.P. Framework for Improving BP Control

What is Therapeutic Inertia?

• **DEFINITION**: A lack of treatment initiation or intensification when a patient’s blood pressure is high

• What Are Some Factors That Contribute to Clinical Inertia?
  
  • Clinician Factors
  • Patient Factors
  • Health System Factors
Why is Therapeutic Inertia Important?

• Studies have shown that healthcare providers increase bp meds in less than 25% of patients with uncontrolled bp

• National Ambulatory Medical Care Survey (2005-2012) and the National Hospital Ambulatory Medical Care Survey (2005-2011) showed treatment was intensified in roughly 17% of visits when bp was high

• Therapeutic inertia accounts for approximately 20% of uncontrolled bp
Overcoming Clinical Inertia

• Standardized protocols to diagnose and treat high blood pressure

• Frequent follow-up visits

• Single-pill combination therapy to treat high bp whenever possible

• Hypertension registry: feedback, metrics, dashboards/reports

• Outreach to uncontrolled patients
Why Use Standardized Protocols?

- Standardized protocols can improve bp control
- Having a “playbook” can help to guide the entire team
- The entire team can better understand:
  - WHO needs treatment
  - WHAT treatment should be used
  - WHEN follow-up should occur

NOTE: The AHA/AMA Treatment Algorithm for blood pressure is currently being updated and can be provided when updated.
Ensuring Standardized Protocol is Being Used

- Make sure all clinical staff are familiar with the treatment protocol
- Create a system for ensuring that follow-up is conducted and a plan for outreach to the patients who do not return or respond to follow-up
- Embed the treatment protocol into the EHR, if possible, and track
Frequent Follow-Up Visits

• Have patients return frequently to confirm if treatment is effective or if it needs to be intensified

• Continue frequent follow-up every 2-4 weeks until bp is controlled

• In what ways can follow-up occur?
Feedback and Metrics in Quality Improvement Programs

How Can Feedback and Metrics Assist in Implementing a Blood Pressure Quality Improvement Program?
The goal of a registry is to capture all individuals with HTN into a database where information can be accessed, queried and analyzed in the form of metrics, reports and dashboards.

- Prevalence of HTN in a population
- Characteristics of a population and individuals
HTN Registry – Metrics and Reports

• Create metrics aligned with Target: BP M.A.P. Framework
  • Measuring Accurately: What % of time are confirmatory bps done when initial bp reading is elevated?
  • Acting Rapidly: What % of the time is clinical inertia occurring when a patient has an encounter with a clinician?
  • Partnering with Patients: What is the change in blood pressure on a visit following therapeutic intensification?

• Information can be used to identify strategies to improve bp control
HTN Registry – Patient Outreach

- Identify patients with uncontrolled bp who are overdue for follow-up

- How can outreach to patients with uncontrolled bp be conducted?

  ?

  - Considerations:
    - Who will perform the outreach?
    - How will the outreach be performed?
    - Who will see the patient for their follow-up visit (MA, Nurse, Pharmacist)
**Single Pill Combination Therapy**

- **DEFINITION**: Two classes of drugs in a single pill
- Most patients ultimately require at least 2 medications to achieve bp control
- Using low dose single pill combination to treat high blood pressure is very effective at lowering high blood pressure and easy to titrate (adjust) without having a significant number of side effects.
- Patients are more adherent to taking their medication
  - More convenient
  - Fewer co-pays
  - Less side effects
Information from this presentation was obtained from the AHA/AMA Webinar titled **Act Rapidly: The Importance of Treating Patient’s High Blood Pressure** unless otherwise noted.

For additional information, please access the webinar using this link:


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[http://professional.heart.org/hypertension](http://professional.heart.org/hypertension)

Partnering with Patients

Self-Measured Blood Pressure Monitoring and Patient Engagement
M.A.P. Framework for Improving BP Control

M.A.P. Framework for Improving BP Control

What is SMBP?

• Patient self-measurement of their BP outside of the clinical setting

• Patients receive training how to properly self-measure their BP from their clinical team.

• Patients share these BP readings with their healthcare provider.
Why SMBP?
Which Patients Benefit from SMBP

- Elevated HTN readings in the office (to confirm HTN diagnosis)
- Suspected white coat or masked hypertension
- Difficult to control HTN
- Increase engagement and adherence to treatment
- Assess the effectiveness of treatment for a patient
SMBP Program Implementation

• Identify champions

• Patients should be encouraged to purchase their own SMBP devices
SMBP Program Implementation

• Budget for 2-3 SMBP devices ($50-$75 each) per physician for patients who cannot afford the device

• Allocate time for the following:
  • Training Staff (1 Hour)
  • Training Patients (5-6 minutes per patient)
  • Ensuring Device Accuracy if Patient Using Own Device (5 minutes)
  • Averaging and Documenting the BP Readings (5 minutes per patient)
  • Preparing Device for Next Patient if Loaner (5 minutes)
SMBP Program Implementation

• Design Processes to Include:
  • How will patients be identified for smbp?
  • Who will train the patients on proper self-measurement?
  • How will you get the readings and device (if loaner) back from patient?
  • What will follow up look like?
  • Who will be responsible for averaging, document and notifying the provider of the smbp average?
  • Measuring mid-upper arm circumference to ensure proper cuff size for patient

• For Loaner Program:
  • Who will disinfect devices?
  • Where will the devices be stored?
  • Please find tools and resources for loaner program on the Target BP website
Training Patients to Self-Measure Accurately

- Patient Training Video: https://player.vimeo.com/video/261555352
- Ask patients what they already know about SMBP and if they have any concerns
- Provide general information about hypertension
- Tell them how often and when to measure:
  - Two sets of measurements twice per day
  - One set in the morning and one set in the evening prior to taking HTN medication
  - Each set consists of two measurements 1 minute apart
  - Should be done for 7 consecutive days (minimum of 3 days or 12 readings).
Training Patients to Self-Measure Accurately

How to measure your blood pressure at home

Follow these steps for an accurate blood pressure reading:

1. PREPARE
   - Avoid caffeine, nicotine, and other stimulants 30 minutes before you measure your blood pressure.
   - Wait at least 30 minutes after eating.
   - If you’re on blood pressure medication, measure your BP before you take your medication.
   - Empty your bladder beforehand.
   - Find a quiet space where you can sit comfortably without distraction.

2. POSITION
   - Position arm so cuff is at heart level.
   - Keep arm supported, with elbow relaxed.
   - Sit with legs uncrossed.
   - Keep feet flat on the floor.

3. MEASURE
   - Rest for five minutes while in position before starting.
   - Take two or three measurements, one minute apart.
   - Keep your body relaxed and in the same position during measurements.
   - Sit quietly with no distractions during measurements; avoid conversations, TV, phones, and other devices.
   - Record your measurements when finished.
Training Patients to Self-Measure Accurately

- Teach patients how to record their measurements
  - Tell them what to do if their bp is too high, too low or if they are experiencing associated symptoms
  - Explain to them how they will report their results back to the clinic
  - Use teach back in order to ensure patient understanding
Collaborative Communication Strategies to Manage BP

Effect of Collaborative Care and Decision-Making Style on Hypertension

Collaborative Communication Strategies to Manage BP

Why is this Important?

• The way that clinicians communicate with patients can influence whether the patients take their medications or feel motivated to change their lifestyle, especially those who need the most help—patients who aren’t always interested in managing their health.

• It’s important for clinicians to involve patients in treatment decisions.

• Non-clinical staff who use a collaborative approach can also engage patients in managing their blood pressure.
Collaborative Communication Strategies to Manage BP

What Practices Can Do Partner with Patients

- Open-ended questions
- Reflective listening
- Positive reinforcement
- Ask-provide-ask
- Teach-back
- Access resources to encourage conversation at: https://targetbp.org/tools-downloads/?sort=topic&audience=Healthcare Professionals&
Closing the SMBP Data Loop

• EHRs typically do not have a field to record SMBP readings

• Some systems enter the SMBP readings into a visit note

• You may be able to work with your EHR in order to create a field for SMBP readings

• Enter the week the recordings were captured and the average of the SMBP readings
Next Steps After SMBP Readings

### Interpret Results and Manage Patients

Use this chart to reconcile in-office BP and SMBP measurements to classify and manage patients.

<table>
<thead>
<tr>
<th>In-office BP</th>
<th>SMBP</th>
<th>Classification</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 120/80</td>
<td>Less than 120/80</td>
<td>Normal blood pressure</td>
<td>Recheck BP in office in one year</td>
</tr>
<tr>
<td>120-129/ less than 80</td>
<td>120-129/ less than 80</td>
<td>Elevated BP</td>
<td>Healthy lifestyle changes and recheck SMBP every 3-6 months</td>
</tr>
<tr>
<td>Less than 130/80</td>
<td>Greater than or equal to 130/80</td>
<td>Masked hypertension</td>
<td>Manage as sustained hypertension due to increased CV risk or consider 24-hour ABPM</td>
</tr>
<tr>
<td>Greater than or equal to 130/80</td>
<td>Less than 130/80</td>
<td>White coat hypertension</td>
<td>Recheck SMBP every six months</td>
</tr>
<tr>
<td>Greater than or equal to 130/80</td>
<td>120-129/ less than 80</td>
<td>White coat hypertension + elevated BP</td>
<td>Healthy lifestyle changes and recheck SMBP every 3-6 months</td>
</tr>
<tr>
<td>Greater than or equal to 130/80</td>
<td>Greater than or equal to 130/80</td>
<td>Sustained hypertension</td>
<td>Manage per current hypertension guideline recommendations</td>
</tr>
</tbody>
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Information from this presentation was obtained from the AHA/AMA Webinar titled Using self-measured blood pressure (SMBP) monitoring to diagnose and manage HBP unless otherwise noted.

For additional information, please access the webinar using this link: https://targetbp.org/tools_downloads/cme-course-using-smbp-to-diagnose-and-manage-hbp/

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Check. Change. Control.®
Self-Monitoring Blood Pressure Control

• Staff Training August 2016
Check. Change. Control.®

• Evidence based high blood pressure management program that utilizes a tracker to empower patients to take ownership of their cardiovascular health.

• Incorporates the concepts of remote monitoring, mentoring, tracking as key features to improve HBP management, physical activity and weight reduction.

• Four month education sessions are recommended along with incentives for participation.

• Encourage participants to take weekly readings or 8 readings at least once/month over 4 months.
Check. Change. Control.®

Check. Change. Control.® was founded on successful evidence-based practices from the American Heart Association pilot program, Check It, Change It. The Check It, Change It program proved to be especially effective among the target population of African Americans (Thomas et al. (2012). Check It, Change It: A Community-Based Intervention to Improve Blood Pressure Control).
Developed to support hypertension management among the adult population, **Check. Change. Control.®** engages participants, emphasizing 3 important aspects of managing hypertension:

1. **Checking** for high blood pressure and symptoms;
2. **Changing** lifestyle and seeking treatment;
3. **Controlling** hypertension by taking preventative measures.
Why it works?

Key Evidence-Based Scientific Principles

Self Monitoring Makes a Difference
• Proven track record for taking blood pressure readings at home or outside of the healthcare provider office setting.
• Use of digital self-monitoring and communication tool
• Charting & tracking improves self-management skills related to blood pressure management.

Personal Interaction Makes a Difference
• Coaches can motivate and encourage participants.

Multicultural Program Investments Make a Difference
• Hypertension creates a health disparity for African-Americans.
This Guidebook can be found on Volunteer & Community Partner Resources page on Heart.org
From 2009 to 2012 among US adults with HBP

- 54.1% HBP is controlled
- 76.5% currently treated
- 82.7% are aware they have HBP
- 17.3% remain undiagnosed