Target: BP M.A.P. Improvement Program
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Today’s agenda

• Target: BP M.A.P. Improvement Program Overview
• Measuring Blood Pressure Accurately
• Q & A: Questions taken from Readytalk chat forum
U.S. Adults with high blood pressure 2012-2014

85.7 million US adults have hypertension
But many are not aware or treated (hiding in plain sight) and only about half have it controlled

85.7M
Have high blood pressure

72M
Aware

65M
Treated

39M
Uncontrolled

Prevalence of HTN varies by race and ethnicity

Whites roughly 33%
Blacks roughly 46%
Latinos roughly 30%
Asians roughly 27%
American Indian / Alaskan Native roughly 26%

AHA Heart Disease and Stroke Statistics—2017 Update: Chapter 9
Barriers to success in blood pressure (BP) control

**Patient factors**
- Non-adherence to treatment
- Absence of symptoms
- Cost of treatment
- Failure to follow up
- Social determinants

**System factors**
- Lack of a hypertension registry
- Lack of useful data / performance metrics
- Work flow problems (Team based care- MA BP checks)
- Lack of evidence-based treatment algorithm

**Physician factors**
- Time crunched
- Competing factors
- Knowledge of evidence & willingness to use it
- Disagreement with guidelines
- Clinical Inertia
- Failure to recommend follow up


The M.A.P. for improving BP control

- Measure blood pressure accurately
- Act rapidly to manage uncontrolled hypertension
- Partner with patients, families and communities

Actionable data | Evidence-based tools | Team-based care

Measure accurately

Screening checklist

- Use a validated, automated device to measure BP
- Ensure patient is seated comfortably with:
  - Back supported
  - Arms supported
  - Cuff at heart level
  - Leg crossed
  - Foot flat on the ground or supported by a footstool
- No one talking during the measurement

Confirmatory checklist

- Repeat screening steps above
- Ensure patient has an empty bladder
- Ensure patient has rested quietly for at least five minutes
- Obtain the average of at least three BP measurements

Act rapidly

- If a patient has blood pressure ≥140/90 mm Hg confirmed:
  - Use evidence-based protocol to guide treatment
  - Re-assess patient every 2-4 weeks until BP is controlled
  - Whenever possible, prescribe single-pill combination therapy

Evidence-based protocols typically include:

- Blood pressure lowering medications in a stepwise fashion, until BP is controlled
- For most patients, give preference to:
  - Thiazide diuretics
    - Diuretics/combinations
    - ACE inhibitors (ACEIs) or ARBs
    - Angiotensin receptor blockers (ARBs)
  - Do not prescribe both ACE and ARB to same patient
  - If BP ≥160/100 mm Hg, start therapy with two medications or a single pill combination

Partner with patients, families, and communities

- To empower patients to control their blood pressure:
  - Engage patients using evidence-based communication strategies
  - Help patients accurately self-measure
  - Direct patients and families to resources that support medication adherence and healthy lifestyles

Evidence-based communication strategies include:

- Begin with open-ended questions about adherence, including recent medication use
- Explore reasons for possible non-adherence or a single pill combination
- Effort patient views on options and priorities to customize a care plan for each patient
- Remain non-judgmental at all times
- Use teach-back to ensure understanding of the care plan

Evidence-based tips for patient self-measurement of BP

- Instruct patient to measure BP accurately using a validated, automated device and correct positioning for measurement
- Ask patient to record ≥2 morning BP measurements and ≥2 evening BP measurements for ≥ 4 consecutive days between office visits
- Develop a systematic approach to ensure patients can act rapidly to address elevated BP readings between office visits
- Counsel patients that self-measured BP ≥135/85 mm Hg is considered elevated

Evidence-based lifestyle changes to lower BP include:

- Following the DASH diet, which is rich in fruits, vegetables, and whole grains; low-fat dairy; poultry, fish, and plant-based oils; and limits sodium, sweets, sugary drinks, red meat and saturated fats
- Engaging in moderate physical activity, such as brisk walking, for 40 minutes a day at least four days a week
- Maintaining a healthy body mass index (BMI)
- Limiting alcohol to ≤2 drinks/day in men, ≤1 drink/day in women

These checklists are not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.
M.A.P. BP Improvement Program

**Practice**
- 6-month QI initiative
  - Practice facilitation
  - Dashboards
  - Peer-to-peer exchange

**Evidence-Based Strategies**
- Measure accurately: Obtain accurate, representative BP
- Act rapidly: Implement evidence-based protocol to Dx and Rx HTN and reduce clinical inertia
- Partner with patients, families & communities: Engage patients in healthy lifestyles and self-management

**Action Steps**
- Proper Patient Prep & Position, etc.
- Confirmatory ABP Measurements
- Treatment Protocol
- Single-pill combinations
- Visit Frequency
- Evidence-Based Communication Strategy
- BP Self-Monitoring Lifestyle Change(s)

**Metrics**
- Confirmatory ABP
- Therapeutic Inertia
- Δ BP after Therapeutic Intensification

**Outcomes**
- Blood Pressure Control:
  - Δ % Patients with BP <140/<90
  - Δ in SBP
  - Δ in DBP

**Facilitating actors**
- Engaged Leadership
- Committed Staff
- Effective Teamwork
- Evidence-Based Protocol, QI Tools
- Confident Expectations
- Actionable Data Sustained Δ

TARGET: BP™ | American Heart Association, life is why™ | AMA more lives
Measuring Blood Pressure Accurately
Why accurate BP measurement is important

- Naturally occurring BP variability exists in all patients, contributing to fluctuations in BPs measured during clinical encounters.

- Poor BP measurement technique contributes to inaccuracy and poor reliability of routine office BP measurements.

- Uncertainty of a patient’s true BP is a leading cause clinicians fail to act on a high BP in the office.

http://annals.org/aim/article/740348/role-clinical-uncertainty-treatment-decisions-diabetic-patients-uncontrolled-blood-pressure
Blood pressure variability

Typical variability in a 24 hour period
The alerting response and the importance of rest

Impact of the clinical setting on BP

Almost all patients will experience some degree of the alerting response in a clinical setting:

- **White coat hypertension**: Office BP > 140/90 mm Hg in a patient whose out of office BP is not elevated

But some will experience none at all, or the opposite:

- **Masked hypertension**: Office BP < 140/90 mm Hg in a patient whose out of office BP is in the hypertensive range (>135/85)
The importance of measuring BP accurately

Why is minimizing variability and standardizing BP technique so important?

1. Research Quality BPs are, on average, 10/7 mm Hg lower than routine manual office BPs

2. Accurate reliable BP readings are needed to make sound clinical decisions

# Common Errors Made During BP Measurement

<table>
<thead>
<tr>
<th>Observer Factors</th>
<th>Patient Factors</th>
<th>System/Environmental Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrong cuff size</td>
<td>Full bladder</td>
<td>Location of BP monitor</td>
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<tr>
<td>Cuff placed over clothing</td>
<td>Stimulants</td>
<td>Noise</td>
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<td>Improper positioning</td>
<td>Recent exercise</td>
<td>Work Flow</td>
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<tr>
<td>No rest</td>
<td>Recent meal</td>
<td>Temperature</td>
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<tr>
<td>Terminal digit preference</td>
<td>Talking, texting, reading</td>
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<tr>
<td>Talking to patient</td>
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<tr>
<td>Too rapid cuff deflation</td>
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http://circ.ahajournals.org/content/111/5/697
7 SIMPLE TIPS TO GET AN ACCURATE BLOOD PRESSURE READING

- **Use Correct Cuff Size**: Cuff too small adds 2–10 mm Hg.
- **Don’t Have a Conversation**: Talking or active listening adds 10 mm Hg.
- **Put Cuff on Bare Arm**: Cuff over clothing adds 5–50 mm Hg.
- **Support Arm at Heart Level**: Unsupported arm adds 10 mm Hg.
- **Empty Bladder First**: Full bladder adds 10 mm Hg.
- **Support Back/Feet**: Unsupported back and feet adds 5.5 mm Hg.
- **Keep Legs Uncrossed**: Crossed legs add 2–8 mm Hg.

The common positioning errors can result in inaccurate blood pressure measurement. Figures shown are estimates of how improper positioning can potentially impact blood pressure readings.

**Sources:**
2. Handler J. The importance of accurate blood pressure measurement. The Permanente Journal/Summer 2009/Volume 13 No. 3 51

This 7 simple tips to get an accurate blood pressure reading was adapted with permission of the American Medical Association and The Johns Hopkins University. The original copyrighted content can be found at https://www.ama-assn.org/ama-johns-hopkins-blood-pressure-resources.

*Updated December 2018.*

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Common Methods of Measuring Blood Pressure

24-Hour Ambulatory Blood Pressure Monitoring (ABPM)

Pros

• Most evidence for accurate diagnosis of HTN*
• Can rule-out white coat HTN
• Identifies patients with masked HTN
• Gives BP information during sleep

Cons

• Expensive
• Inconvenient for patients
• Can be hard to get scheduled

Common Methods of Measuring Blood Pressure

Self-Measured Blood Pressure (SMBP) or Home Blood Pressure Monitoring

Pros

- Correlates well with 24-hour ABPM for diagnosis (not equal)
- Effective at assessing medication effect throughout the day
- Can rule-out white coat HTN
- Identifies patients with masked HTN
- Inexpensive
- Convenient
- Lowers BP if used with training and clinical support

Cons

- Requires the patient have a home monitor
- Does not give asleep BP
- Requires clinical support for maximum benefit in lowering blood pressure


Common Methods of Measuring Blood Pressure

Office Blood Pressure Measurement

Pros
• Convenient
• Inexpensive

Cons
• Impacted by observer (person taking the BP), patient and environment
• Many offices not set up for proper positioning
• Requires time (>5 minutes) to be done effectively – but this can be accomplished
• Terminal digit preference is common
• Cannot be used to rule-out white coat HTN
• Cannot identify masked HTN
• Does not give information about asleep BP
• Rarely performed correctly

Why use Office Blood Pressure Measurement?

• Most opportunities to obtain BPs

• Technology has improved measurement reliability (validated, automated machines → less human error)

• Protocols improve standardization, reduces variability and errors

• Obtaining multiple measurements increases diagnostic accuracy and reduces misclassification of a patient having or not having HTN

• By reducing errors and increasing reliability of BP measurement, clinicians are less likely to hesitate when initiating or escalating treatment (clinical inertia)

Three methods used to measure BP in the office

1. Conventional Office BP Measurement
2. Multiple Office BP Measurements
3. Automated Office BP (AOBP) Measurements
1. Conventional Office BP Measurement

- Often only a single BP measurement is obtained - not always reliable, especially if elevated (white coat effect)
- Even if the measurement is performed correctly, which is difficult, office BPs are less predictive of CV risk than out-of-office BP measurements
- Higher rate of misclassification of HTN (white coat effect)
2. Multiple Office BP Measurements

How many BPs should be measured?

JNC-7
- Take 2 seated BP measurements and average them

European Society of Hypertension / European Society of Cardiology 2013
- “Take at least two BP measurements, in the sitting position, spaced 1–2 min apart, and additional measurements if the first two are quite different. Consider the average BP, if deemed appropriate”

American Society of Hypertension / International Society of Hypertension 2014
- “It is preferable to take two readings, 1–2 minutes apart and use the average of these measurements.”
3. Automated Office Blood Pressure (AOBP)

- Validated, automated BP monitors with multiple cuff sizes
- Monitors can take 3-6 measurements with no clinical staff in the room (unattended)
- Intervals can be set at 1-5 minutes between measurements
- The machines averages the BPs
Why use AOBP?

• Routine office BPs do not correlate well with daytime mean BPs from 24-hour ambulatory testing (the gold standard)

• “White coat” effect is mitigated by AOBP machines

• Automated office BPs correlate better with awake mean BP during 24-hour ambulatory testing than conventional office BPs
A practical protocol for accurately measuring BP
Obtain Screening BPs

- Use a validated, automated upper arm device
- Sit in a chair with back well supported
- Feet flat on floor or step stool
- BP cuff is the correct size for the patient’s arm
- BP cuff is placed on the bare skin of the patient’s upper arm
- Arm is supported at heart level
- Quiet environment

If initial BPs are ≥140/90 mm Hg, obtain confirmatory measurements
Obtain confirmatory BP measurements

For confirmatory BP measurements, same requirements as above, plus the following:

- Ensure patient has an empty bladder
- Rest for at least five minutes if using manual BP technique (no rest required for AOBP)
- Obtain the average of at least three measurements, preferably using AOBP (unattended)

*White coat effect is virtually eliminated
*Adequate patient rest has occurred
*Human error and bias minimized
*AOBP can be implemented efficiently to be non-disruptive to

Target: BP Recognition Program

• Levels of recognition
  – 2 levels in 2017
  – The program will be expanded to include additional award levels and more quality measures in subsequent years.

• Participation
  – Target: BP registration
  – Submit 2016 data

• Achievement
  – Blood pressure control measure based on NQF#0018/PQRS#236
  – >70% of adult patients with diagnosis of hypertension whose blood pressure adequately controlled (<140/90mmHg) in 2016
Target: BP Recognition Program

2017 Recognition Program

• 1206 clinics are currently participating in Target:BP
• 336 clinics have submitted 2016 data for the 2017 Recognition Program
  o 14.3M patients impacted
  o 3.4M hypertensive patients included

2018 Recognition Program:

– Implement improvement program now
– Submit 2017 hypertension data from January-March 2018
Your questions.....

Don’t forget to complete the post-webinar survey. Thank you!