Engaging Clinicians in National Efforts: Diabetes Prevention and Blood Pressure Control

Michael Rakotz, MD FAHA FAAFP
VP, Chronic Disease Prevention
American Medical Association
Disclosure

I do not have any relevant financial or other relationships to disclose as it relates to today’s presentation.
Objectives

Participants in this session can expect to:

1) Learn the simple practice steps that can be taken to increase screening rates for people with pre-diabetes in your practice population

2) Understand how to maximize diagnosis of hypertension in your patient population and tools available for improved diagnosis; and

3) Learn about use of self-measured blood pressure monitoring in the clinical setting, supports and upcoming opportunities for implementation
National strategy to prevent diabetes
Frank

- 2003 Prediabetes age 55
- 2006 Type 2 Diabetes
- 2010 Retinopathy
- 2012 CKD
- 2016 MI and Death

Glucometer
Lancets
Test Strips
Diabetes Education
Referral
Nephrology
Referral
Statin
Referral
Ophthalmology
Referral
Podiatry
Office Visits: 3 months
External

Prior authorizations
Aspiring
refills
Ongoing
labs
Ongoing
refills
Medical complications
Anemia
Osteoporosis
Edema

Labs and Urine
Future impact on clinical practice

Over the next 5 years, a typical large clinical practice could experience a 32% increase in the number of patients with diabetes.

Based on a panel size of approximately 100,000 patients

Slide courtesy of Ronald T. Ackermann, MD, MPH, Northwestern University Feinberg School of Medicine
AMA strategic focus to improve health outcomes

**Vision**
Improved health of the nation by preventing chronic disease

**Mission**
Prevent heart disease, stroke and type 2 diabetes by addressing risk factors

**Activities**
- Remove barriers
- Increase awareness and demand
- Support physicians in delivering evidence-based care
<table>
<thead>
<tr>
<th><strong>AMA-CDC National Collaboration to Prevent Diabetes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Awareness</strong></td>
</tr>
<tr>
<td>• Increase public and clinician awareness of prediabetes as a treatable condition</td>
</tr>
<tr>
<td><strong>Coverage</strong></td>
</tr>
<tr>
<td>• Increase health plan coverage for diabetes prevention programs</td>
</tr>
<tr>
<td><strong>Availability</strong></td>
</tr>
<tr>
<td>• Increase the availability of diabetes prevention programs</td>
</tr>
<tr>
<td><strong>Screening/Referral</strong></td>
</tr>
<tr>
<td>• Increase clinical screening and referrals to NDPP</td>
</tr>
<tr>
<td><strong>Enrollment</strong></td>
</tr>
<tr>
<td>• Increase participation in diabetes prevention programs that are part of CDC’s National Diabetes Prevention Program</td>
</tr>
</tbody>
</table>
Implementing Prevent Diabetes STAT
AMA-CDC National Collaboration to Prevent Diabetes

Prevent Diabetes STAT
Screen / Test / Act Today™

86 MILLION AMERICAN ADULTS HAVE PREDIABETES
9 OUT OF 10 PEOPLE WITH PREDIABETES DON'T KNOW THEY HAVE IT.

PATIENTS AND PARTNERS

HEALTH CARE PROFESSIONALS

EMPLOYERS AND INSURERS

THE AMA AND CDC URGE YOU TO:

SCREEN 
TEST 
ACT TODAY

www.preventdiabetesstat.org
USPSTF abnormal glucose screening recommendation

USPSTF standards suggest testing patients every 3 years.

AGE & BMI

**Grade B recommendation**
- 40-70 age AND
- BMI ≥ 25
- Screen for abnormal blood glucose with a fasting glucose, hemoglobin A1C or oral glucose tolerance test.
- Refer patients with abnormal glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.

Diabetes Prevention Operation Essentials

- Physician engagement/education
- Identifying eligible patients
- Patient communication and messaging
- Referral process to DPP
- Feedback loop
- Evaluation
Engaging Physicians and Care Teams

- Clinic Awareness
- Grand Rounds
- Online Modules
- PICME – Part

Help your patients find ways to prevent type 2 diabetes through education, screening and local referral programs.

Preventing type 2 diabetes in at-risk patients

Namratha Kandula, MD, MPH
AMA

AMA IN PARTNERSHIP WITH CDC

CME CREDITS: 1.0

https://www.ama-assn.org/education/

https://www.stepsforward.org/
Identifying Eligible Patients at the Point-of-care

Point-of-care prediabetes identification

<table>
<thead>
<tr>
<th>Measure</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>If patient is age ≥18 and does not have diabetes, provide self-screening test (CDC Prediabetes Screening Test or ADA Diabetes Risk Test) If self-screening test reveals risk, proceed to next step</td>
<td></td>
</tr>
<tr>
<td>Review medical record to determine if BMI ≥24 (≥22 if Asian) or history of GDM?</td>
<td></td>
</tr>
<tr>
<td>If no, Patient does not currently meet program eligibility requirements</td>
<td></td>
</tr>
<tr>
<td>Determine if a HbA1C, FPG or OGTT was performed in the past 12 months</td>
<td></td>
</tr>
<tr>
<td>Order one of the tests below:</td>
<td></td>
</tr>
<tr>
<td>• Hemoglobin A1C (HbA1C)</td>
<td></td>
</tr>
<tr>
<td>• Fasting plasma glucose (FPG)</td>
<td></td>
</tr>
<tr>
<td>• Oral glucose tolerance test (OGTT)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnostic test</th>
<th>Normal</th>
<th>Prediabetes</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HbA1C (%)</td>
<td>&lt; 5.7</td>
<td>5.7–6.4</td>
<td>≥ 6.5</td>
</tr>
<tr>
<td>Fasting plasma glucose (mg/dL)</td>
<td>&lt; 100</td>
<td>100–125</td>
<td>≥ 126</td>
</tr>
<tr>
<td>Oral glucose tolerance test (mg/dL)</td>
<td>&lt;140</td>
<td>140–199</td>
<td>≥ 200</td>
</tr>
</tbody>
</table>

**ACT**
- Encourage patient to maintain a healthy lifestyle.
- Continue with exam/consult. Repeat within three years of test negative test.
- Refer to diabetes prevention program, provide brochure. Consider repeating annually to check for diabetes onset.
- Confirm diagnosis; refer if necessary. Counsel patient on diagnosis. Initiate therapy.

**PARTNER**
- Communicate with your local diabetes prevention program.
- Contact patient and troubleshoot issues with enrollment or participation. At the next visit, ask patient about progress and encourage continued participation in the program.


*History of GDM = eligibility for diabetes prevention program.

Prevent Diabetes STAT | Screen/Test/Act Today™
Identifying Eligible Patients: Retrospective EHR Query

Retrospective prediabetes identification

**MEASURE**

Query EHR or patient database every 6-12 months using the following criteria:

A. Inclusion criteria:
   - Age ≥ 18 years
   - Most recent BMI ≥ 24.5
   - A positive lab test result within previous 12 months:
     - HbA1c 5.2–6.4% (EONC code 4548–60)
     - Fr glyc 100–125 mg/dL (EONC code 1558–60)
     - GTT 140–199 mg/dL (EONC code 6250–60)
   - History of gestational diabetes (ICD-9 V1.2.1) or (ICD-10 Z86.32)

B. Exclusion criteria:
   - Current diagnosis of diabetes (ICD-9: 250.x or ICD-10: E10.x-E11.x, E13.x, and E25.x, or
   - Current insulin use

**ACT**

Generate a list of patient names with relevant information

Use the patient list to:

A. Contact patients to inform of risk status, explain prediabetes, and share info on diabetes prevention programs, and/or

B. Send patient info to diabetes prevention program provider:
   - Program coordinator will contact patient directly, and

C. Flag medical record for patient's next office visit

**PARTNER**

Discuss program participation at next visit

* These BMI levels reflect eligibility for the National DPP as noted in the CDC Diabetes Prevention Recognition Program Standards and Operating Procedures. The American Diabetes Association (ADA) encourages screening for diabetes if BMI ≥ 25 for Asian Americans and ≥ 23 for non-Asian Americans, and some programs may use the ADA screening wheel for program eligibility. Please check with your diabetes prevention program provider for their specific BMI eligibility requirements.

Prevent Diabetes STAT | Screen / Test / Act Today™

The American Diabetes Association and the Centers for Disease Control and Prevention encourage physicians to screen and prevent diabetes.
Referral process and feedback loop

- Care team workflows
- Extension of Medical Care
- Improved Outcomes

Why participate in a diabetes prevention program?

**What is prediabetes?**
A condition in which blood glucose or hemoglobin A1C (HbA1C) levels are higher than normal but not high enough yet to be diagnosed as type 2 diabetes.

1 of 3 ADULTS IN THE US. HAS PREDIABETES

1 in 2

The good news is that there's a program that can help you.

The National Diabetes Prevention Program, led by the Centers for Disease Control and Prevention (CDC), uses a method proven to prevent or delay type 2 diabetes.

**Why act now?**
You are at higher risk of developing type 2 diabetes in the future. Compared to people without diabetes, those with diabetes are:

- 100% more likely to develop hypertension
- 80% more likely to be hospitalized for heart attack
- 50% more likely to be hospitalized for a stroke
- 70% more likely to develop heart disease or stroke

What is a lifestyle change program?

- Increased physical activity: 150 minutes/week
- Healthy eating
- Stress management & behavior modifications

Achieve minimum 5% of body weight loss

Reduce chance of getting diabetes by 58%

**Referral Rx – Lifestyle change program**

Name

Date (DD/MM/YYYY)  Date of Birth (DD/MM/YYYY)

I recommend that you participate in the Diabetes Prevention Program based on the following criteria:

- BMI ≥ 30 kg/m²
- Age ≥ 24 years
- History of gestational diabetes
- Oral tolerance test: Fasting glucose ≥ 140 mg/dL

Print name of medical professional

Signature

Care team contact info

I recommend that you enroll in the Diabetes Prevention Program.

Prevent Diabetes STAT | Screen / Test / Act Today™
Evaluating DPP metrics overview

Identification
  ↓
DPP Referral
  ↓
DPP Enrollment
  ↓
DPP Participation
  ↓

Attendance and Retention
  ↓
Outcomes
  ↓
Cost
  ↓

Weight Loss
  ↓
Physical Activity
  ↓
HbA1c
  ↓
Blood Pressure
  ↓
Medications
STAT in action

- **Northern Physicians Organization**
  - Lack of available programs
  - Service to physician members

- **Western Wayne Physicians**
  - Medical home
  - Front desk staff as coach

- **Palmetto Health Family Medicine Residency Program**
  - Resident-run QI
  - Incentive pay for residents

- **Loma Linda University Health**
  - Alignment with mission
  - Health plan-funded pilot

- **Intermountain Healthcare**
  - Pilot with Omada: virtual DPP
  - Expansion across entire system

- **Henry Ford Macomb**
  - Expanding physician referrals
  - Pilot with large EHR vendor: comprehensive prediabetes clinical program

- **Intermountain Healthcare**
  - Pilot with Omada: virtual DPP
  - Expansion across entire system
National Strategy to Improve Blood Pressure Control
Barriers to success in blood pressure (BP) control

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

System factors
- Lack of Team-based Care
- Lack of useful data / dashboards
- Knowledge of evidence & willingness to use it
- Disagreement with guidelines
- Failure to recommend follow up

Social determinants
- Poor access to care
- Poor nutrition
- Lack of support systems

Physician factors
- Time crunched
- Competing factors
- Failure to follow up
- Lack of Team-based Care
- Failure to recommend follow up
2014: The M.A.P. to improve 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**

The 2015 M.A.P. checklists for improving BP control

Measure accurately

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

**Confirmatory checklist**
- If screening blood pressure ≥140/90 mm Hg, obtain a confirmatory measurement:
  - 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:
- Counsel on and reinforce lifestyle modifications (DASH diet, weight loss, exercise, etc.)
- Ensure early follow-up and add preferred medications in a stepwise fashion, until BP is controlled
- For most patients, give preference to:
  - Thiazide diuretics
  - Calcium channel blockers
  - ACE inhibitors (ACEI)
  - Angiotensin receptor blockers (ARB)
- Do not prescribe both ACEI 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
- Focus on options and priorities for customizing 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 ≥120/80 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. Hypertension Control Program

**PRACTICE**
- 6-month QI initiative
- Practice facilitation
- Dashboard
- 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 AOBP Measurements

- Treatment Protocol
- Single-pill combinations
- Visit Frequency

- Evidence-Based Communication Strategies
- Self Measured BP
- Lifestyle Change(s)

**METRICS**
- CONFIRMATORY AOBP
- THERAPEUTIC INERTIA
- Δ BP after THERAPEUTIC INTENSIFICATION

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

**Facilitating Factors**
- Engaged Leadership
- Committed Staff
- Effective Teamwork
- Evidence-Based Protocol, QI Tools
- Confident Expectations
- Actionable Data, Sustained Δ
6-Month Impact of MAP on HTN Control in a Clinic Serving Low-Income and Minority Patients with Care Coordination Institute in South Carolina

HTN Pts with BP <140/<90
What is Target: BP?

✓ A call to action motivating healthcare professionals to prioritize BP control

✓ Recognition for healthcare providers, practices and systems that attain high levels of blood pressure control in their patient populations

✓ A source for tools and resources for healthcare professionals to use in practice

targetbp.org
Implementing Self-measured Blood Pressure Monitoring (SMBP) in Practice
Charles Wayne is a 63-year-old man with known HTN.

- Here for follow-up visit.
- His blood pressures at two previous visits were 152/94 and 154/92.
- His BP had been controlled on one medication for the last few years, but his BP is slowly rising.
- He tells you he is taking his medication every day.
- Mr. Wayne’s blood pressure today is 156/95. He has an SMBP monitor you tested earlier this year, but has not been using it.

What would you do?
Use SMBP to assess BP control
Using SMBP in Practice

1. Which patients may benefit?
2. What needs to occur before initiating SMBP?
3. Instruct patients how to Self-measure
4. How often should patients self-measure to assess control?
5. Interpreting SMBP readings
Which patients benefit from using SMBP?

Patients suspected of having a diagnosis of HTN

• Confirm all patients suspected of having HTN based on conventional office BPs

Patients with a confirmed diagnosis of HTN

• May increase engagement, adherence to treatment and improve BP control
• Assess treatment effect on BP control
• Patients with difficult to control BP to determine if treatment resistant HTN present
What needs to occur before initiating SMBP?

- Recommend a validated automated upper arm BP monitor

- Do not recommend a wrist cuff (unless brachial readings impossible)

- Appropriate fitting of cuff essential (learn how to teach patients to measure) Many devices have multiple cuff options

- **Staff or clinician** need to educate patients on proper measurement technique and communication of results

- Patient must bring in monitor to clinic for testing so staff or clinician can test monitors for fit and accuracy in the individual
1. PREPARE

- Avoid caffeine, cigarettes and other stimulants 30 minutes before you measure your blood pressure.
- Wait at least 30 minutes after a meal.
- 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.
- Put cuff on bare arm, above elbow at mid-arm.
- Keep arm supported, palm up, with muscles relaxed.
- Sit with legs uncrossed.
- Keep feet flat on the floor.
- Keep your back supported.

3. MEASURE

- Rest for five minutes while in position before starting.
- Take 2–3 measurements, one minute apart.
- Keep your body relaxed and in position during measurements.
- Sit quietly with no distractions during measurements—avoid conversations, TV, phones and other devices.
- Record your measurements when finished.

TARGET: BP™

American Heart Association
American Medical Association
Instruct Patients How to Self-measure

After the measurement:

• The date, time, systolic and diastolic BP and pulse should be recorded immediately

• Wait one minute and repeat (always take at least two readings in a sitting)

* Clear Instructions must be given for the patient to follow for communicating blood pressures (especially high, low, or BPs associated with symptoms)
How often should measurement protocol occur?

For initial evaluation, and assessment of BP, perform SMBP for seven consecutive days (3 days minimum)

- Measure daily in the morning and evening before taking medication
- Each measurement should be in duplicate 1-2 minutes apart (2 BPs 1-2 min apart)
- Average all BP readings (Systolic and Diastolic separately)
- This should be performed for one week prior to each visit

*Less frequent checks are necessary in a patient with stable controlled BP, though more frequent checks may be used for engagement purposes
Interpreting SMBP results

What are normal BPs using SMBP?

• BPs < 130/80 mm Hg are generally considered normal

What is HTN or Uncontrolled BP using SMBP?

• BPs > 135/85 mm Hg are elevated
Improving BP control with *additional support*

1. Delivery of additional support must involve a trained clinician (e.g., physician, NP, PA, RN, MA, pharmacist or other health educator)

2. Regular communication of SMBP data back to healthcare providers

3. A feedback loop between patient and clinician in which support and advice are customized based on the patient’s reported information
Patient Provider Feedback Loop

Patient:
- Self-measured blood pressure readings
- Lifestyle habits (e.g., smoking, diet, exercise)
- Medication side effects and adherence barriers
- Insights into variables affecting control of blood pressure

Provider:
- Adjustments to medication type and dose to achieve goal blood pressure
- Suggestions to achieve lifestyle changes
- Actions to sustain or improve adherence
- Advice about community resources to assist in controlling blood pressure
Addressing Barriers to Implementing SMBP

- Coverage/reimbursement
Coverage / reimbursement: CPT

1. Reimbursement to patient for personal BP device

2. Reimbursement for clinical services provided
   - Educate patient on proper use of personal BP device
   - Process BP data reported by the patient
   - Review and interpret BP data
Coverage / reimbursement

2016
- Basic toolkit and coverage framework document
- Conversations with employers to pilot SMBP (2-5)
- Excel version VDL
- Prototype ROI

2017
- Target: BP integration
  - Business collateral
  - 2-4 featured employers
  - ROI calculator
  - VDL Q1/Q2
- Case studies
- AHA/affiliate strategy (pros/cons)

2018
- Target: BP growth
  - VDL metrics
- Web ROI launched
- AHA employer engagement strategy nationwide
SMBP: Device Inventory & Management

Keep loaner devices in circulation and in working order with an inventory tracking system— including properly disinfecting devices after they are returned.

**Track Loaner Devices**

Before loaning a device to a patient, have them sign a loan agreement (PDF) and agree to return the device by the assigned date.

Use our [Inventory Management (OLS)](#) spreadsheet to manage devices in circulation, including the device ID, patient’s name, loan date, and return date.

**Clean Returned Devices**

All devices returned by patients should be properly disinfected and stored in a clean location. The [Inventory Management (OLS)](#) spreadsheet can be used to record the disinfection date.

According to the Centers for Disease Control and Prevention (CDC), blood pressure cuffs and other non-critical items that may come in contact with intact skin—but not mucous membranes—should be cleaned at a low-to-intermediate level of disinfection.

More from the [CDC Guideline for Disinfection and Sterilization in Healthcare Facilities (PDF)](#)

Disinfect noncritical surfaces with an Environmental Protection Agency (EPA)-registered hospital disinfectant according to the label’s safety precautions and use directions.

Most EPA-registered hospital disinfectants have a label contact time of 10 minutes. However, many scientific studies have demonstrated the efficacy of hospital disinfectants against pathogens with a contact time of at least 1 minute.

By law, the user must follow all applicable label instructions on EPA-registered products. If the user selects exposure conditions that differ from those on the EPA-registered product label, the user assumes liability for any injuries resulting from off-label use and is potentially subject to enforcement action under [Federal Insecticide, Fungicide, and Rodenticide Act](#). Category 9. IC.
Addressing Barriers to Implementing SMBP

Increase SMBP use in clinical community

- Lack of confidence in reliability of patient’s readings
- Training issues
- Capacity concerns
Web-based SMBP Program

Checking a device for accuracy

Device Accuracy Test
Self-Measured Blood Pressure

A patient’s home-monitoring device should be tested before being used as part of an SMBP program, annually, and any time blood pressure readings are questionable.

Step 1:
Take 5 measurements (administered by you or a member of your care team)

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Desire</th>
<th>Systolic Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Patient</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Patient</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Office</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Older</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Child</td>
<td></td>
</tr>
</tbody>
</table>

Step 2:
Average measurement B and D, then compare that to measurement C
- less than 5 mm Hg, proceed with your SMBP plan
- between 5-9 mm Hg, proceed to step 3
- greater than 10 mm Hg, replace the device before proceeding with your SMBP plan.

Step 3:
Average measurement C and E, then compare that to measurement D
- less than 5 mm Hg, proceed with your SMBP plan
- greater than 10 mm Hg, replace the device before proceeding with your SMBP plan.

Interpret Results 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>120-139/80-89</td>
<td>Less than 130/80</td>
<td>Normal blood pressure</td>
<td>Recheck BP in office in 1 year</td>
</tr>
<tr>
<td>120-139/80-89</td>
<td>130-134/80-84</td>
<td>Elevated BP</td>
<td>Healthy lifestyle changes and recheck SMBP every 3-6 months</td>
</tr>
<tr>
<td>Less than 140/90</td>
<td>Greater than or equal to 135/85</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 140/90</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 140/90</td>
<td>130-134/80-84</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 140/90</td>
<td>Greater than or equal to 135/85</td>
<td>Sustained hypertension</td>
<td>Manage per current hypertension guideline</td>
</tr>
</tbody>
</table>

Your MISSION is Our MISSION

AMA
7 Day Recording Sheet  Self-Measured Blood Pressure Monitoring

<table>
<thead>
<tr>
<th>Day 1 Evening</th>
<th>Day 2 Evening</th>
<th>Day 3 Evening</th>
<th>Day 4 Evening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 1 Morning</td>
<td>Day 2 Morning</td>
<td>Day 3 Morning</td>
<td>Day 4 Morning</td>
</tr>
<tr>
<td>SYS DIA PULSE</td>
<td>SYS DIA PULSE</td>
<td>SYS DIA PULSE</td>
<td>SYS DIA PULSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day 5 Morning</td>
<td>Day 6 Morning</td>
<td>Day 7 Morning</td>
<td></td>
</tr>
<tr>
<td>SYS DIA PULSE</td>
<td>SYS DIA PULSE</td>
<td>SYS DIA PULSE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Diagnostic SMBP**, measure for 7 consecutive days
- **Confirmed hypertension**, measure for 7 consecutive days prior to next office visit

**PRACTICE ADDRESS**

**PHONE**

**EMAIL**

**PATIENT PORTAL**

**NEXT APPOINTMENT DATE & TIME**

**If your blood pressure measurement is:**

- **MORE THAN**
  - Your blood pressure is high.
  - Her backup in 5 minutes. If a devicer is on range, contact your physician immediately.

- **BETWEEN**
  - This is the desired range for your blood pressure.
  - Please continue to monitor your blood pressure as you have been instructed by your care team.

- **LESS THAN**
  - Your blood pressure is low.
  - Her backup is 4 minutes. If a devicer is on range, contact your physician immediately.

**INSTRUCTIONS:** If at any time you feel light headed or have a headache, check your blood pressure and call the office immediately.
Addressing Barriers to Implementing SMBP

Inclusion of SMBP values in clinical quality measures

- Inclusion of SMBP values into structured data fields in EHRs for use in HTN management
Documenting SMB Results in EHRs: no structured fields
### Documenting SMBP Results in Structured Data Fields

**Extended Hypertension**

<table>
<thead>
<tr>
<th>Mode: Expanded</th>
<th>View All</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AOBP</strong></td>
<td></td>
</tr>
<tr>
<td>Mean AOBP: Systolic/Diastolic</td>
<td>122/82</td>
</tr>
<tr>
<td><strong>Home Blood Pressure Monitoring</strong></td>
<td></td>
</tr>
<tr>
<td>Home BP Monitoring: For the week ending</td>
<td>9/17/2014</td>
</tr>
<tr>
<td>Mean Home BP: Systolic/Diastolic</td>
<td>133/85</td>
</tr>
<tr>
<td><strong>24 Hour ABPM</strong></td>
<td></td>
</tr>
<tr>
<td>24 Hour ABPM: Start date</td>
<td>9/30/2014</td>
</tr>
<tr>
<td>24 Hour ABPM: End date</td>
<td>10/1/2014</td>
</tr>
<tr>
<td>24 Hour Mean ABPM: Systolic/Diastolic</td>
<td>117/78</td>
</tr>
<tr>
<td>Awake Mean ABPM: Systolic/Diastolic</td>
<td>124/80</td>
</tr>
<tr>
<td>Nocturnal Mean ABPM: Systolic/Diastolic</td>
<td>108/72</td>
</tr>
<tr>
<td>Nocturnal Dip (%)</td>
<td></td>
</tr>
<tr>
<td><strong>Counseling</strong></td>
<td></td>
</tr>
<tr>
<td>Counseled for exercise?</td>
<td>Yes</td>
</tr>
<tr>
<td>Counseled for diet for hypertension?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*All data entered by MA*
Addressing Barriers to Implementing SMBP

New technologies (e.g. cuff-less smart phone apps)

- Reduce burden on providers/healthcare sponsors
  - Less time evaluating apps
  - Confidence in effectiveness

- Give consumers confidence
  - Apps are vetted to ensure they adhere to Privacy and Security guidelines
  - Apps are vetted to ensure they are functional, operable and usable

- Help app developers
  - Bring better mobile health apps to market faster
  - No re-inventing the wheel and ensuring apps meet the industry-wide accepted guidelines

AHA, AMA, DHX Group and HIMSS
QUESTIONS?

Your MISSION is Our MISSION

Michel Rakotz MD - michael.rakotz@ama-assn.org (HTN and CV Disease)
Kate Kirley MD - kate.kirley@ama-assn.org (Preventing Diabetes)
Shannon Haffey MHSA Shannon.Haffey@ama-assn.org (Coverage)