

4th Annual Hypertension Summit



Welcome!

NORTH
Dakota
Be Legendary.™

Health  **Altru**® **AMA** 
HEALTH SYSTEM


American Heart Association | American Stroke Association®



JOINTLY ACCREDITED PROVIDER™
INTERPROFESSIONAL CONTINUING EDUCATION

Today's Agenda

12:30 – 1:30	Million Hearts® Evidence-Based Strategies and Tools for Hypertension Control	Hilary Wall, MPH
1:30 – 2:30	Self-measured Blood Pressure Monitoring: A Way Towards Better BP Control	Laken Barkowski, RN
2:30 – 3:00	Target: BP and Check. Change. Control. Cholesterol – American Heart Association	Lori Hall, MA
3:00 – 3:15	Break (Snacks provided by American Heart Association)	
3:15 – 4:00	Cardiac Ready Communities - Community Spotlight	Jenny Iverson
4:00 – 5:00	Engaging Patients through Lifestyle Modification	Jennifer Haugen, RD, CSSD, LD Chad Spradlin, MBA, PES
5:00 – 5:30	Evaluation and Wrap Up	

Million Hearts® Evidence-Based Strategies and Tools for Hypertension Control

Hilary K. Wall, MPH

Senior Health Scientist/Million Hearts Science Lead
Centers for Disease Control and Prevention

ND 2019 Hypertension Summit

March 21, 2019



- None

The opinions expressed
by the author, the
Services, the P
identification on

March 13, 2019

human
resources is for



Overview

- CVD burden
- Million Hearts® 2022
- Hypertension control resources
- Finding undiagnosed hypertensives
- Other resources of interest



Heart Disease and Stroke Burden

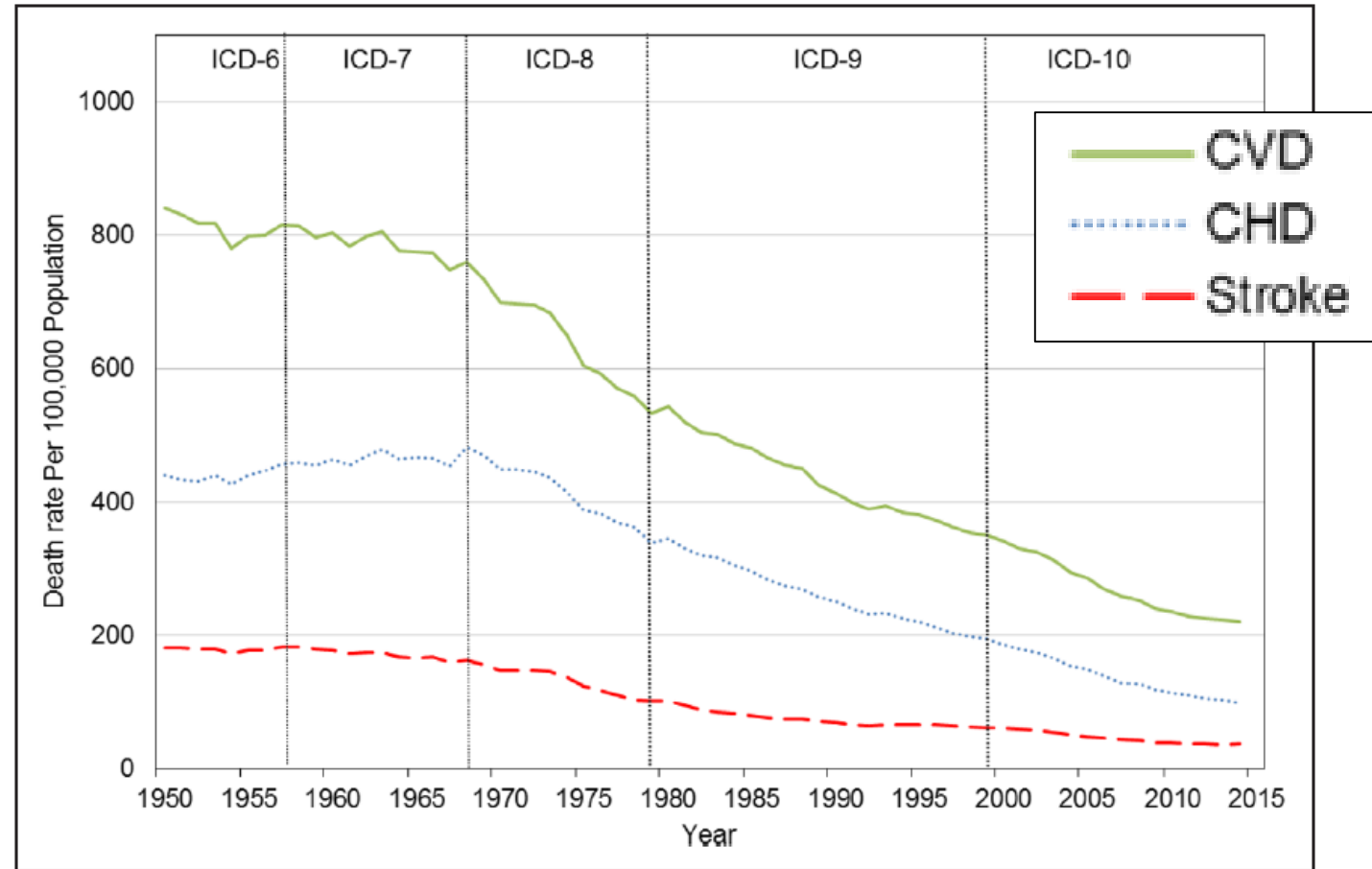
- More than **1.5 million** people in the U.S. suffer from heart attacks and strokes per year¹
- More than **800,000** deaths per year from cardiovascular disease (CVD)¹
- CVD costs the U.S. **hundreds of billions** of dollars per year¹
- CVD is the greatest contributor to racial disparities in life expectancy²



1. Benjamin EJ, Blaha MJ, Chiuve SE, Cushman M, Das SR, Deo R, et al. Heart Disease and Stroke Statistics-2017 Update: A Report From the American Heart Association. *Circulation* 2017;135(10):e146–603.

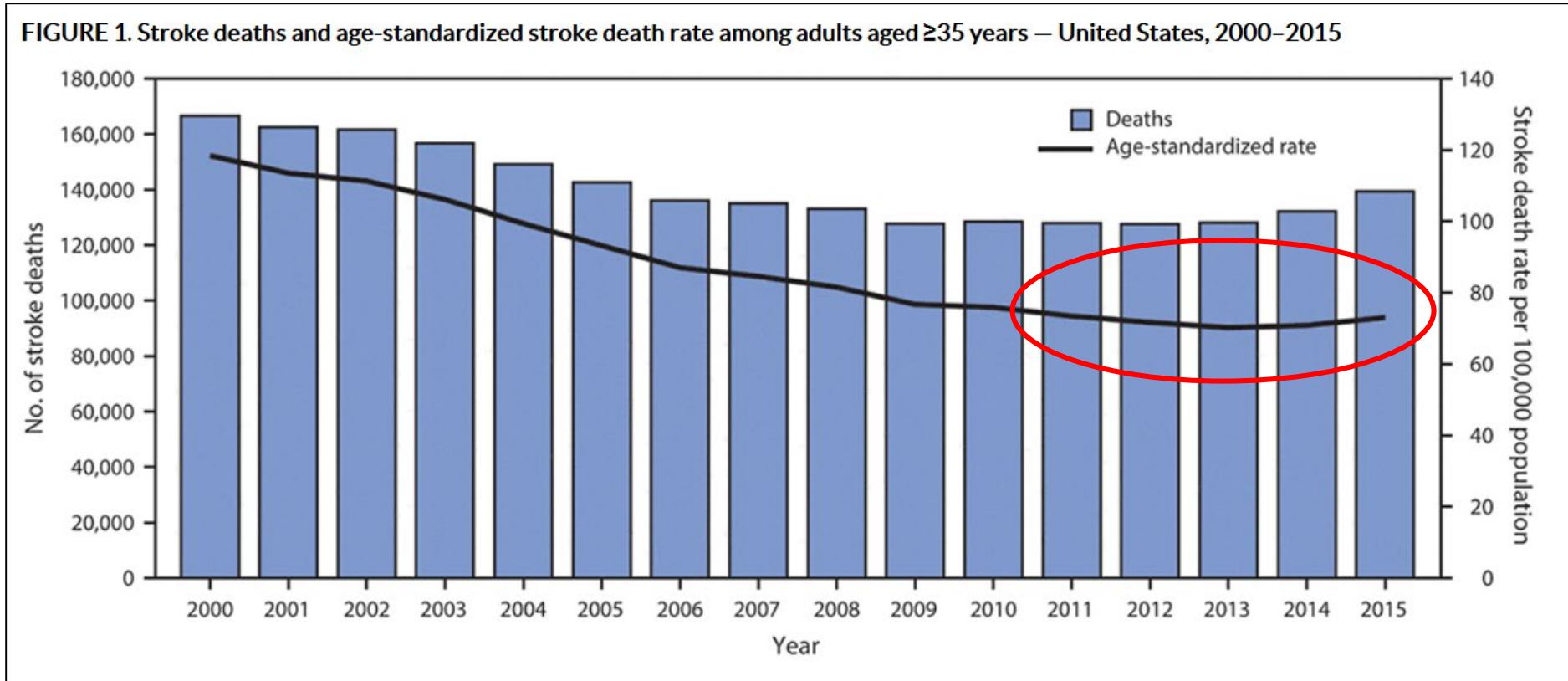
2. Kochanek KD, Arias E, Anderson RN. How did cause of death contribute to racial differences in life expectancy in the United States in 2010? NCHS data brief, no 125. Hyattsville, MD: National Center for Health Statistics. 2013

Heart Disease and Stroke Trends 1950-2015



Mensah GA, Wei GS, Sorlie PD, et al. Decline in Cardiovascular Mortality – Possible Causes and Implications. *Circulation Research*. 2017;120:366-380.

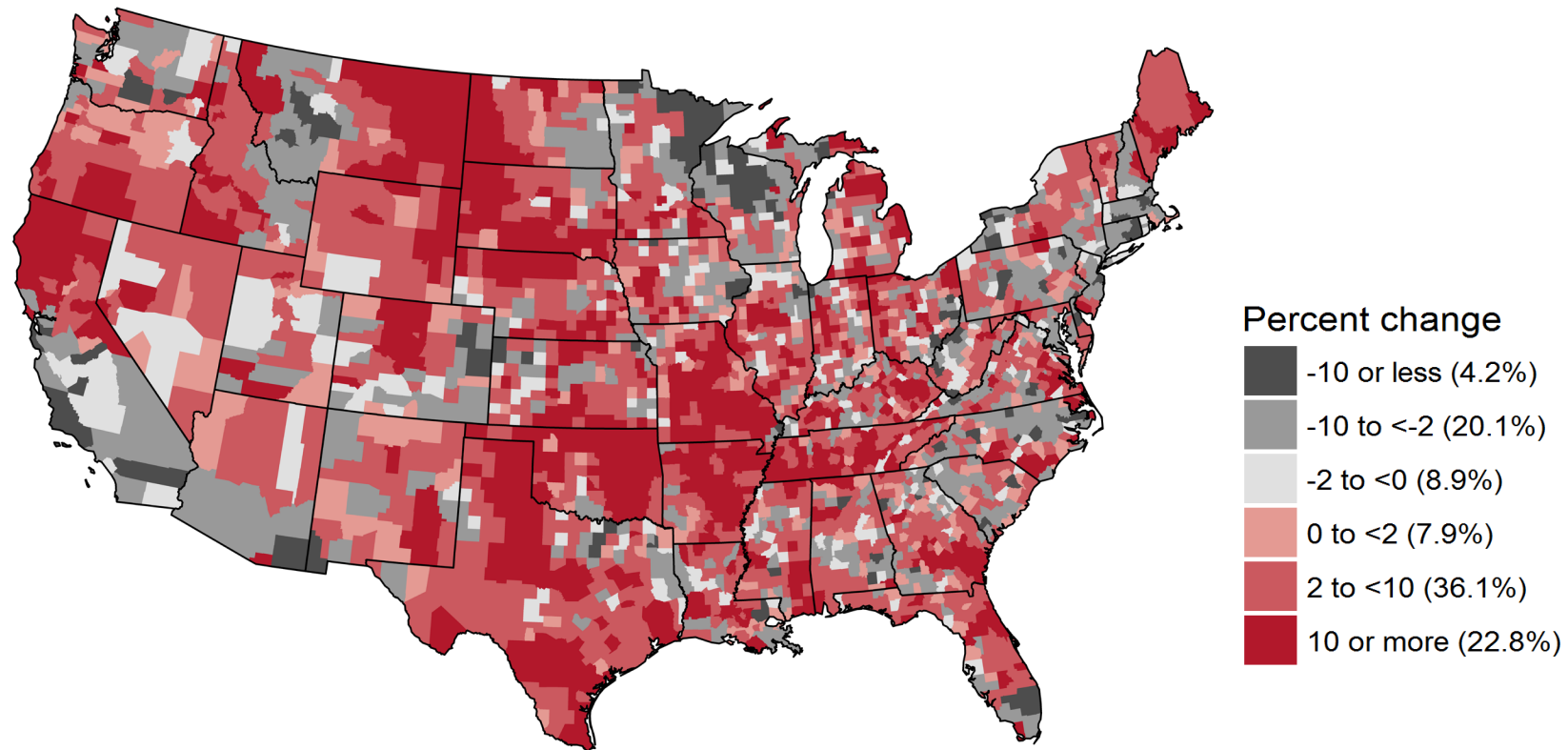
Recent Patterns in Stroke Deaths



Yang Q, et al. Vital Signs: Recent Trends in Stroke Death Rates — United States, 2000–2015. *Morb Mortal Wkly Rep.* 2017;66:933–939.

Alarming Mortality Rate Changes

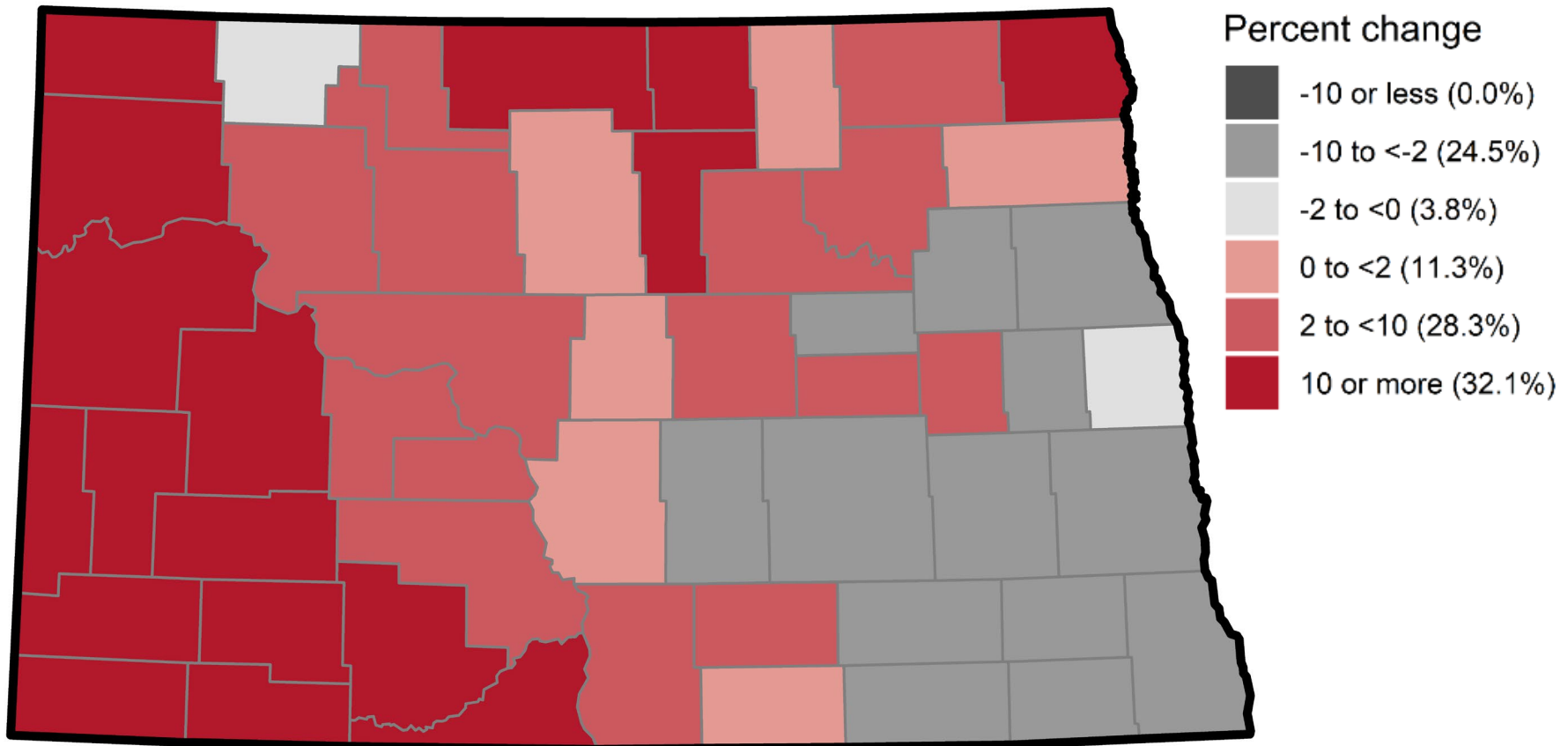
County-level percent change in heart disease death rates,
United States, Ages 35-64, 2010-2015



Vaughan AS, Patel SA, Kramer MR, Schieb L, Casper M. Relationships of macro-level conditions with cross-sectional and temporal trends in county-level premature heart disease death rates, 2010-2015. *Journal of Epidemiology and Community Health*. 2019. Under review.

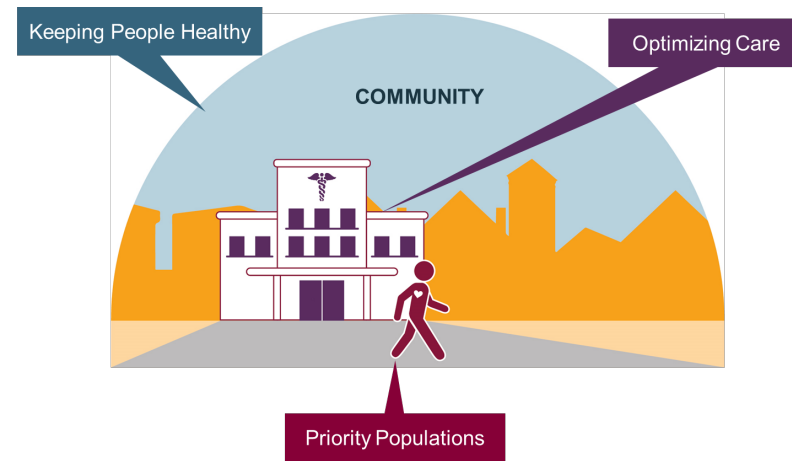
ND Mortality Rate Changes

County-level percent change in heart disease death rates,
North Dakota, Ages 35-64, 2010-2015



Million Hearts[®] 2022

- **Aim:** Prevent 1 million—or more—heart attacks and strokes in the next 5 years
- National initiative co-led by:
 - Centers for Disease Control and Prevention (CDC)
 - Centers for Medicare & Medicaid Services (CMS)
- Partners across federal and state agencies and private organizations



Million Hearts[®] 2022 *Priorities*

Keeping People Healthy

Reduce Sodium Intake

Decrease Tobacco Use

Decrease Physical Inactivity

Optimizing Care

Improve ABCS*

Increase Use of Cardiac Rehab

Engage Patients in
Heart-healthy Behaviors

Improving Outcomes for Priority Populations

Blacks/African Americans with hypertension

35- to 64-year-olds

People who have had a heart attack or stroke

People with mental illness or substance use disorders who use tobacco



*Aspirin when appropriate, Blood pressure control, Cholesterol management, Smoking cessation

Clinical Quality Measures

Domain	NQF #	CMS #
Aspirin when appropriate	0068	164
Blood pressure control	0018	165
Cholesterol management (statin use)	n/a	347
Smoking cessation (assessment and treatment)	0028	138

- Included in CMS Quality Payment Program/Merit-based Incentive Payment System (QPP/MIPS)
 - Cardiology
 - Internal Medicine
 - General/Family Medicine



<https://millionhearts.hhs.gov/data-reports/cqm/measures.html>

MH 2022 Vital Signs

16M About 16 million heart attacks, strokes, and related heart-threatening events* could happen by 2022.

1 in 3 1 in 3 of these life-changing cardiovascular events happened in adults 35-64 years old in 2016.

80% 80% of premature heart disease and strokes are preventable.

Want to learn more?
Visit: www.cdc.gov/vitalsigns

Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion

Preventing 1 Million Heart Attacks and Strokes

Middle-aged adults are being hard hit

Heart attacks and strokes can be catastrophic, life-changing events that are all too common. Heart disease and stroke are preventable, yet they remain leading causes of death, disability, and healthcare spending in the US. Alarmingly, many of these events happen to adults ages 35-64—over 800,000 in 2016. Million Hearts® is a national initiative with a network of partners focused on preventing one million heart attacks, strokes, and other cardiovascular events by 2022. Coordinated actions by public health and healthcare professionals, communities, and healthcare systems can and will keep people healthy, optimize care, and improve outcomes within priority populations.

Healthcare professionals and systems can

- Focus on the ABCS of heart health: **A**spirin use when appropriate, **B**lood pressure control, **C**holesterol management, and **S**moking cessation.
- Take a team approach—use technology, standard processes, and the skills of everyone in the healthcare system to find and treat those at risk for heart disease and stroke.
- Make sure people who have had a heart attack or stroke get the care they need to recover well and reduce their risk of another event.
- Promote physical activity and healthy eating among their patients and employees.

* deaths, hospitalizations, and emergency room visits due to heart attack, stroke, and other cardiovascular conditions like heart failure that could be prevented if Million Hearts 2022 actions are taken.

PROBLEM:
Heart attacks and strokes are common and preventable.

More than 1,000 Americans died each day in 2016 from heart attack, stroke, and other events Million Hearts® is trying to prevent.

Many opportunities to find and treat risk factors are missed every day.

9 Million

PEOPLE NOT TAKING ASPIRIN AS RECOMMENDED

40 Million

PEOPLE WITH UNCONTROLLED BLOOD PRESSURE

39 Million

ADULTS NOT USING STATINS (CHOLESTEROL-LOWERING MEDICINES) WHEN INDICATED

54 Million

ADULT SMOKERS

71 Million

ADULTS WHO ARE PHYSICALLY INACTIVE

POPULATIONS MORE AT RISK

- Americans aged 35-64 are less likely to use aspirin or statins (cholesterol-lowering medicines) when indicated, and only about half have their blood pressure under control.
- Blacks/African Americans are more likely than whites to develop high blood pressure—especially at earlier ages—and are less likely to have it under control.
- People with mental health and/or substance use disorders use tobacco more frequently.
- People who have already had one heart attack or stroke are at high risk for a second.

SOURCE: Million Hearts® At-A-Glance, 2017

35-64 year olds

In 2016, about 775,000 hospitalizations and 75,000 deaths from cardiovascular events occurred in younger Americans, who are America's workforce, parents, partners, and caregivers.

Getting to One Million

Everyone can take small steps to improve their own health, the health of their families and loved ones, patients, communities, and the heart health of our nation. We have to act now.

Event Rate (per 100,000)

- 767-950
- 951-1,108
- 1,109-1,338
- 1,339-2,048

SOURCE: Agency for Healthcare Research and Quality Healthcare Cost and Utilization Project, National Vital Statistics System Mortality Data.

SMALL CHANGES IN EVERY STATE CAN HAVE A BIG IMPACT.

One million events could be prevented by 2022 if every state reduced these life-changing events by 6 percent. While rates are higher in the Southeast and Midwest, small changes to improve heart health are needed in all states.

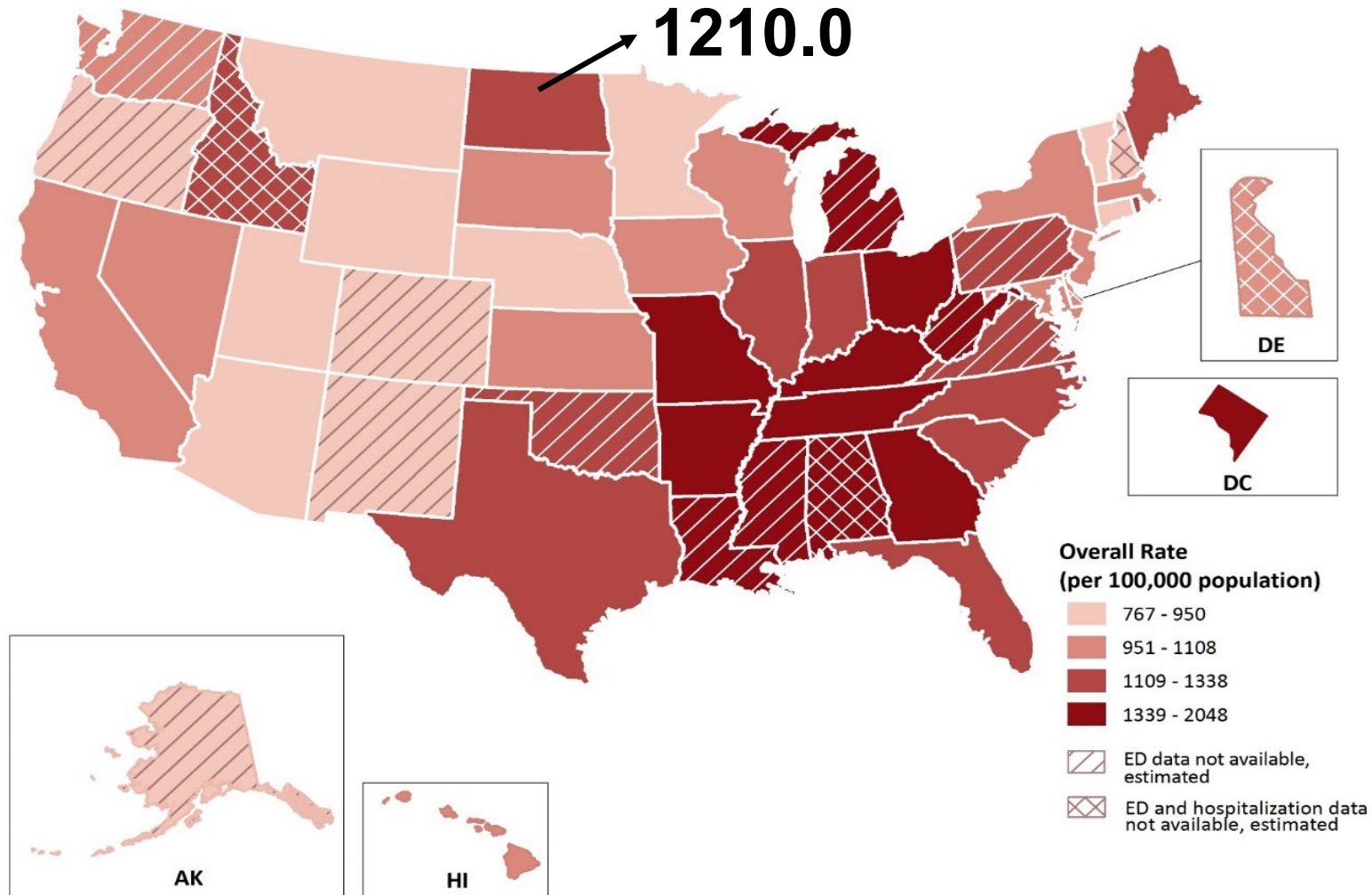
MAP: 2016 event rates by state (deaths, hospitalizations, and emergency department [ED] visits combined).

- ED data not available, estimated
- ED and hospitalization data not available, estimated



<https://www.cdc.gov/vitalsigns/pdf/vs-0918-million-hearts-H.pdf>

Million Hearts[®]-preventable event rates among adults aged ≥18 years by state, 2016



Data Sources: Healthcare Cost and Utilization Project data (2016), National Vital Statistics mortality data (2016); Ritchey MD, Wall HK, Owens PL, Wright JS. Vital Signs: State-level Variation in Non-fatal and Fatal Heart Disease and Stroke Events Targeted for Prevention by Million Hearts 2022. MMWR. 2018;67(35):974-982.

Million Hearts® State Profile: North Dakota

2016 Values*

Treat-and-Release ED Visit Rate	Rate	Acute Hospitalizations			Mortality Rate
		Cost, In US\$ (2016) billions	Mean cost (US\$) per event	Per-capita costs (US\$)	
162.8	912.4	0.09	18,224	157	134.8

Estimated 2017–2021 Values Without Intervention

Treat-and-Release ED Visits (thousands)	Acute Hospitalizations (thousands)	Deaths (thousands)	Total Mutually Exclusive Events (thousands)	Expected Hospitalization Costs, in US\$ (2016) billions
5.4	30.2	4.5	40.1	0.5

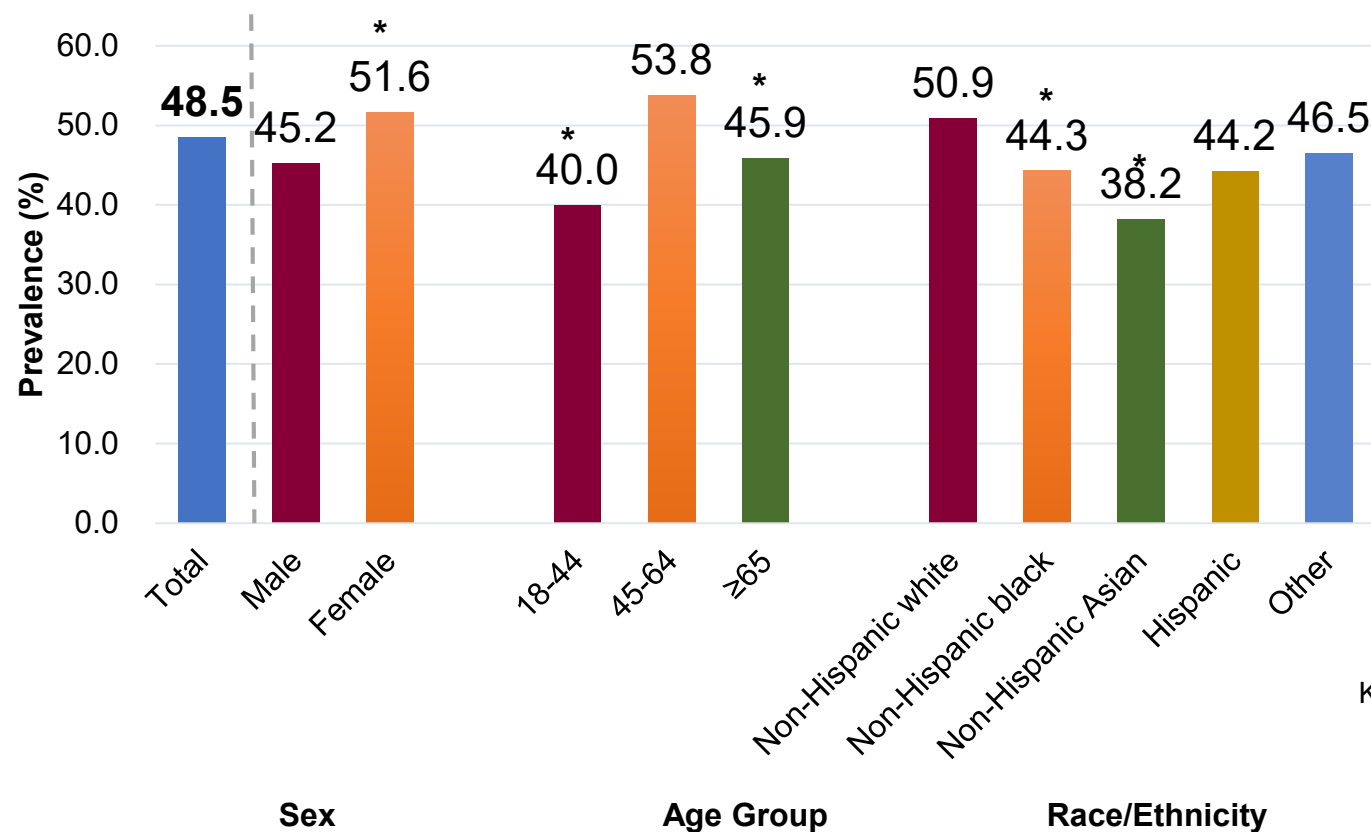


*Rates are per 100000 population; standardized, by age, to the 2012 US Census population
ED: emergency department

Ritchey MD, Wall HK, Owens PL, Wright JS. Vital Signs: State-level Variation in Non-fatal and Fatal Heart Disease and Stroke Events Targeted for Prevention by Million Hearts 2022. MMWR. 2018;67(35):974-982.

Blood Pressure Control

Blood pressure control among adults aged ≥ 18 years with hypertension – NHANES 2015-2016



Wall HK, Ritchey MD, Gillespie C, et al. Vital Signs: Prevalence of Key Cardiovascular Disease Risk Factors for Million Hearts 2022 — 2011–2016. MMWR. 2018;67(35):983-991.

Missed Opportunities

9.0 M not taking aspirin as recommended

40.1 M with uncontrolled HBP

39.1 M not using statins when indicated

54.1 M combustible tobacco users

+ 70.9 M who are physically inactive

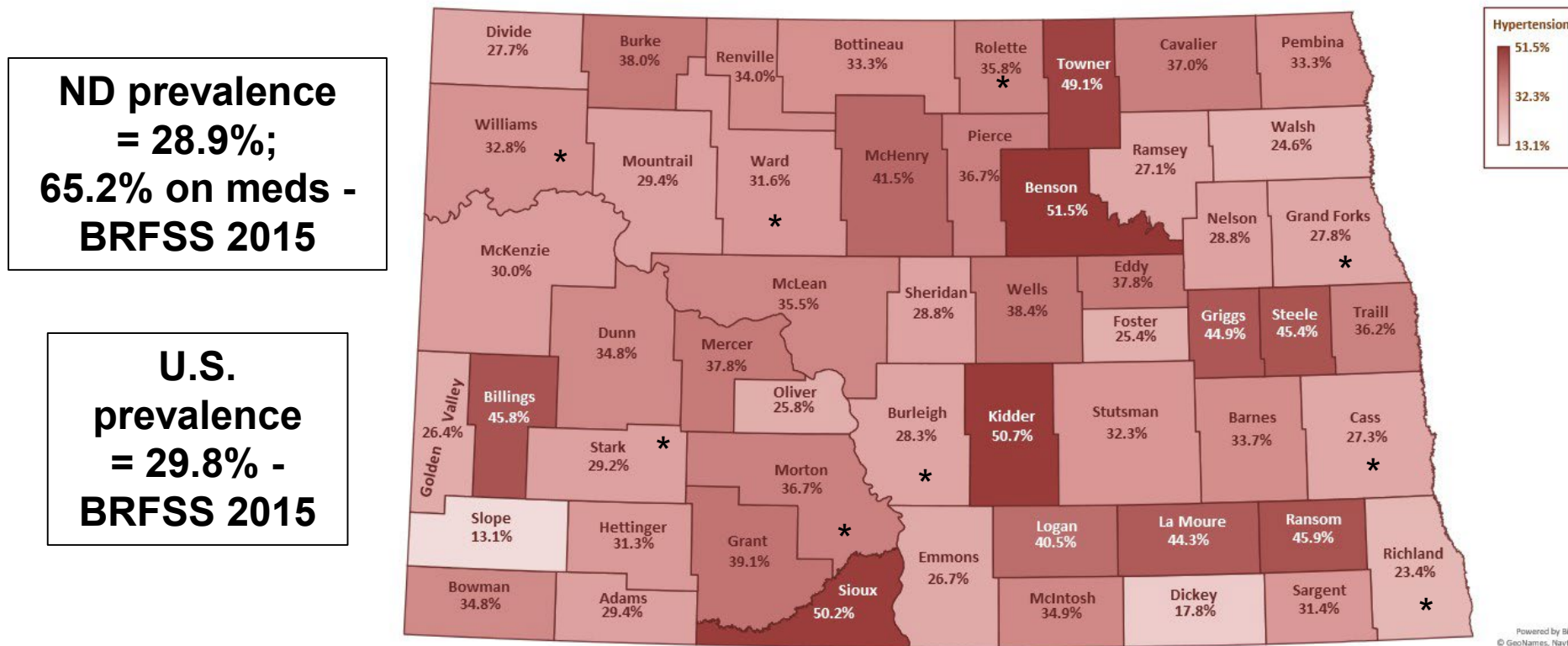
213.1 M missed opportunities

55% of these opportunities are in adults aged 35–64 years



ND Self-reported HTN Awareness

Percentage of People Reporting High Blood Pressure in North Dakota



Source: 2017 North Dakota Behavioral Risk Factor Surveillance System (BRFSS)
Fang J, Gillespie C, Ayala C, Loustalot F. Prevalence of Self-Reported Hypertension and Antihypertensive Medication Use Among Adults Aged ≥ 18 Years — United States, 2011–2015. MMWR Morb Mortal Wkly Rep 2018;67:219–224.

CDC Hypertension Control Champions

- Annual recognition program –
<https://millionhearts.hhs.gov/partners-progress/champions/list.html>
- $\geq 70\%$ on BP control
- 101 champions from 2012-2018
 - 34 states and D.C.
 - Treating 15 million US adults with HTN aged 18-85
- 2015 – Altru Health System, Grand Forks, North Dakota
- 2017 – Sanford Health Clinics, Bismarck, North Dakota



Hypertension Control Tools



Hypertension Control Change Package



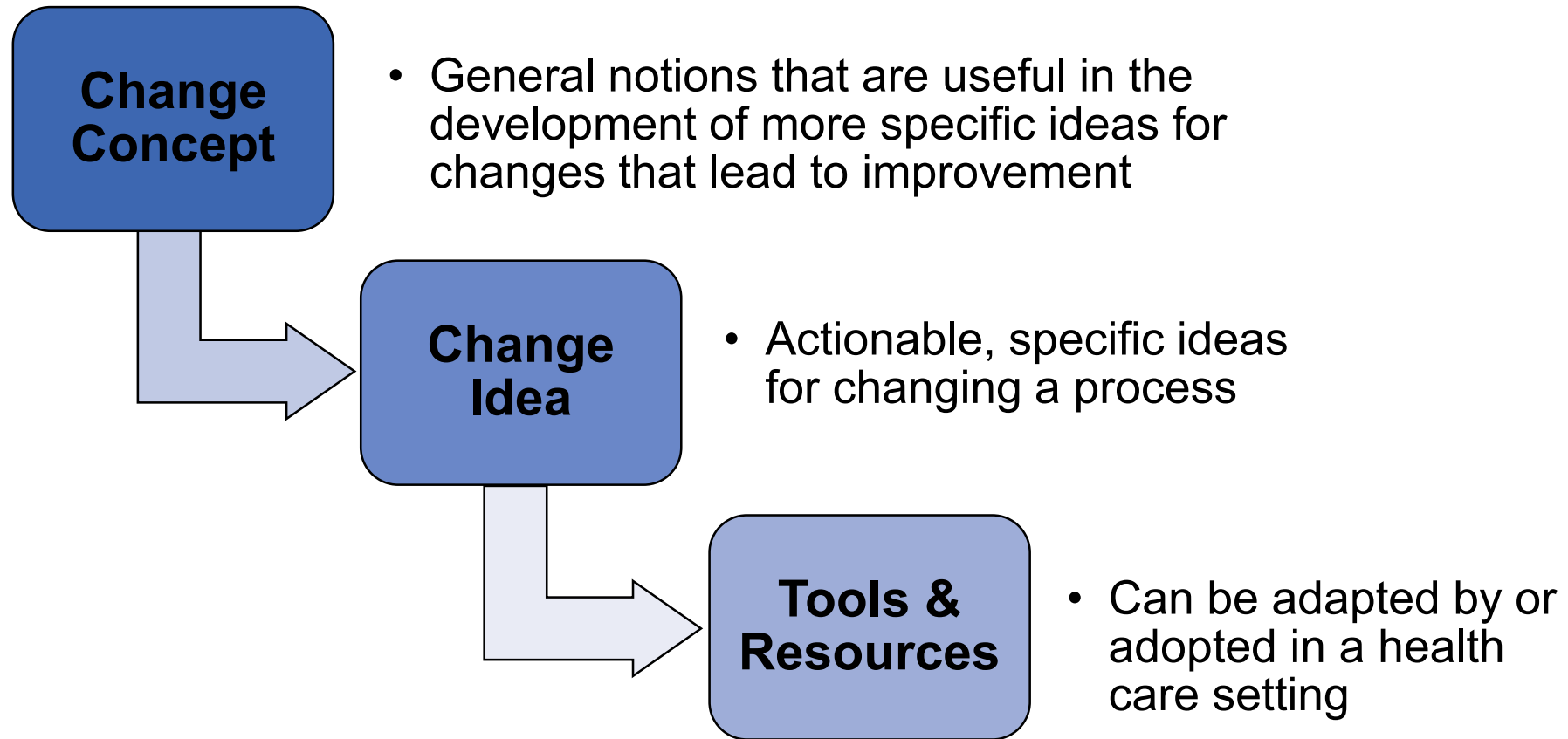
Revised version coming in 2019

Table 1. Hypertension Control Change Package—Key Foundations (continued)		
Change Concepts	Change Ideas	Tools and Resources
Implement a Policy and Process to Address BP for Every Patient with HTN at Every Visit	Develop HTN control policy and procedures	- American Medical Group Foundation. Provider Toolkit to Address Hypertension Control. BP Addressed for Every Hypertensive Patient at Every Primary Care or Cardiology Visit: http://www.amgf.org/~/media/AMGF/Toolkit/BP-Addressed-for-Every-Hypertensive-Patient-at-Every-Primary-Care-or-Cardiology-Visit.pdf - Kaiser Permanente. Blood Pressure Change Checklist: http://bit.ly/1nqETWJ*
	Leverage local Patient Centered Medical Home (PCMH) activities to help drive comprehensive approach to HTN management	Washington State Department of Health. Improving the Screening, Prevention, and Management of Hypertension—An Implementation Tool for Clinic Practice Teams: Measurement Worksheet (pp.12-15): http://bit.ly/2Goede
	Develop a flowchart to guide how to measure BP	American Medical Group Association. Registry Used to Track Hypertension Patients: http://bit.ly/12k9MT1*
Evaluate Care Staff on Accurate BP Measurement and Recording	Use a defined process for outreach (e.g., via phone, mail, email, text message) to patients with uncontrolled HTN and those otherwise needing follow-up	- Health Center Network of New York. Undiagnosed Hypertension Registry: http://bit.ly/1sUmOPG - Redwood Community Health Coalition. Hypertension Recall Instructions: see Appendix B. - The Office of the National Coordinator for Health Information Technology. Quality Improvement in a Primary Care Practice: http://bit.ly/1tgdXkD - American Heart Association. Heart360. An Online Tool for Patients to Track and Manage Their Heart Health and Share Information: http://bit.ly/1tVJCWV
	Use Clinician-Managed Protocols for Medication Adjustments and Lifestyle Recommendations	- Minnesota Board of Nursing. FAQ: Use of Condition-Specific Protocols: http://bit.ly/1wfw8YD - Kaiser Permanente. Protocol for Uncomplicated Hypertension: Registered Nurse Titration of Lisinopril, Hydrochlorothiazide, Atenolol, and Amlodipine: http://bit.ly/1u855sR - UNC Health Care Center. Standing Order: Antihypertensive Initiation and Titration: http://bit.ly/1thJirE - Agency for Healthcare Research and Quality. Blood Pressure Titration Protocol for Diabetes Planned Visit: http://1.usa.gov/1rABlmk - Mercy Clinics, Inc. Hypertension Standing Orders: http://bit.ly/1032em6*
	Assess adherence to BP measurement	- Washington State Department of Health. Improving the Screening, Prevention, and Management of Hypertension—An Implementation Tool for Clinic Practice Teams: Measurement Worksheet (pp.12-15): http://bit.ly/2Goede - Health Center Network of New York. Specifications Hypertension Measures: http://bit.ly/1x1rvxU
Use Practice Data to Drive Improvement	Determine HTN control metrics for the practice	- New York City Department of Health. Provider Dashboards: http://bit.ly/1wFB9Ao - New York City Department of Health. John Doe Dashboard: http://bit.ly/12k955x
	Regularly provide a dashboard with BP goals,	More detailed information: Your Practice Hypertension Panel Summary (http://bit.ly/1231AD7) and Hypertension Panel Management Patient List

http://millionhearts.hhs.gov/Docs/HTN_Change_Package.pdf

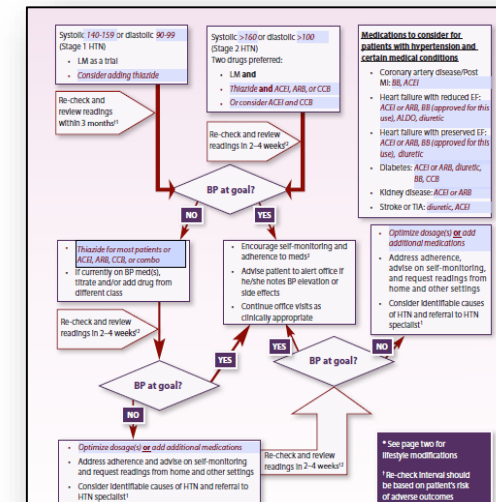


Change Package Format



Standardized Treatment Protocols

- <http://millionhearts.hhs.gov/resources/protocols.html>
 - Hypertension control
 - Cholesterol management
 - Tobacco assessment and treatment
- Key components, implementation guidance
- Evidence-based protocols examples
- Customizable template – HTN, Tob
- Help address disparate populations



Self-Measured Blood Pressure Monitoring (SMBP)

- Strong evidence for SMBP plus additional clinical support
 - 1:1 counseling
 - Group classes
 - Web-based or telephonic support
- Good evidence for SMBP for confirming HTN diagnosis
 - USPSTF HTN screening recs
 - 2017 ACC/AHA HTN guideline

- Patient-Clinician Feedback Loop



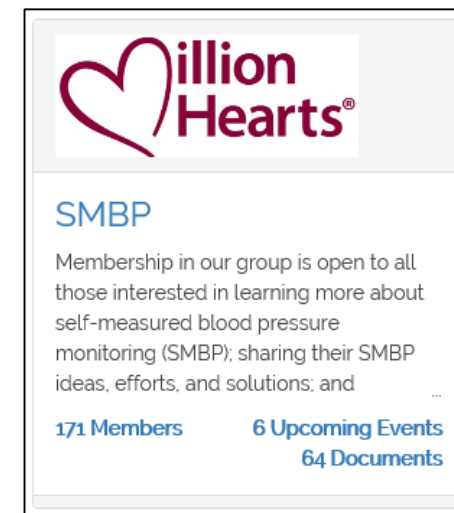
SMBP Resources

- Guidance for clinicians on:
 - Training patients to use monitors
 - Checking home machines for accuracy
 - Suggested protocol for home monitoring
 - Cuff loaner program
- Training videos
- <https://millionhearts.hhs.gov/tools-protocols/smbp.html>



Million Hearts® SMBP Forum

- **Meets quarterly** to facilitate the exchange of SMBP best practices, tools, and resources
- **Join the SMBP Forum at** <http://bit.ly/SMBPForum>
- **Access materials via the SMBP Healthcare Community**
 - Go to www.healthcarecommunities.org and log in to your account (free to register)
 - Search for ‘SMBP’ under the ‘Available Communities’ tab
 - Click “Join Community”
- **Questions:** MillionHeartsSMBP@nachc.org



Finding Undiagnosed Hypertensives

**“Hiding in Plain Sight”
(HIPS)**

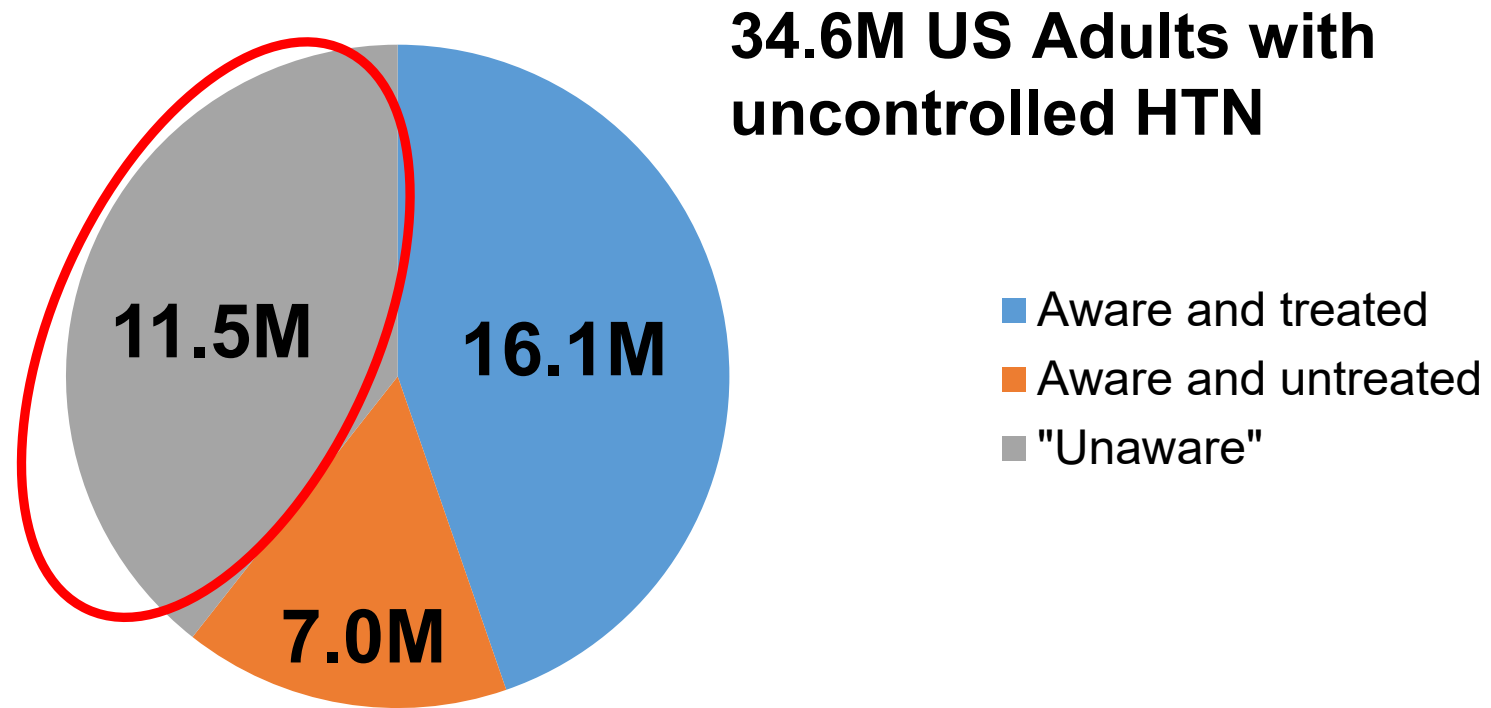


Hypertension Prevalence (JNC 7)

- 32.1% prevalence among US adults
 - 40.5% among adults 45-64
 - 65.9% among adults 65+
 - 40.1% among non-Hispanic blacks
- 78M adults have hypertension



Uncontrolled HTN (JNC 7)



Source: 2013-2014 National Health and Nutrition Examination Survey

“Unaware” – A Closer Look (JNC 7)

- 80.9% have health insurance
- 82.7% report having a usual source of care
- 63.3% have received care two or more times in the past year



Source: 2011-2014 National Health and Nutrition Examination Survey

Controlling High Blood Pressure Measures

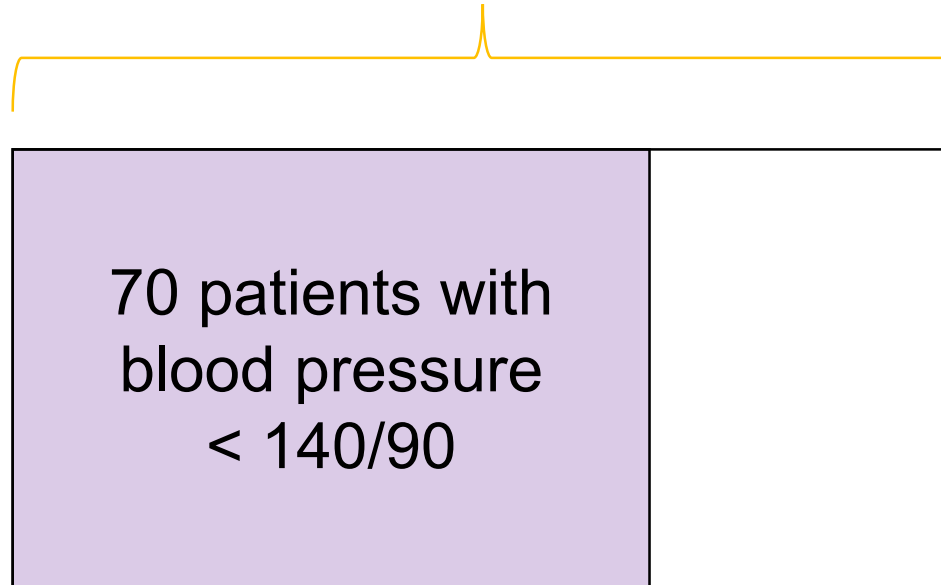
Measure	Measure Definition	ICD-10-CM
NQF 0018 CMS165	The percentage of patients 18-85 years of age who had a diagnosis of HTN and whose BP was adequately controlled (<140/90) during the measurement year.	I10 (Essential HTN)

NQF – National Quality Forum; CMS165 – numbering convention for the CMS e-specified measures



Assessing Hypertension Control

100 patients with
diagnosed hypertension



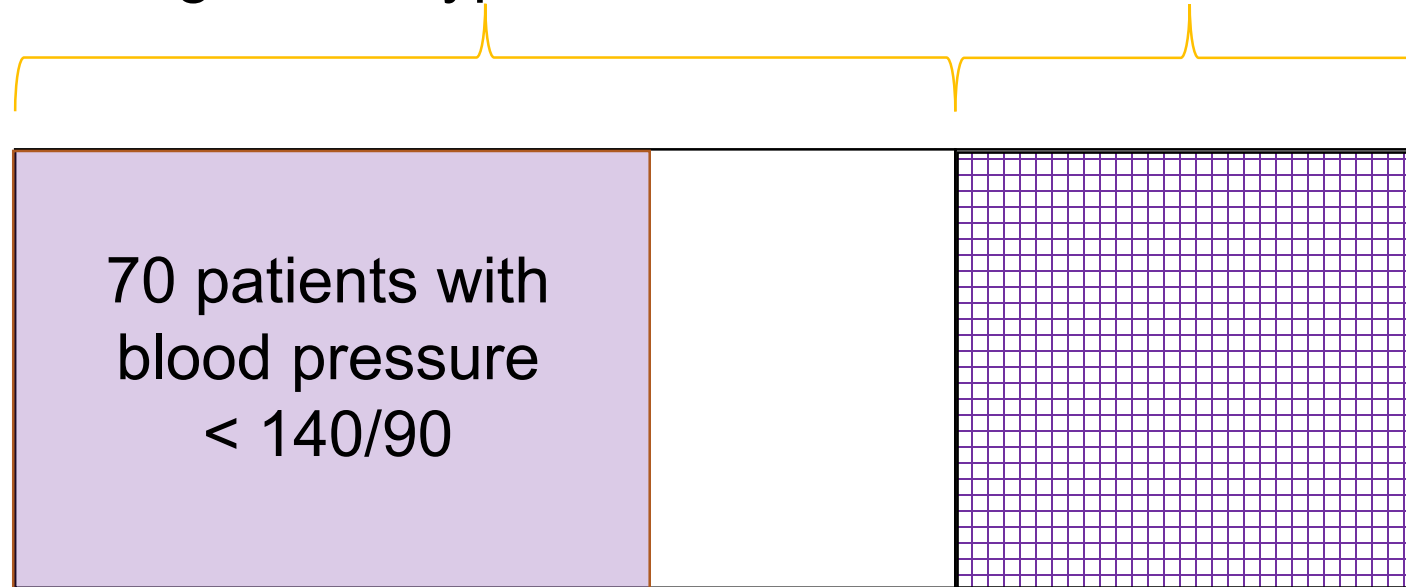
$$(70/100)*100 = 70\% \text{ control}$$

150 patients with hypertension?

100 patients with
diagnosed hypertension

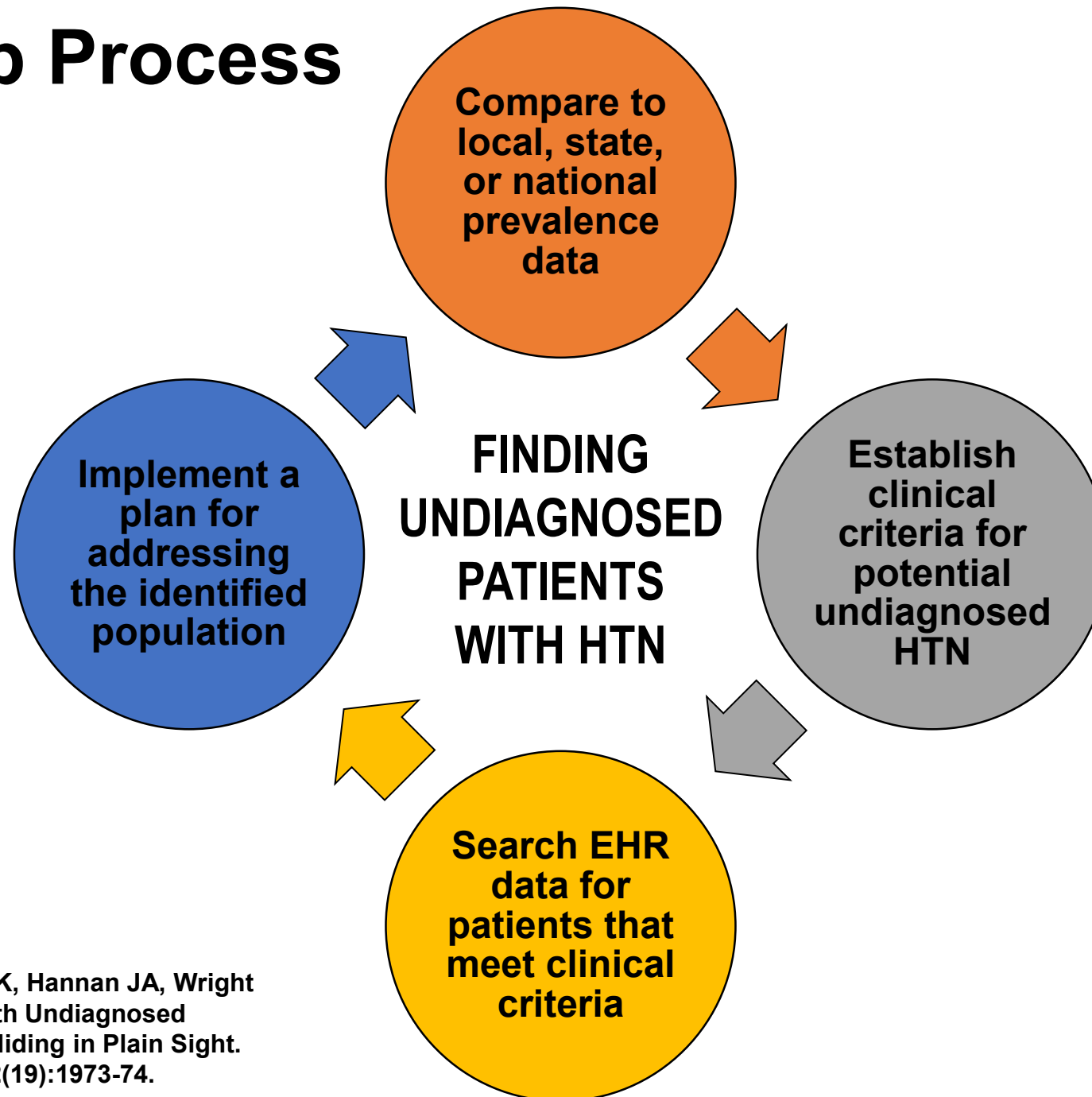
+

50 patients with
abnormal BP values



$$(70/150)*100 = 47\% \text{ control}$$

4-Step Process



Source: Wall HK, Hannan JA, Wright JS. Patients with Undiagnosed Hypertension: Hiding in Plain Sight. JAMA. 2014;312(19):1973-74.

Are patients with hypertension being missed?

- Calculate practice prevalence

$$\frac{\text{\# of adult patients with a diagnosis of HTN (e.g. ICD-10 I10)}}{\text{\# of adult patients (18-85, not pregnant, no ESRD)}} \times 100$$

- Compare to 32.1%

OR

- Use the Million Hearts Hypertension Prevalence Estimator Tool

- <https://nccd.cdc.gov/MillionHearts/Estimator/>



**Compare to
local, state,
or national
prevalence
data**

Clinical Criteria for Undiagnosed Hypertension

- Use guidelines supported by the practice
- Consider:
 - Stages of hypertension
 - # of abnormal values
 - Time period
- Adults 18-85
- Standard exclusion criteria
 - Patients who have died



Establish
clinical
criteria for
potential
undiagnosed
HTN

Use Electronic Health Record Data

- Population health management software solutions
- EHR registry functionality
- Embed automated algorithms into EHR
 - Requires informatics staff
- Customized reports from EHR vendor



**Search EHR
data for
patients that
meet clinical
criteria**

Plan for Confirmation and Treatment

- 24-hour Ambulatory BP monitoring (ABPM)
- Self-measured BP monitoring (SMBP)
- Automated Office BP machines (AOBP)
- Confirmatory office measures

USPSTF recommendation
for hypertension screening
<https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/high-blood-pressure-in-adults-screening>

Implement a
plan for
addressing
the identified
population



What to do with patients confirmed to not have hypertension?

- ICD-10-CM – R03.0 – Elevated blood-pressure reading, without diagnosis of hypertension
 - “This category is to be used to record an episode of elevated blood pressure in a patient in whom no formal diagnosis of hypertension has been made, or as an isolated incidental finding.”
 - <http://www.icd10data.com/ICD10CM/Codes/R00-R99/R00-R09/R03-/R03.0>

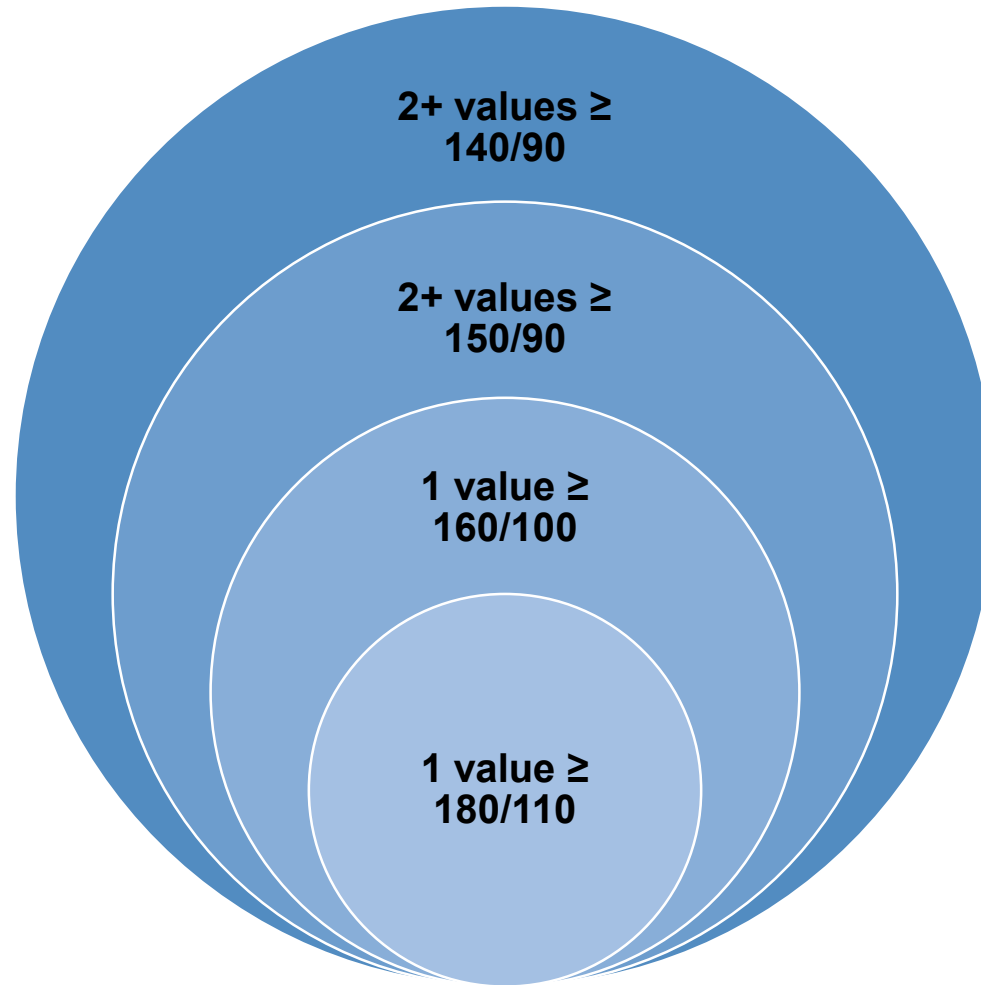


**Implement a
plan for
addressing
the identified
population**

Clinical Criteria – Sample Stepped Approach

More liberal
criteria,
lower PPV

More
resources
for HTN
confirmation



More
conservative
criteria,
higher PPV

Fewer
resources
for HTN
confirmation



PPV = Positive Predictive Value

Data Exploration Case Studies



NorthShore Algorithms

Table 1. Number of At-Risk Patients Identified by Each Hypertension Screening Algorithm

Algorithm	Number Identified
1. All patients whose 3 most recent encounters yielded a mean SBP >140 mm Hg or a mean DBP >90 mm. Encounters used were within 12 months before their most recent encounter	720
2. All patients who had 3 encounters with a SBP >140 or DBP >90 mm Hg within 12 months before their most recent encounter	968
3. Patients who had a single encounter with a SBP >180 or a DBP >100 mm Hg within 12 months before their most recent encounter	527
Unique patients identified by algorithms 1, 2, or 3	1,586

SBP = systolic blood pressure; DBP = diastolic blood pressure.

Note: All data were obtained from outpatient encounters with a primary care physician or specialist.



Rakotz MK, Ewigman BG, Sarav M, et al. A technology-based quality innovation to identify undiagnosed hypertension among active primary care patients. *Ann Fam Med*. 2014;12(4):352-358.

Palo Alto Medical Foundation

- 250,000 adult patients (active 2006 - 2008)
- For patients with ≥ 2 BP readings of 140/90 or higher, an antihypertensive medication prescription, or both, 37.1% did not have an ICD-9-CM code
- HTN prevalence went from 18.0% (ICD code only) to 28.7%
- **Much more likely to be on an antihypertensive with a HTN diagnosis**
 - 92.6% diagnosed vs 15.8% undiagnosed, $P < .001$



Banerjee D, Chung S, Wong EC, Wang EJ, Stafford RS, Palaniappan LP.
Underdiagnosis of hypertension using electronic health records. *Am J Hypertens*.
2012;25(1):97-102.

University of West Virginia

- 11 primary care centers in West Virginia
- Chronic Disease Electronic Management System (CDEMS)
- Query found 14,893 patients with:
 - ICD-9-CM code 401
 - 2 or more blood pressure readings of 140/90 or higher (n = 1076)
 - A diagnosis of essential hypertension based on free-text entries (n = 898)
- 13.3% potentially hypertensive patients overall
 - Varied across the sites from 3.6% to 47.9%



Baus A, Hendryx M, Pollard C. Identifying patients with hypertension: a case for auditing electronic health record data [published online April 1, 2012]. *Perspect Health Inf Manag.* 2012;9:1e.

University of Wisconsin

- 14,970 patients (2008-2011)
- Clinical criteria:
 - Excluded patients with a diagnosis code or current antihypertensive Rx
 - ≥ 3 outpatient BPs from 3 separate dates, at least 30 days apart, within a 2-year period (≥ 140 or ≥ 90)
 - ≥ 2 elevated BPs (≥ 160 or ≥ 100), at least 30 days apart, but within a 2-year period
- After 4 years, 18–31-year-olds had a 33% slower rate of receiving a diagnosis compared to those 60+



Johnson HM, Thorpe CT, Bartels CM, Schumacher JR, Palta M, Pandhi N, Sheehy AM, Smith MA. Undiagnosed hypertension among young adults with regular primary care use. J Hypertens . 2014, 32:65–74

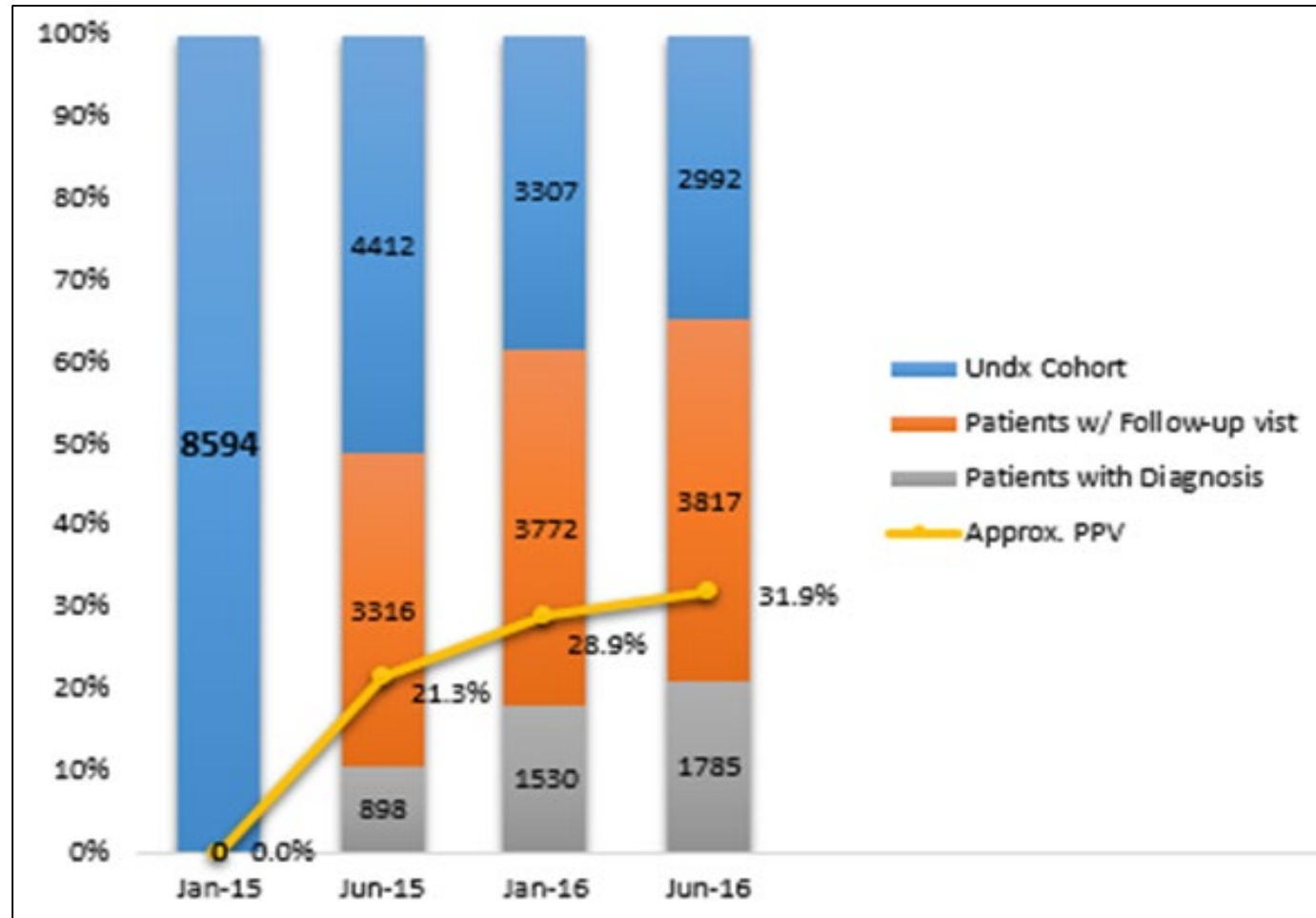
National Association of Community Health Centers

- 100,000K patients from 10 FQHCs from 4 Health Center Controlled Networks – CA, KY, MO
- Clinical criteria:
 - ≥ 2 elevated BP (≥ 140 SBP or ≥ 90 DBP), past 12 months
 - 1 Stage 2 (≥ 160 SBP or ≥ 100 DBP), past 12 months
- Developed a change package of information on next steps and methods for scaling up
- <http://mylearning.nachc.com/diweb/fs/file/id/229350>



Undiagnosed Hypertension Cohort

65.2% had
a follow up
visit; of
these,
31.9% were
dx w/HTN



Meador M, Osheroff JA, Reisler B. Improving Identification and Diagnosis of Hypertensive Patients Hiding in Plain Sight (HIPS) in Health Centers. Jt Comm J Qual Patient Saf. 2018 Mar;44(3):117-129.

Pearls from the Literature

- No one algorithm is a silver bullet
- Starting conservatively can generate numerous patients resulting in a high positive predictive value
- Undiagnosed vs. undocumented hypertension
- Much more likely to be on an antihypertensive with a HTN diagnosis
- HIPS issue can vary greatly across sites
- Could be a disparities issue, e.g. young adults



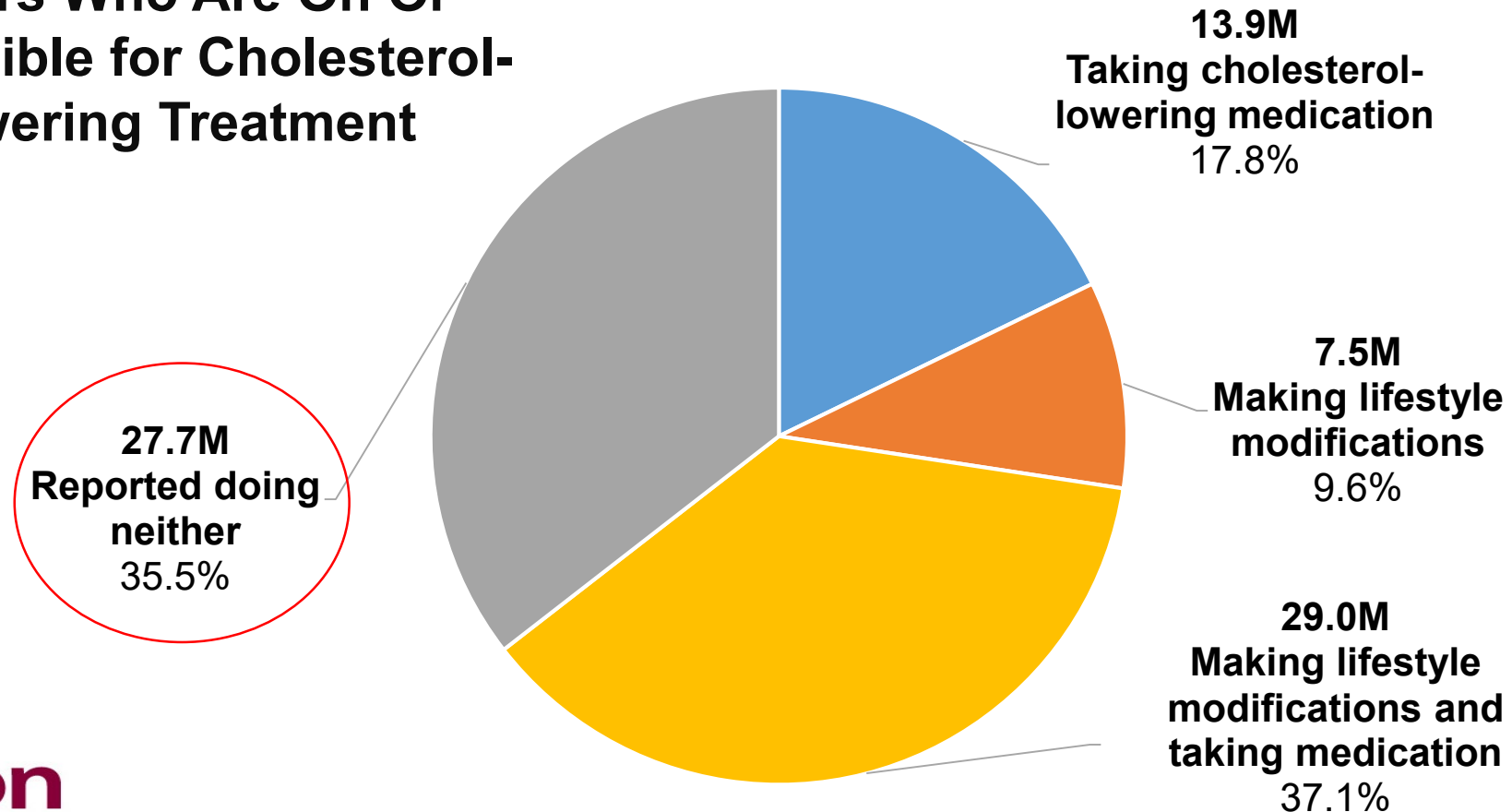
Potential Challenges

- Lack of interest or buy-in from clinic staff
 - Face validity check – HTN prevalence or patients $\geq 180/110$
- Inadequate EHR functionality
 - Population health management software solutions
 - <http://www.phii.org/sites/www.phii.org/files/resource/files/Population%20Health%20Management%20Software%20Report.pdf>
- HTN control rates will drop when potentially undiagnosed patients are identified



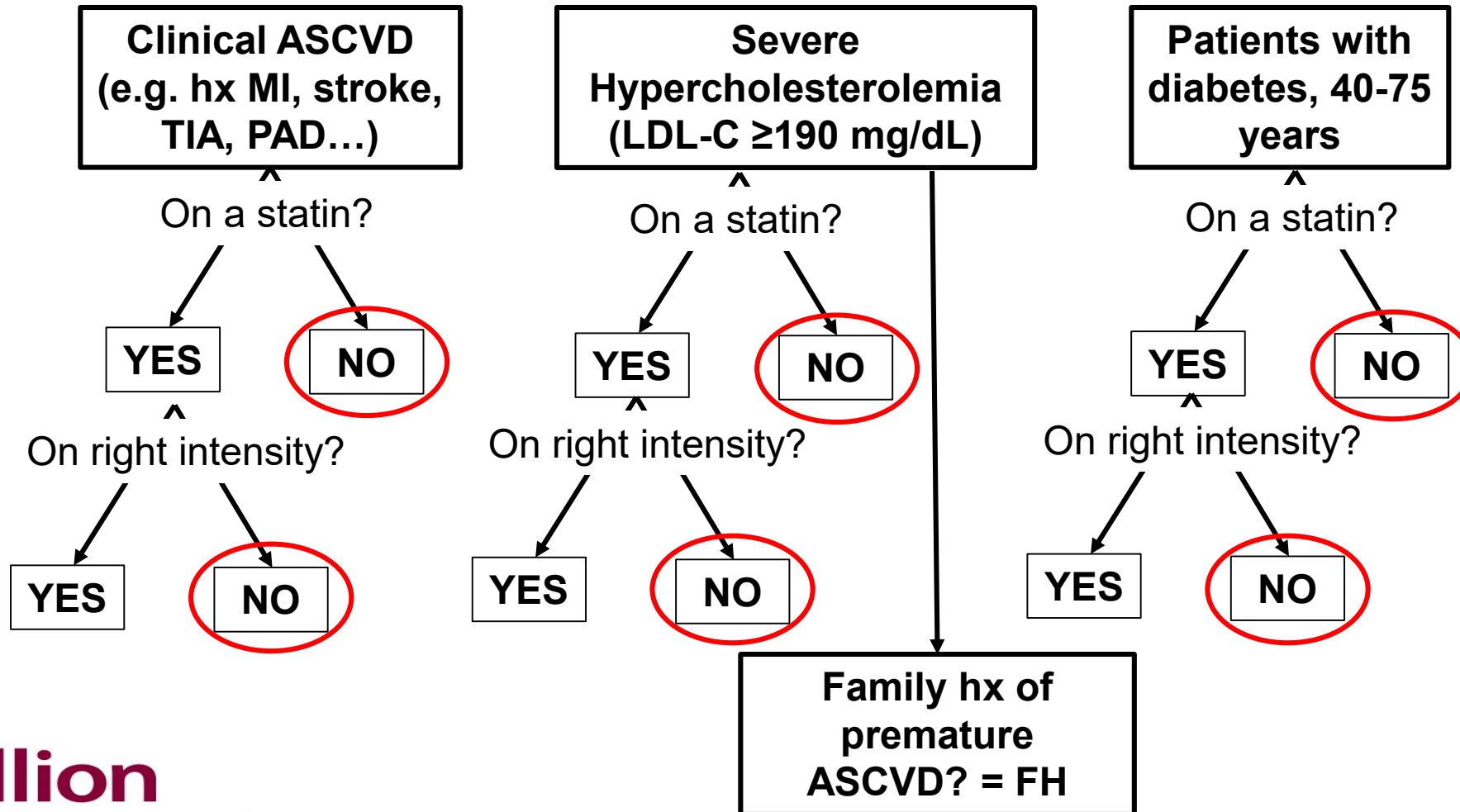
Data Exploration for Other Topics

78.1 M Adults Aged ≥ 21 Years Who Are On Or Eligible for Cholesterol-Lowering Treatment



Source: Mercado C, DeSimone A, Odom E, Gillespie C, Ayala C, Loustalot F; Centers for Disease Control and Prevention (CDC). Prevalence of Cholesterol Treatment Eligibility and Medication Use Among Adults — United States, 2005–2012. MMWR Morb Mortal Wkly Rep. 2015; 64(47);1305-11

HIPS – Cholesterol Management



Other Resources of Interest



Additional Resources

- Physical Inactivity – <https://millionhearts.hhs.gov/tools-protocols/tools/physical-activity.html>
- Cholesterol Management – <https://millionhearts.hhs.gov/tools-protocols/tools/cholesterol-management.html>
- Tobacco Use – <https://millionhearts.hhs.gov/tools-protocols/tools/tobacco-use.html>
- Particle Pollution – <https://millionhearts.hhs.gov/tools-protocols/tools/particle-pollution.html>
- Cardiac Rehabilitation – <https://millionhearts.hhs.gov/tools-protocols/tools/cardiac-rehabilitation.html>



- Subscribe to bimonthly e-Update from the Million Hearts[®] homepage



The screenshot shows the Million Hearts homepage with a maroon header. The main navigation bar includes links for Home, Tools & Protocols, Data & Reports, Partners & Progress, and Learn & Prevent. A large banner at the top promotes self-measured blood pressure monitoring for hypertension, featuring an image of a person using a blood pressure cuff and a "Learn more" button. Below the banner are four content boxes: "Tools & Protocols" (with a stethoscope image), "Data & Reports" (with a heart rate monitor image), "Partners & Progress" (with a photo of three healthcare professionals), and "Learn & Prevent" (with a bowl of fruit image). Each box has a "Learn more" link. The footer section includes "Connect" (with social media links for Facebook, Twitter, and YouTube), "News & Media" (with a "Learn more" link), and "Events" (with a "Learn more" link). A red circle highlights the "Get email updates" button in the footer, with a red arrow pointing from the text in the adjacent list item to it.

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Home Tools & Protocols Data & Reports Partners & Progress Learn & Prevent

Help patients with hypertension lower their blood pressure.

Talk with them about self-measured blood pressure monitoring.

[Learn more >](#)

Tools & Protocols
Find treatment protocols, action guides, and other tools to help educate, motivate, and monitor your patients.
[Learn more >](#)

Data & Reports
Access the latest data and published research on heart disease and stroke.
[Learn more >](#)

Partners & Progress
Discover how Champions and partners use proven techniques to prevent and treat heart attack and stroke.
[Learn more >](#)

Learn & Prevent
Explore heart disease and stroke risks, consequences, and prevention strategies.
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Questions?

Hilary Wall – hwall@cdc.gov



Self-measured Blood Pressure (SMBP) Monitoring: A Way Towards Better BP Control

Laken Barkowski, RN, BSN, MSHS
Senior Program Manager of Health Systems Improvement,
American Medical Association

March 21, 2019

TARGET: **BP**[™]



Disclosures

- None

Objectives

- Describe the M.A.P. BP Improvement Program
- Explain the importance of measuring blood pressure (BP) accurately and the evidence for using SMBP
- Describe approaches to implementing a SMBP program
- Propose tools and resources care teams can use for effective implementation and use of SMBP

M.A.P. BP Improvement Program

Factors Impacting Blood Pressure Control

Patient factors

- Non-adherence to treatment
- Socioeconomic determinants of health

Physician factors

- Time
- Knowledge of evidence (willingness to use)

System factors

- Quality/Performance reporting
- Work flow efficiency
- Leadership (buy-in)

M.A.P. Checklists

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 BP¹
- ☐ Use the correct cuff size on a bare arm²⁻¹⁰
- ☐ Ensure patient is positioned correctly^{2,3,11-19}

Confirmatory checklist

If screening blood pressure is $\geq 140/90$ mm Hg, obtain a *confirmatory* measurement:

- ☐ Repeat *screening* steps above
- ☐ Ensure patient has an empty bladder^{2,3,20}
- ☐ Ensure patient has rested quietly for at least five minutes^{2,3,21,22}
- ☐ Obtain the average of at least three BP measurements^{2,3,23}

Evidence-based tips for correct positioning

- Ensure patient is seated comfortably with:
 - Back supported
 - Arm supported
 - Cuff at heart level
 - Legs uncrossed
 - Feet flat on the ground or supported by a foot stool
 - No one talking during the measurement

Act rapidly

If a patient has blood pressure $\geq 140/90$ mm Hg confirmed:

- ☐ Use evidence-based protocol to guide treatment²⁴⁻²⁶
- ☐ Re-assess patient every 2-4 weeks until BP is controlled²⁷⁻²⁹
- ☐ Whenever possible, prescribe single-pill combination therapy³⁰⁻³²

Evidence-based protocols typically include

- Counsel on and reinforce lifestyle modifications
- Ensure early follow-up and add preferred medications in a step-wise fashion, until BP is controlled
- For most patients, give preference to:
 - Thiazide diuretics
 - Dihydropyridine calcium channel blockers
 - ACE inhibitors (ACEI) or
 - Angiotensin receptor blockers (ARB)
- Do not prescribe both ACEI and ARB to same patient
- If BP $\geq 160/100$ 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 strategies³³⁻³⁵
- ☐ Help patients accurately self-measure^{36,37}
- ☐ 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
- *Elicit* 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 $\geq 135/85$ 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: Measure Accurately

EVIDENCE-BASED STRATEGIES AND ACTION STEPS

1. Proper patient preparation, validated device usage and correct measurement technique
2. Proper documentation of measurements
3. Feedback and metrics to drive improvement

AVAILABLE RESOURCES

- Fact sheet
- Podcast
- Positioning poster
- Measurement proficiency tool
- Instructional decal for BP monitors
- Instructional videos

OUTCOMES

BP control:
% adults with
Hypertension
who have
BP controlled
(NQF 0018)

Δ in SBP
Δ in DBP

METRICS

Terminal digit preference
Confirmatory metric

M.A.P. BP Improvement Program: Act Rapidly

EVIDENCE-BASED STRATEGIES AND ACTION STEPS

1. Standardized treatment protocols to diagnose and treat high BP
2. Frequent follow up visits to reduce therapeutic inertia
3. Single-pill combination therapy to treat high BPs whenever possible
4. Patient outreach
5. Feedback and metrics to drive improvement

AVAILABLE RESOURCES

- Treatment / Management Protocols
- Clinical Inertia Chart Review

METRICS

Therapeutic Inertia Index

OUTCOMES

BP control:
% adults with Hypertension who have BP controlled (NQF 0018)

Δ in SBP
 Δ in DBP

M.A.P. BP Improvement Program: Partner with Patients

EVIDENCE-BASED STRATEGIES AND ACTION STEPS

1. Patient self-monitoring of blood pressure
2. Counseling on non-pharmacologic lifestyle interventions
3. Collaborative communication strategies
4. Strategies to improve medication adherence
5. Feedback and metrics to drive improvement

AVAILABLE RESOURCES

- SMBP Online Program
- SMBP Instructional Video
- Infographics
- Patient Education Materials

METRICS

Δ in BP after Therapeutic Intensification
(Proxy for medication adherence)

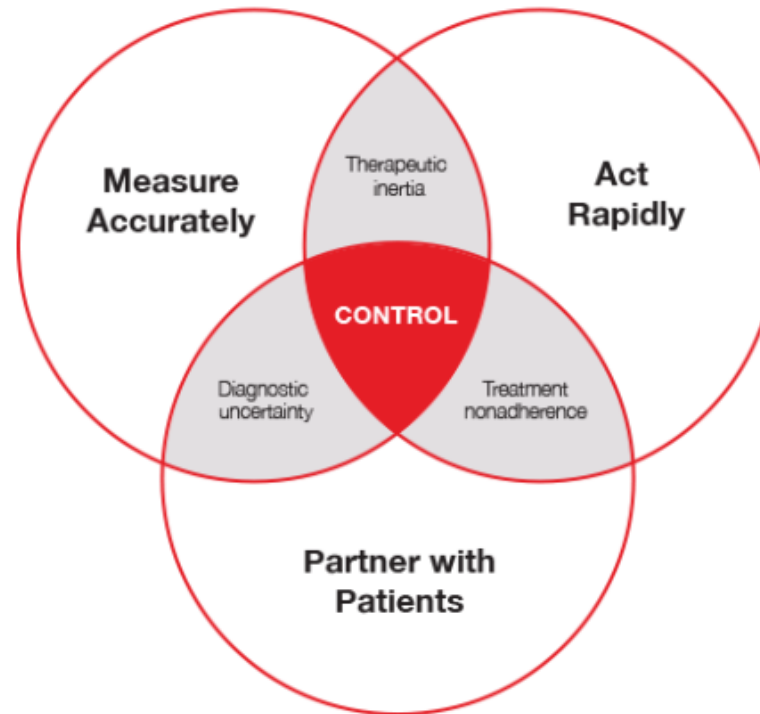
OUTCOMES

BP control:
% adults with Hypertension
who have BP controlled
(NQF 0018)

Δ in SBP
 Δ in DBP

M.A.P. Framework for BP Control

The three pillars of the program are **ALL** needed- each addresses a major barrier to cardiovascular disease prevention



Boonyasai RT, Rakotz MK, Lubomski LH, et al. Measure accurately, Act rapidly, and Partner with patients: An intuitive and practical three-part framework to guide efforts to improve hypertension control. J Clin Hypertens. 2017;19:684-694. <https://doi.org/10.1111/jch.12995>

Evidence of Effectiveness of BP Improvement Program



Received: 15 June 2017 | Revised: 16 August 2017 | Accepted: 28 August 2017
DOI: 10.1111/jch.13141

ORIGINAL PAPER

WILEY

Measure Accurately, Act Rapidly, and Partner With Patients (MAP) improves hypertension control in medically underserved patients: Care Coordination Institute and American Medical Association Hypertension Control Project Pilot Study results

Robert B. Hanlin MD^{1,2} | Irfan M. Asif MD^{1,2} | Gregory Wozniak PhD³ | Susan E. Sutherland PhD^{2,4} | Bijal Shah MD¹ | Jianing Yang MS³ | Robert A. Davis MS⁴ | Sean T. Bryan MD⁵ | Michael Rakotz MD³ | Brent M. Egan MD^{2,4,6}

Results Summary:

*Between baseline and the last study visit, BP control to <140/<90 mm Hg increased from **61.2% to 89.9%** ($P < .0001$).*

MAP rapidly and significantly improved hypertension control in medically underserved patients, largely as a result of measuring BP Accurately and partnering with patients

Hypertension

ORAL ABSTRACT PRESENTATION SESSION TITLE: BLOOD PRESSURE CONTROL AND ADHERENCE TO TREATMENT

Can Hypertension Control be Improved Within a Short Time Frame? - Results From Implementing the Measure Accurately,

Act Rapidly and Partner With Patients (MAP) Program

Brent Egan, Michael Rakotz, R. Bruce Hanlin, Irfan Asif, Jianing Yang, Susan Sutherland, Robert Davis, Gregory Wozniak
Hypertension. 2017;70:A093

Results Summary

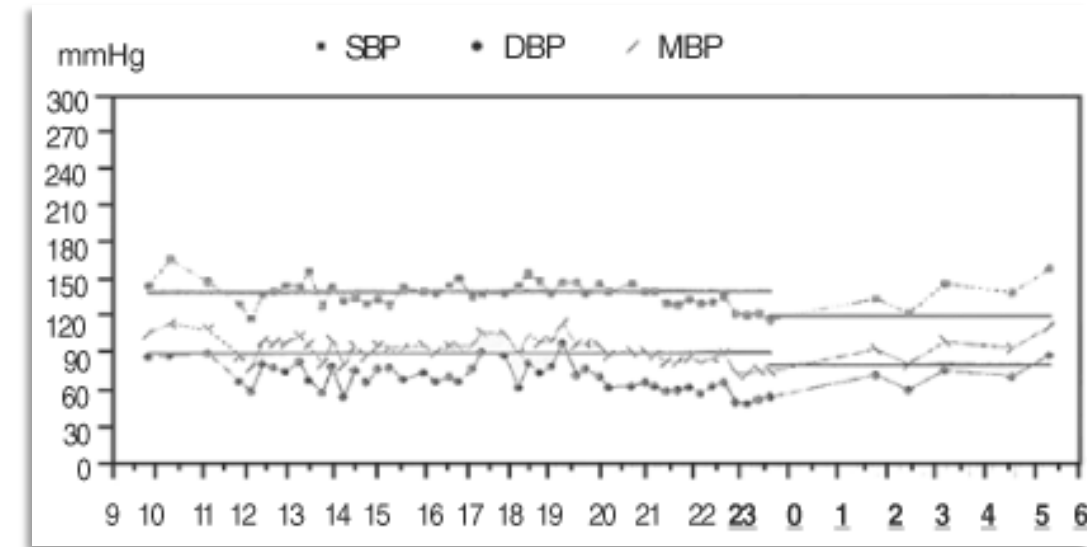
BP control rose from 66.1% at baseline to 74.8% ($p < .001$) among 16,344 patients with baseline and MAP visits

- 15 of 16 practices had better BP control after 6 months MAP intervention
- In uncontrolled patients at baseline, mean SBP/DBP fell from 149/85 to 139/80 mmHg ($p < .001$ / $p < .001$)
- The distributions of SBP and DBP among uncontrolled patients shifted to lower values between baseline and last intervention visit ($p < .0001$)

The Importance of BP Measuring Accurately

Measure Accurately to Obtain Accurate, Representative Blood Pressures

- BP variability exists in everyone and contributes to *uncertainty* about whether any single BP is representative of a patient's true BP
- *Uncertainty* about BP is the leading reason clinicians fail to initiate and escalate therapy to patients with uncontrolled high BP
- *Conventional* or *routine* office BP measurement correlate poorly with a patient's *true* BP and future cardiovascular events
- Poorly performed BP measurements (which are very common) result in inaccurate BP readings, contributing to uncertainty and potential harm to patients over time



How does this affect clinicians in practice?

Kerr E et al. The Role of Clinical Uncertainty in the Treatment Decisions for Diabetic Patients with Uncontrolled Blood Pressure. *Annals of Internal Medicine* (148) Number 10 717-727

Measuring BP Accurately

Observer Factors

- Wrong cuff size
- Cuff placed over clothing
- Improper positioning
- No rest
- Terminal digit preference
- Talking to patient
- Too rapid cuff deflation

Patient Factors

- Full bladder
- Stimulants
- Recent exercise
- Recent meal
- Talking, texting, reading

System Factors

- Location of monitor/device
- Noise
- Work Flows

Measuring BP Accurately

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
- EMPTY BLADDER FIRST**
Full bladder adds 10 mm Hg
- SUPPORT ARM AT HEART LEVEL**
Unsupported arm adds 10 mm Hg
- SUPPORT BACK/FEET**
Unsupported back and feet adds 6.5 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:

1. Pickering, et al. Recommendations for Blood Pressure Measurement in Humans and Experimental Animals Part 1: Blood Pressure Measurement in Humans. *Circulation*. 2005;111: 697-716.
2. Handberg 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 2016
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AMA
AMERICAN MEDICAL ASSOCIATION

White Coat and Masked Hypertension

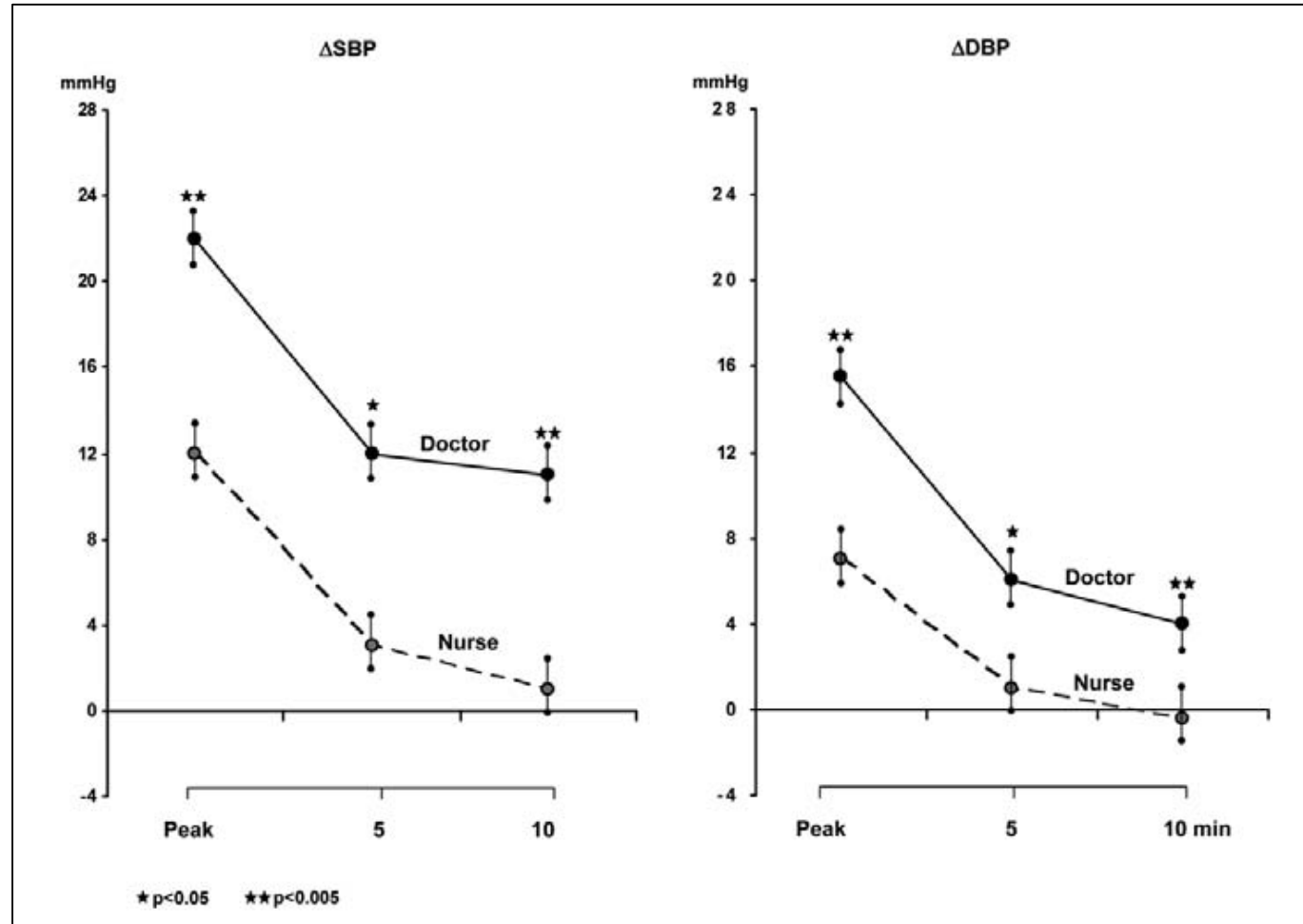
Almost all patients will experience some degree of alerting response

- White coat hypertension: Office BP is high in a patient whose out of office BP normal

But some will experience none at all...

- Masked hypertension: Office BP normal in a patient whose out of office BP high

Alerting Response



Mancia G, Parati G, Pomidossi G, Grassi G, Casadei R, Zanchetti A. Alerting reaction and rise in blood pressure during measurement by physician and nurse. Hypertension 1987;Feb;9(2):209-15.

The Case for SMBP

The Case for SMBP

Accurate, representative BP readings are needed to make sound medical decisions. SMBP readings are more likely to represent a patient's true BP than a single office blood pressure reading.

What is SMBP?

- Patient self-measurement of their blood pressure outside of the clinical setting
- Patients receive training on how to properly self-measure from their clinical team
- Patients share these BP readings with their healthcare team

Why Use SMBP?

- Measurements are taken in the patient's usual environment
- Provides multiple BPs over a longer period of time (more representative of patient's true BP)
- Eliminates white coat effect
- Can identify patient's with masked hypertension

Benefits of SMBP

SMBP improves BP control

- There is sufficient evidence of the effectiveness for SMBP to improve BP when used alone (training provided for proper use and communication)
- There is strong evidence for the effectiveness of SMBP to improve BP when combined with additional support (i.e., patient counseling, education, or web-based support)

Uhlig K, Patel K, Ip S, et al. Self-measured blood pressure monitoring in the management of hypertension. Annals of Internal Medicine 2013, 159(3): 185-194. and CDC community guide task force 2015

Benefits of SMBP

SMBP is more predictive of cardiovascular outcomes than traditional office BPs

1. Target organ damage
2. Risk of future cardiovascular events
 1. Mortality

Sharman JE, Howes FS, Head GA, et al. Home blood pressure monitoring: Australian expert consensus statement. *Journal of Hypertension* 2015; 33: 1721-1728

Benefits of SMBP

SMBP can increase precision in the diagnosis of hypertension

1. Confirming elevated office readings
2. Differentiates between white coat and sustained HTN
3. Helps to identify patients with masked HTN

Parati G, Stergiou GS, Asmar R, et al. European society of hypertension practice guidelines for home blood pressure monitoring. *J Hum Hypertens* 2010; 779-785

Benefits of SMBP

SMBP can be used to assess BP control

1. Provides a reliable estimate of effectiveness of antihypertensive treatment
2. Assesses control at different times across a 24 hour period
3. Allows for better treatment decisions to be made in a timely fashion

Sharman JE, Howes FS, Head GA, et al. Home blood pressure monitoring: Australian expert consensus statement. *Journal of Hypertension* 2015; 33: 1721-1728

Parati G, Stergiou GS, Asmar R, et al. European society of hypertension practice guidelines for home blood pressure monitoring. *J Hum Hypertens* 2010; 779-785

Benefits of SMBP

SMBP improves adherence to therapy

1. Empowers patient to be more involved to self-manage
2. Improves medication adherence with clinical support

Sharman JE, Howes FS, Head GA, et al. Home blood pressure monitoring: Australian expert consensus statement. *Journal of Hypertension* 2015; 33: 1721-1728

Parati G, Stergiou GS, Asmar R, et al. European society of hypertension practice guidelines for home blood pressure monitoring. *J Hum Hypertens* 2010; 779-785

Implementing a SMBP Program

Implementing a SMBP program

1. Considerations before initiating a SMBP program
2. Building a SMBP program
3. Which patients benefit from SMBP
4. Training patients to properly self-measure
5. Interpreting SMBP readings

Considerations Before Initiating a SMBP Program

Considerations Before Initiating a SMBP Program

- Identify at least one provider and one care team member to serve as champions, these individuals will learn about SMBP and train others
- If possible, budget for 2-3 SMBP loaner devices (approximately \$75) per physician.
- Plan time for :
 - Training staff on SMBP (1 hour)
 - Training patients on SMBP (5-6 minutes per patient)
 - Ensuring device accuracy, if the patient is using their own device (approximately 5 minutes)
 - Averaging and documenting patient's SMBP readings (5 minutes)
 - Preparing the device for the next patient, if implementing a loaner program (5 minutes)

Considerations Before Initiating an SMBP Program

Design processes to include:

- How will patients be identified as candidates for SMBP?
- Who will train the patients on proper self-measurement?
- How will you get the readings (and the device, if using a loaner program) back from the patient? Is an appointment required? With who?
- Who will be responsible for averaging, documenting and notifying the healthcare provider of the SMBP average?
- How will follow-up occur?

For organizations developing a loaner program:

- Who will be responsible for disinfecting the returned loaner devices?
- Where will the loaner devices be stored? (clean and dirty storage needed)

Building a SMBP Program

Building a SMBP program

Loaner vs patient owned devices

- Patients with HTN should be encouraged to purchase their own SMBP device
- If possible, patients without a confirmed diagnosis of hypertension or who cannot afford their own device should be offered a loaner device

Self-measured blood pressure

Inventory management: Loaner device tracking

For office use

Device information		Patient information		Loan information			Cleaning	
Device ID	Cuff size	First name	Last name	Patient ID	Loan date	Due date	Return date	Date cleaned

Inventory management

Self-measured blood pressure monitoring

Loaner program agreement

FOR OFFICE STAFF

Lender information

Organization name

Address

Equipment information

Device manufacturer and model

Device ID

Loaner agreement

Building a SMBP program

Recommending devices for purchase

- Recommend/choose a validated, automated upper arm BP device (preferably with memory and averaging)
 - Do not recommend/use a wrist cuff (unless brachial readings impossible)
 - Finger devices should never be used

Building a SMBP program

Appropriate fitting cuff is essential

- Train staff to measure patient's arm to ensure accurate cuff size is purchased/used
- While the patient is standing, measure from the acromion process of the scapula to the olecranon process at the elbow
- Note the midpoint and measure the circumference of the arm at the midpoint



Targetbp.org
Photo courtesy of National Health and Nutrition Examination Survey (NHANES) Physician Examination Manual September 2011

Building a SMBP program

Checking a home BP device for accuracy in a patient

Even a device that has passed an accepted validation test may not provide accurate readings in every patient – and may not be properly sized

- Every SMBP device must be tested in the office for accuracy in the individual using it
- The device is brought in and multiple readings are taken using the office standard method of testing and alternated with the patient self-measuring on their device. The readings are then compared. If the difference between devices is >10 mmHg the device should be replaced.
- Accuracy checks should be done after purchase and then annually

Device Accuracy Testing

Self-measured blood pressure

Device accuracy test¹

A patient's self-measured blood pressure (SMBP) monitoring device should be tested before it is used as part of an SMBP program. Also test the device annually or any time blood pressure readings are questionable.

Step 1

Complete the table below.

Care team should take five blood pressure readings using a combination of the patient's SMBP device and the office's method of blood pressure measurement.

Measurement	Device	Systolic blood pressure (SBP)
A	Patient's	
B	Patient's	
C	Office's	
D	Patient's	
E	Office's	

SBP Example
133
132
141
134
139

Step 2

Part 1: Average measurements B and D

Part 2: Compare average of B and D to measurement C

Part 3: If the difference is ...

- Less than 5 mm Hg, this device can be used for SMBP
- Between 6 and 10 mm Hg, proceed to Step 3
- Greater than 10 mm Hg, replace the device before proceeding with your SMBP program

Example

Part 1: $(132 + 134) / 2 = 133$

Part 2: $133 - 141 = 8$ (note: if the difference is a negative number, ignore the negative sign)

Part 3: Difference is 8, which is between 6 and 10 mm Hg, so proceed to Step 3

Step 3

Part 1: Average measurements C and E

Part 2: Compare average of C and E to measurement D

Part 3: If the difference is ...

- Less than or equal to 10 mm Hg, this device can be used for SMBP
- Greater than 10 mm Hg, replace the device before proceeding with your SMBP program

Example

Part 1: $(141 + 139) / 2 = 140$

Part 2: $140 - 134 = 6$ (note: if the difference is a negative number, ignore the negative sign)

Part 3: Difference is 6, which is less than or equal to 10 mm Hg, so proceed with SMBP program

1. Eguchi et al. A Novel and Simple Protocol for the Validation of Home Blood Pressure Monitors in Clinical Practice. Blood Press Monit. 2012;17(5):210-213.
© 2018 American Medical Association. All rights reserved. 18-303241:11/18

Patients that Benefit from SMBP

Which Patients Benefit From SMBP?

- Patients without a diagnosis of HTN:
 - Patients with high office BPs who are suspected of having HTN (to make Dx)
 - Suspected white coat hypertension
 - Suspected masked hypertension
- Patients with a diagnosis of HTN
 - Any patient- increase engagement, adherence to treatment or improve BP control
 - To assess treatment effect on BP control
 - Difficult to control BPs to determine if treatment resistant HTN is present

Training Patients to Properly Self-measure

Training Patients to Properly Self-measure

- Find out what they know about SMBP and if they have any concerns about it
- Provide general information about hypertension
- Tell them how often and when to measure
 - Two sets of measurements twice a day
 - One set in the morning and one in the evening, preferably before taking antihypertensive medications
 - Each set consists of two measurements performed one minute apart
 - This should be done for seven consecutive days (minimum of three days or 12 readings)

Training Patients to Properly Self-measure

- Teach them how to **prepare** themselves for the measurement
 - Avoid caffeine, exercise and smoking for 30 minutes before the measurement
 - Empty bladder, if needed, then rest for 5 minutes sitting comfortably
- Show them how to use the device and properly put the BP cuff on their designated BP arm
- Tell them how to **position** themselves during the measurement
 - Sit with back supported, legs uncrossed and feet flat on the floor
 - Rest arm on a firm, flat surface with the cuff at the level of the heart with palm facing up
 - No talking, reading, texting or watching TV during the measurement

Training Patients to Properly Self-measure

- Show them how to document their BP immediately after each reading
- Provide instructions on what to do if their BP is too high, too low or if they are experiencing associated symptoms
- Tell them how to communicate their results back to the practice after the week is complete
- Use teach back and return demonstration to ensure patient understanding

Patient Training Tools

How to measure your blood pressure at home

Follow these steps for an accurate blood pressure reading

1 PREPARE

Avoid caffeine, cigarettes and other stimulants 30 minutes before you measure your blood pressure.

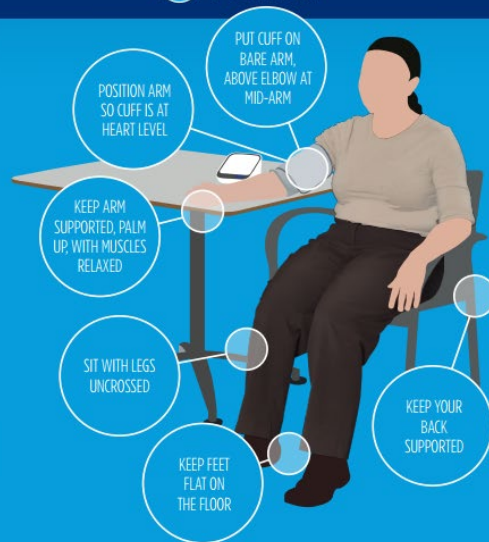
Wait at least 30 minutes after a meal.

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



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 position during measurements.

Sit quietly with no distractions during measurements—avoid conversations, TV, phones and other devices.

Record your measurements when finished.

TARGET:BP™

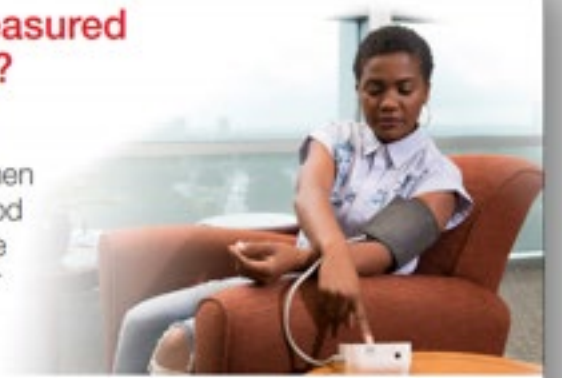


This Prepare, position, measure handout was adapted with permission of the American Medical Association and The Johns Hopkins University. The original copyrighted content can be found at <https://www.ama-assn.org/ama-johns-hopkins-blood-pressure-resources>.

What is SMBP?

What is self-measured blood pressure?

Self-measured blood pressure (SMBP) is when you measure your blood pressure outside of the doctor's office or other health care settings.



Patient Training Tools Cont.

Self-measured blood pressure: Seven-day recording log

Instructions: Complete the information below each time you take a measurement. It is best to take two measurements in the morning and two measurements in the evening for a week. If you miss any blood pressure measurements, leave that section blank and continue for the next time.

Blood pressure arm: Left or right (circle one)

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Morning * 1 SYS DIA PULSE 2 SYS DIA PULSE Notes Evening ☾ 1 SYS DIA PULSE 2 SYS DIA PULSE Notes						

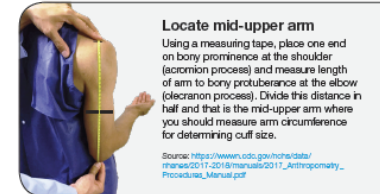
Seven-day recording log

Self-measured blood pressure

Patient training checklist

Instructions: To ensure all necessary steps and components are covered, use this checklist when training your patients on how to perform self-measured blood pressure (SMBP).

- ☐ **Gather supplies**
 - ☐ Tape measure
 - ☐ What is SMBP? (PDF)
 - ☐ SMBP infographic (PDF in English or Spanish)
 - ☐ SMBP recording log (PDF)
 - ☐ SMBP device accuracy test (PDF)
- ☐ **Provide background information on SMBP to patient (if not explained by provider)**
 - ☐ Explain how SMBP allows the provider to get a more accurate and complete picture of the patient's blood pressure outside of the office (more readings, over a longer period of time, in the patient's normal environment)
 - Tip: Hand out the "What is SMBP?" document.*
- ☐ **Determine SMBP cuff size**
 - ☐ Use tape measure to measure the circumference of patient's mid-upper arm in centimeters (see adjacent image)
 - Tip: Ideally, this is done before the patient purchases a device so you can ensure the device and cuff purchased are appropriate for the patient.*
- ☐ **Check patient's SMBP device for accuracy**
 - Tip: Use the SMBP device accuracy test.*
- ☐ **Determine patient's blood pressure arm (if not currently identified)**
 - ☐ Measure patient's blood pressure in each arm and use arm with higher reading for all future readings
- ☐ **Teach patient how to properly prepare for self-measurement**
 - ☐ Avoid caffeine, tobacco and exercise for at least 30 minutes before measurement
 - ☐ Empty bladder if full
 - ☐ Take BP measurements before blood pressure medications
 - Tip: Show SMBP training video and hand out the SMBP infographic.*



Patient training checklist

Obtaining and Interpreting Results

Obtaining Results

- Have patients provide you with all the readings they took over the week. This can be done via:
 - Telephone
 - Secure fax
 - Online through secure patient portal or telemedicine website
 - Bring device to the office for staff to review measurements or download if measurement storage is available
 - Follow-up office visit

Average, Document and Relay Readings

- Average readings into a single systolic and single diastolic BP

Self-measured blood pressure

SMBP Average Calculator

Patient Name:

Patient ID:

		MORNING						EVENING					
		Reading 1			Reading 2			Reading 1			Reading 2		
Day	SMBP Date	Systolic	Diastolic	Comments	Systolic	Diastolic	Comments	Systolic	Diastolic	Comments	Systolic	Diastolic	Comments
1													

SMBP Average Calculator

- Document average

Extended Hypertension

Mode: Expanded View All

Office Visit-Acute from 10/...

10/9/14

AOBP

Mean AOBP: Systolic/Diastolic

122/82

Home Blood Pressure Monitoring

Home BP Monitoring: For the week ending

9/17/2014

Mean Home BP: Systolic/Diastolic

133/85

24 Hour ABPM

24 Hour ABPM: Start date

9/30/2014

24 Hour ABPM: End date

10/1/2014

24 Hour Mean ABPM: Systolic/Diastolic

117/78

Awake Mean ABPM: Systolic/Diastolic

124/80

Nocturnal Mean ABPM: Systolic/Diastolic

108/72

Nocturnal Dip (%)

Counseling

Counseled for exercise?

Yes

Counseled for diet for hypertension?

Yes

*All data entered by MA

- Relay readings to provider for interpretation

Interpreting SMBP Results

In-office BP average	SMBP average	Classification	Management
Less than 120/80	Less than 120/80	Normal blood pressure	Recheck BP in office in one year
120–139/80–89	120–134/80–84	Elevated BP/ Prehypertension	Healthy lifestyle changes and recheck SMBP every 3–6 months
Less than 140/90	Greater than or equal to 135/85	Masked hypertension	Manage as sustained hypertension due to increased cardiovascular risk or consider 24-hour ambulatory BP monitoring (ABPM)
Greater than or equal to 140/90	Less than 135/85	White coat hypertension	Recheck SMBP every six months
Greater than or equal to 140/90	120–134/80–84	White coat hypertension and Elevated BP/ prehypertension	Healthy lifestyle changes and recheck SMBP every 3–6 months
Greater than or equal to 140/90	Greater than or equal to 140/90	Sustained hypertension	Manage per hypertension guideline recommendations or treatment protocol used at your organization

Based on JNC-7 definitions

Interpreting SMBP Results

In-office BP average	SMBP average	Classification	Management
Less than 120/80	Less than 120/80	Normal blood pressure	Recheck BP in office in one year
120–129/less than 80	120–129/less than 80	Elevated BP	Healthy lifestyle changes and recheck SMBP every 3–6 months
Less than 130/80	Greater than or equal to 130/80	Masked hypertension	Manage as sustained hypertension due to increased cardiovascular risk or consider 24-hour ambulatory BP monitoring (ABPM)
Greater than or equal to 130/80	Less than 130/80	White coat hypertension	Recheck SMBP every six months
Greater than or equal to 130/80	120–129/less than 80	White coat hypertension and elevated BP	Healthy lifestyle changes and recheck SMBP every 3–6 months
Greater than or equal to 130/80	Greater than or equal to 130/80	Sustained hypertension	Manage per current hypertension guideline recommendations

Based on 2017 ACC/AHA definitions

Providing Clinical Support

Key Elements of Clinical Support

When added to SMBP, additional clinical support strengthens its utility and effectiveness

1. Delivery of the 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 to care team
3. A feedback loop between patient and care team in which support and advice are customized based on the patient's reported information

Examples of Clinical Support

One-on-one counseling

- Telephone calls from RNs or pharmacists to manage medications
- Counseling sessions in person with pharmacists

Web-based or telephone support based on patient-reported SMBP readings

- Computer telephone-based feedback system
- Secure patient website training plus pharmacist care management via web communication
- Access to web-based tools for med refill requests, text and e-mail reminders to measure BP or for appointments, secure messaging with clinician or staff

Patient Education

- RNs providing telephone-based education on lifestyle changes to lower BP
- Small group classes on SMBP technique and lifestyle changes in the clinical or community setting

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

Common Questions

What SMBP Device Do You Recommend?

Recommend:

- a validated*, fully automatic upper arm cuff
- a device with memory whenever possible
- device that meets patient specific needs-large display

Do not recommend:

- a finger or wrist cuff - except in cases where arm circumference >52 cm (then recommend wrist cuff)

Remember:

- Appropriate sized cuffs must used for BP measurements to be accurate. Always measure the patient's arm before recommending any device.

*Validated does not mean that a device will be accurate for every patient. Make sure your patients bring in devices to be tested for accuracy

<https://hypertension.ca/hypertension-and-you/managing-hypertension/measuring-blood-pressure/devices/>

Do Insurance Companies Pay for Devices?

- Some do – many do not
- In some States Medicaid pays for devices and some private payers reimburse
- Have the patient call their insurer to find out

What if a Patient Cannot Afford a Device?

- Consider a loaner program if appropriate
- Contact a manufacture for discounts online or coupons
- 80% of devices in the US are purchased at retail pharmacies – check for coupons
- Many validated upper arm devices can be found for under \$40
- Avoid extra memory, Bluetooth and other bells and whistles which can be costly

How Reliable Are Patient's Recordings of Their SMBP?

- According to peer reviewed literature – patients falsify their readings up to 21-33% of the time in some studies*
- It is better to use memory, whenever possible, for this reason
- When in doubt, consider 24 hour ABPM

*Diabetes Care 2014;37:e24–e25 | DOI: 10.2337/dc13-1821

Do SMBP Readings Count Towards Performance Measures?

- Up until this year, self-measured BPs have been excluded from quality measures. The 2019 HEDIS measure for controlling BP does allow for them if they have been electronically stored and transmitted to the provider.
- Because SMBPs are not currently accepted in quality measures, high office BPs in patients who are controlled at home will not count as controlled if the office BP is above goal.
- This may create a disincentive to use SMBP, in spite of the fact that it is better for patient care
- The AMA, AHA, CDC, Million Hearts and several organizations are working to solve this problem

What is the Best Protocol to Use to Measure?

- There is no one protocol that is the standard-there are many guidelines
- Overall, these guidelines agree that the mean of two BPs in the AM and PM for 1 week is preferred
- A minimum of three days is acceptable if you obtain 12 measurements

Final Reminder

Prior to initiating SMBP, always make sure

- 1) The SMBP cuff is sized correctly and the device reads accurately in the INDIVIDUAL prior to relying on the SMBP measurements to make clinical decisions
- 2) Patients are trained on how to properly self-measure
- 3) There is a clearly defined individualized plan between the patient and the clinical team
- 4) Patients must know exactly what to do if their BP is
 - Too high, too low, or if they are having warning symptoms
- 4) A shared care plan can be used to help patients know
 - When and how often to communicate with or return to the office for follow-up
 - How to communicate BPs back to the care team

SMBP Training Video

https://targetbp.org/tools_downloads/self-measured-blood-pressure-video/

[Contact Us](#) [Register / Login](#)

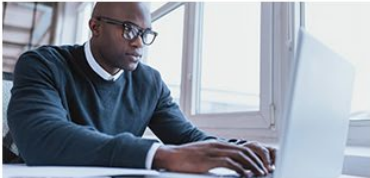
[About Target: BP](#) [BP Improvement Program](#) [Recognition Program](#) [BP Guideline](#) [Tools & Downloads](#)

MOTIVATING MILLIONS
TO **CONTROL**
BLOOD PRESSURE

[Learn More](#)



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](#)

TARGET:BP™

120

Questions?



Contact

Laken Barkowski, RN, BSN, MSHS

laken.barkowski@ama-assn.org

A stylized graphic of a torch with a white handle and a red flame, set against a dark red background with abstract circular shapes.

**Outpatient Initiatives to help you
and your patients:**

**Target: BP
and
Check. Change. Control.-
Cholesterol**

North Dakota Hypertension Summit
March 21, 2019

PRESENTERS AND AGENDA

- **Mindy Cook, RN, BSN** - Sr. Director, Quality & Systems Improvement
- **Lori Hall, MA** – VP, Community Impact & Rural Health
- Why Focus on Hypertension and High Cholesterol?
- Target: BP and Check. Change. Control.-Cholesterol — What are they?
- Getting to Improvement – The M.A.P. Process
- Registration and Data Submission
- Recognition
- Tools and Resources

TARGET: **BP**TM



American
Heart
Association.



TARGET: BP™



The American Heart Association & American College of Cardiology updated the guidelines for hypertension control - November 2017

Notably, the guidelines **eliminate** the **diagnosis of pre-hypertension** and identifies anything greater than 130 or 80 as Stage 1 hypertension.

Blood Pressure Categories



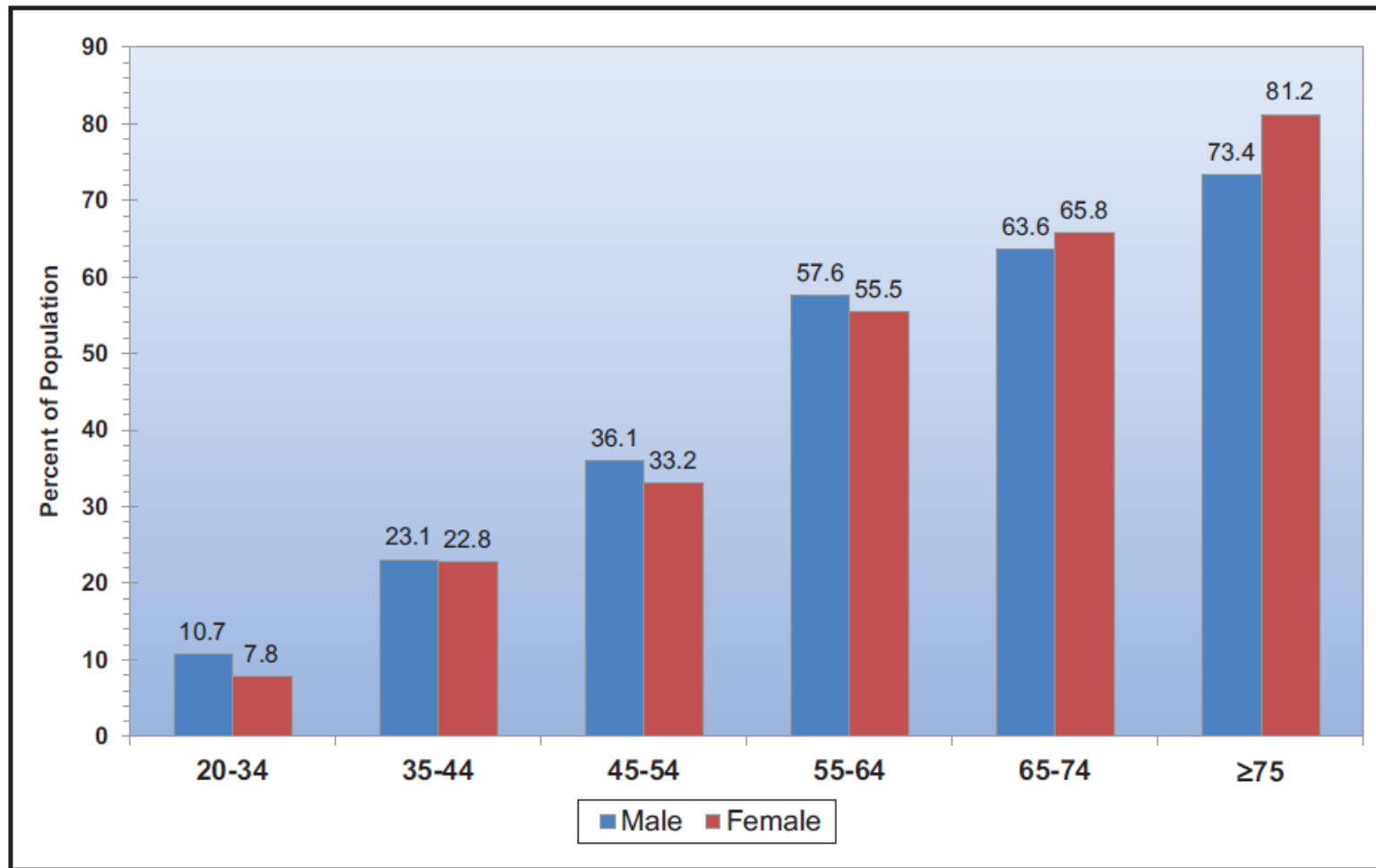
BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

**103 million people have
HBP – almost 50%**

**Heart disease and stroke
risk is **doubled** at **130/80**
compared to blood
pressure below 120/80.**

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. November 13, 2017.
Hypertension

Prevalence of HBP

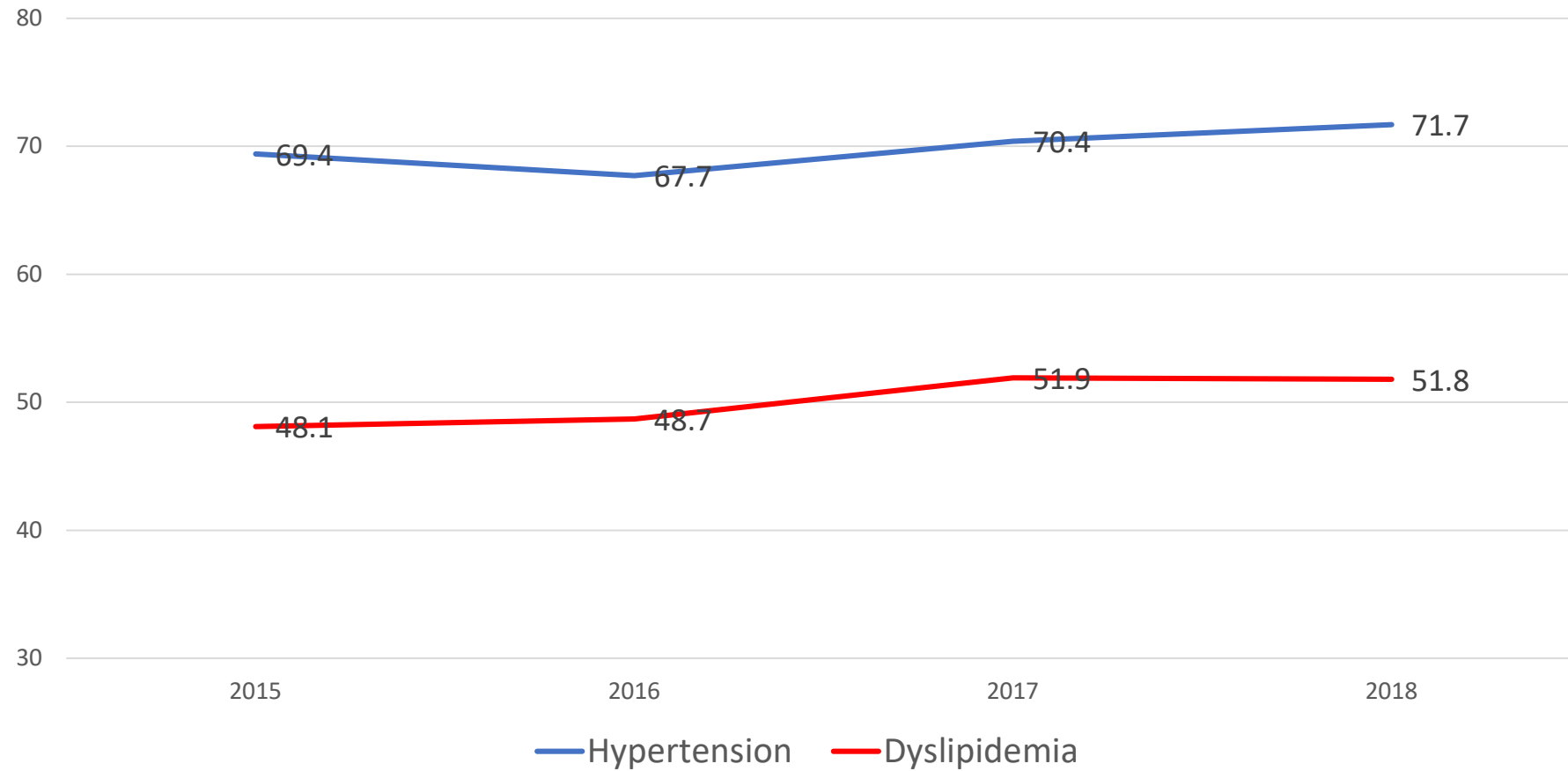


Heart Disease and Stroke Statistics—2017 Update: Chapter 9

TARGET: **BP**™

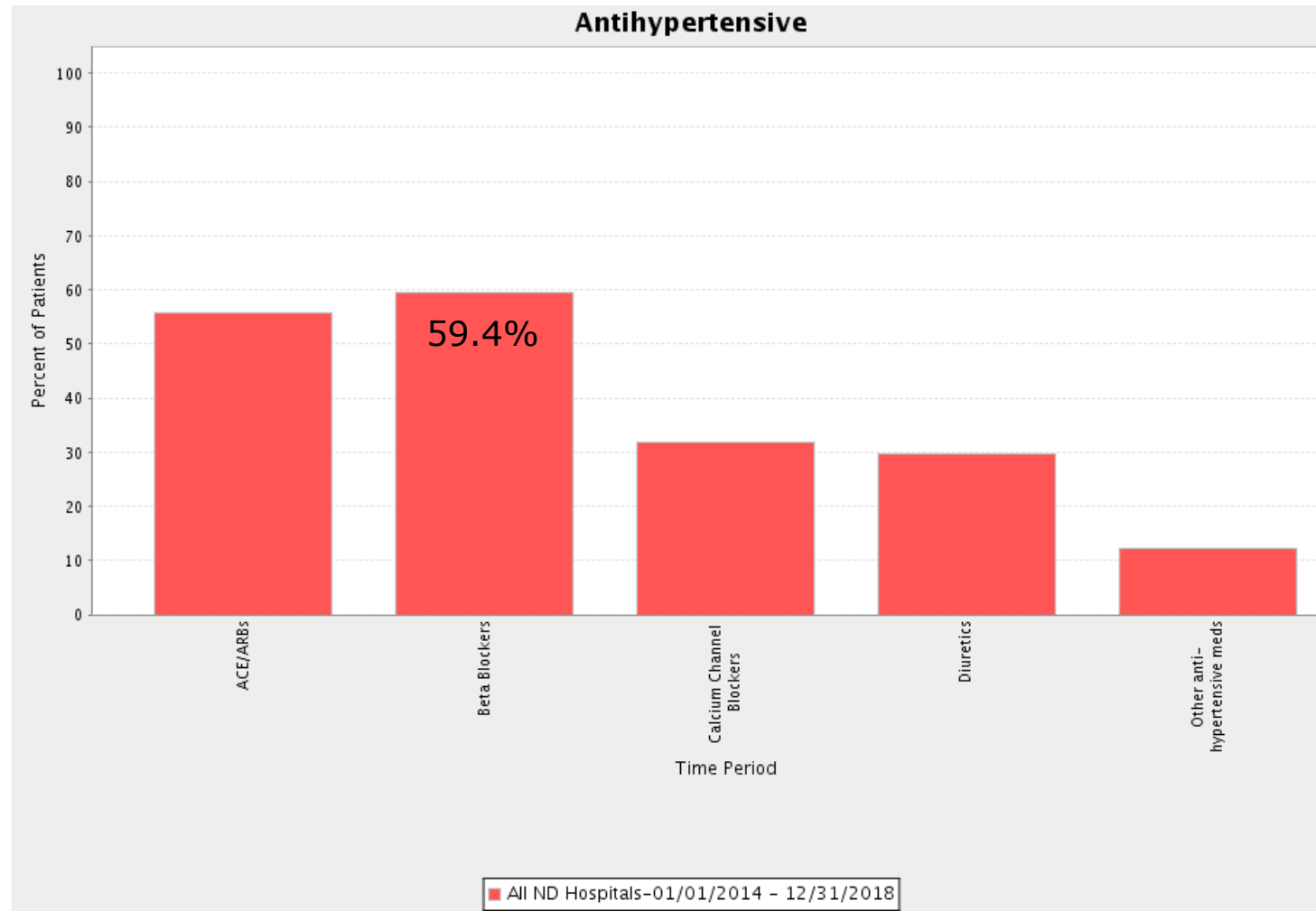


ND GWTG Stroke Patient Risk Factors



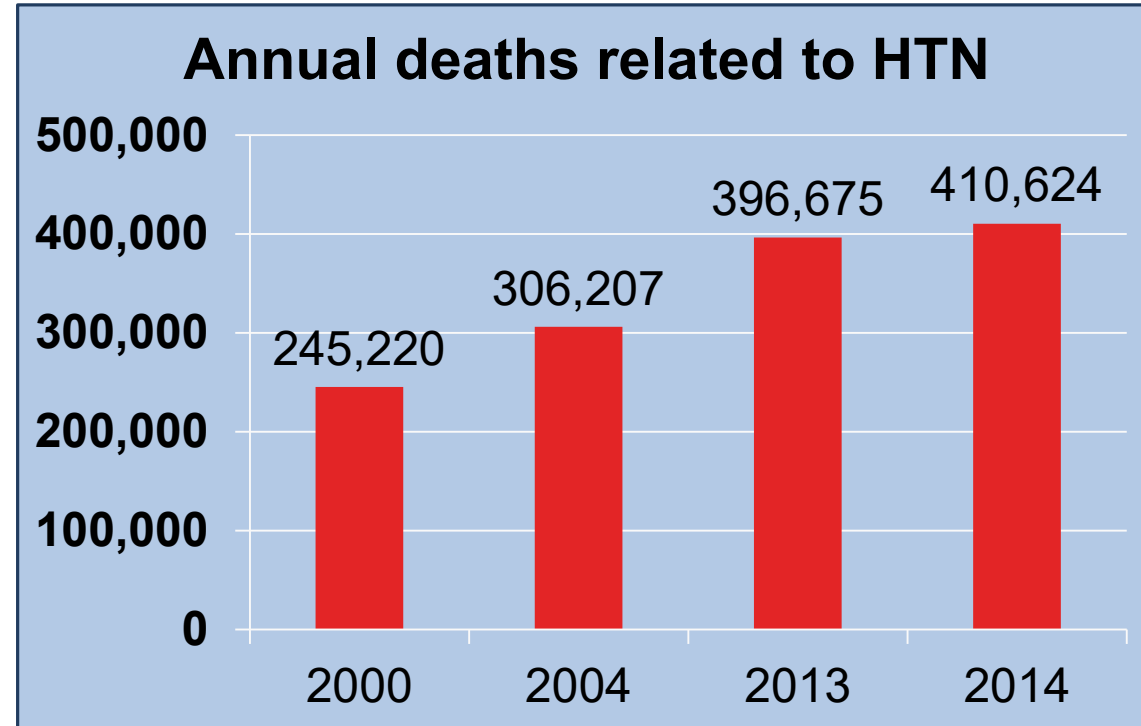
ND GWTG Stroke - Antihypertensive

Rate of prescription of different types of anti-hypertensive medications at discharge for ischemic stroke or TIA patients



Of adults with
hypertension:
46% are
uncontrolled

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



Source: CDC, AHA

What is Target: BP?



- ✓ A **call to action** motivating **health systems, clinics, and providers** to prioritize blood pressure control
- ✓ **Recognition** for healthcare providers who attain high levels of blood pressure control in their patient populations
- ✓ 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

Who is our Target Audience?

- Primary Care System – Focus on underserved patients
 - **Federally Qualified Health Centers (FQHCs)**
 - Practice/Clinic with mission to serve publicly insured, underinsured, or uninsured (Community Health Centers)
 - Private Clinical System (non-FQHC)
- Government Agency or Organization providing care to patients



Why should a clinic participate?

- Systems are needed to drive control rates
- Helps clinics meet required performance metrics
- Alignment with AHA and AMA, nationally-recognized leaders
- **Free** tools and resources
- **Free** webinars and CME/CEU opportunities
- **Recognition** from the AHA
- ***Improved health and care of patients!***

<http://targetbp.org/>

GETTING TO IMPROVEMENT THE M.A.P. PROCESS

The M.A.P. framework

Measure blood pressure accurately

Act rapidly to manage uncontrolled hypertension

Partner with patients, families and communities to promote self-management

Actionable data

Evidence-based tools

Team-based Care

TARGET: **BP**[™]



Whelton PK, et al.

2017 High Blood Pressure Clinical Practice Guideline

**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**

WRITING COMMITTEE MEMBERS

Paul K. Whelton, MB, MD, MSc, FAHA, *Chair*

Robert M. Carey, MD, FAHA, *Vice Chair*

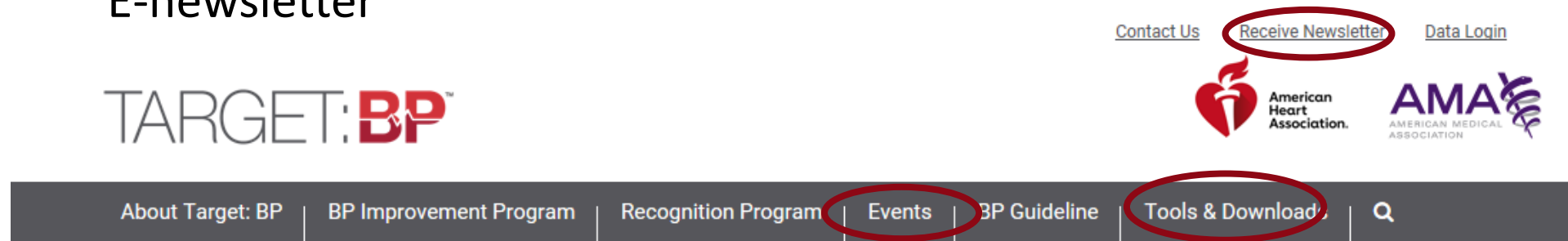
TARGET: **BP**[™]



TOOLS & RESOURCES

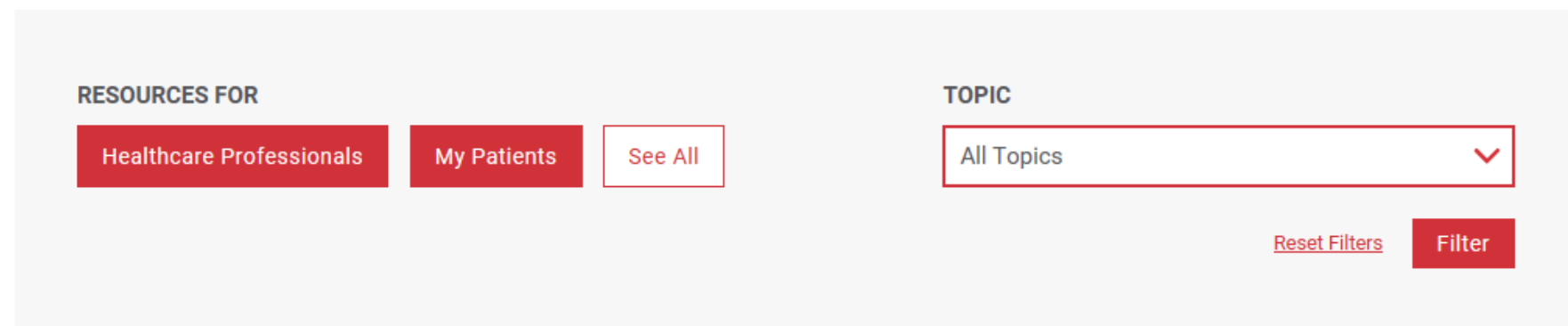
RESOURCES—WEBSITE – WWW.TARGETBP.ORG

Patient education tools
Provider education tools
Webinars – CME/CEU courses
E-newsletter



TOOLS & DOWNLOADS

These tools and resources are designed to help your practice improve blood pressure control for all of your patients. Resources include interactive tools, fact sheets, podcasts, webinars, and videos, along with handouts you can give your patients.



RESOURCES – PROVIDER



Self-measured blood pressure Patient training checklist

Instructions: To ensure all necessary steps and components are covered, use this checklist when training your patient's on how to perform self-measured blood pressure (SMBP).

☐ Gather supplies

- ☐ Tape measure
- ☐ [What is SMBP?](#) (PDF)
- ☐ [SMBP infographic](#) (PDF in English or Spanish)
- ☐ [SMBP recording log](#) (PDF)
- ☐ [SMBP device accuracy test](#) (PDF)

☐ Provide background information on SMBP to the patient (if not explained by provider)

- ☐ Explain how SMBP allows the provider to get a more accurate and complete picture of the patient's blood pressure outside of the office (more readings, over a longer period of time, in the patient's normal environment)

Tip: Hand out the "What is SMBP?" document.

☐ Determine SMBP cuff size

- ☐ Use tape measure to measure the circumference of the patient's mid-upper arm in centimeters



Locate mid-upper arm

Using a measuring tape, place one end on the bony prominence at the shoulder (acromion process) and measure the length of the arm to the bony



Use the Treatment Algorithm

Treat your patients with high BP quickly, using the latest clinical evidence.

Web Link : </tools-downloads/bp-treatment-algorithm-tool/>



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



American
Heart
Association.

RESOURCES—WEBINARS

Target: BP™ success stories

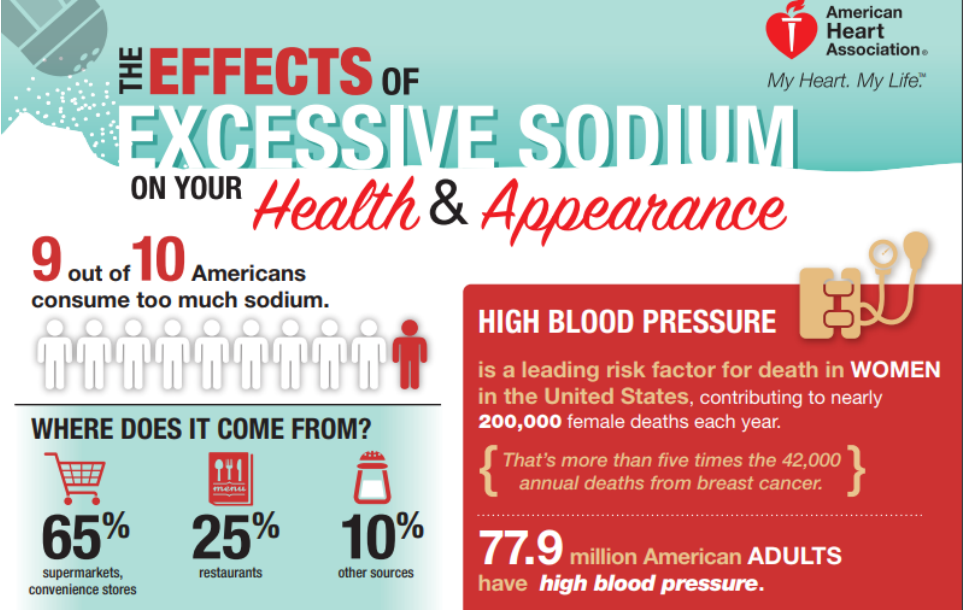
Florida's Health Choice Network and Texas' Lone Star Circle of Care

Noon–1 p.m. Central time
Thursday, Sept. 27

Webinar for Target: BP™ organizations
[Register today!](#)

- [Lifestyle Interventions for the Prevention and Treatment of Hypertension](#) (CME/CE)
- [Importance of Measuring Blood Pressure Accurately](#) (CME/CE)
- [Importance of Treating Your Patients' HBP](#) (CME/CE)
- [Using Self-Measured BP Monitoring to Diagnose and Manage HBP](#) (CME/CE)

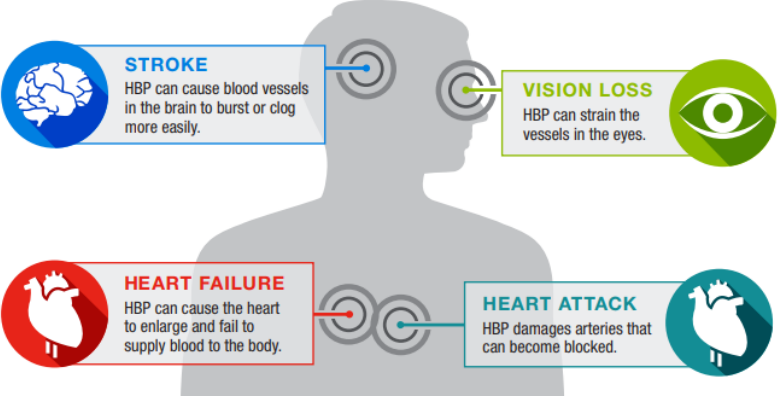
RESOURCES – PATIENT



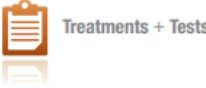
CONSEQUENCES of High Blood Pressure



High blood pressure is often the first domino in a chain or “domino effect” leading to devastating consequences, like:



ANSWERS by heart



How Do I Manage My Medicines?

Taking medicine may be new to you, and there may be a lot to remember. For example, why are you taking it? What time should you take it? How often do you take it, and how many pills do you take?

It's very important to take medicine the right way — just as your doctor tells you.



REGISTRATION AND DATA SUBMISSION

REGISTRATION

JOIN TARGET: BP

REGISTER AT:

WWW.TARGETBP.ORG



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

Register

REGISTRATION – INFO NEEDED

ORGANIZATION'S CONTACT INFORMATION

ORGANIZATION'S TOTAL ADULT (18-85 YEARS) PATIENT POPULATION

% PATIENTS THAT ARE A RACE/ETHNICITY OTHER THAN WHITE AND/OR IDENTIFY AS HISPANIC OR LATINO ETHNICITY (ESTIMATE OK)

TOTAL NUMBER OF CLINIC LOCATIONS IN HEALTH SYSTEM (*NOTE: MAY REGISTER EACH HEALTH CENTER LOCATION INDIVIDUALLY OR AS A SYSTEM OVERALL*)

ORGANIZATION'S CHARACTERISTICS, SUCH AS MULTI-SPECIALTY, FEDERALLY QUALIFIED HEALTH CENTER, ETC.

PREVIEW REGISTRATION FORM

DATA SUBMISSION – FEB. 2-MAY 31!

DATA NEEDED:

ADULT PATIENT POPULATION (PROVIDED AT REGISTRATION)

TOTAL ADULT PATIENTS WITH HYPERTENSION

HYPERTENSIVE PATIENTS WITH HBP UNDER CONTROL

PREVALENCE ESTIMATOR:

ADULT PATIENT POPULATION BY AGE, SEX, AND ETHNICITY

Data Submission

The data submission process should be as seamless as possible. Evaluation data include:

- Total adult patient population
- Total adult patient population by age, sex and ethnicity
- Total number of adult patients with hypertension
- Total number of adult patients with controlled hypertension

Organizations will submit 2018 data in early 2019. Participants will be notified of recognition status in Fall 2019.





Data Collection Worksheet

Use this sheet to collect data to submit to the Target: BP recognition program.

CLICK ON

[DATA COLLECTION WORKSHEET](#)



TARGET: BP™ RECOGNITION PROGRAM DATA COLLECTION REQUIREMENTS

The following data are needed for each healthcare organization seeking recognition by the Target: BP Recognition Program. This worksheet can be used to prepare for the formal data submission process, that begins in early 2019.

INSTRUCTIONS

Enter your healthcare organization's adult (age 18-85) patient data for the previous calendar year. In accordance with the hypertension quality measure, only include patients whose hypertension diagnosis was recorded on or prior to 6/30/18 and had at least one office visit in 2018.

Note: Use only numbers when entering into the Target: BP Recognition website. (No commas or decimals.) These data are based on NQF #0018, PQRS #236 or ACO #28, Controlling High Blood Pressure. The measures have yet to incorporate the November 2017 BP Guideline update thresholds and continue to define high blood pressure as $\geq 140/90$. The AHA and AMA will continue to track these quality measures to ensure Target: BP Recognition data align with them.

What is the total adult (18-85 years) patient population size for the healthcare organization?

Enter the total number of patients in your healthcare organization, age 18-85 who had at least one office visit in 2018.

Required Field

What is your total adult (18-85 years) patient population that has been diagnosed with hypertension?

Hypertension is diagnosed if a patient has multiple visits with blood pressure $\geq 140/90$. Include patients with a diagnosis on or prior to 6/30/18 with at least one office visit in 2018. Exclude any patients with end-stage renal disease, dialysis, renal transplant or pregnancy.

Required Field

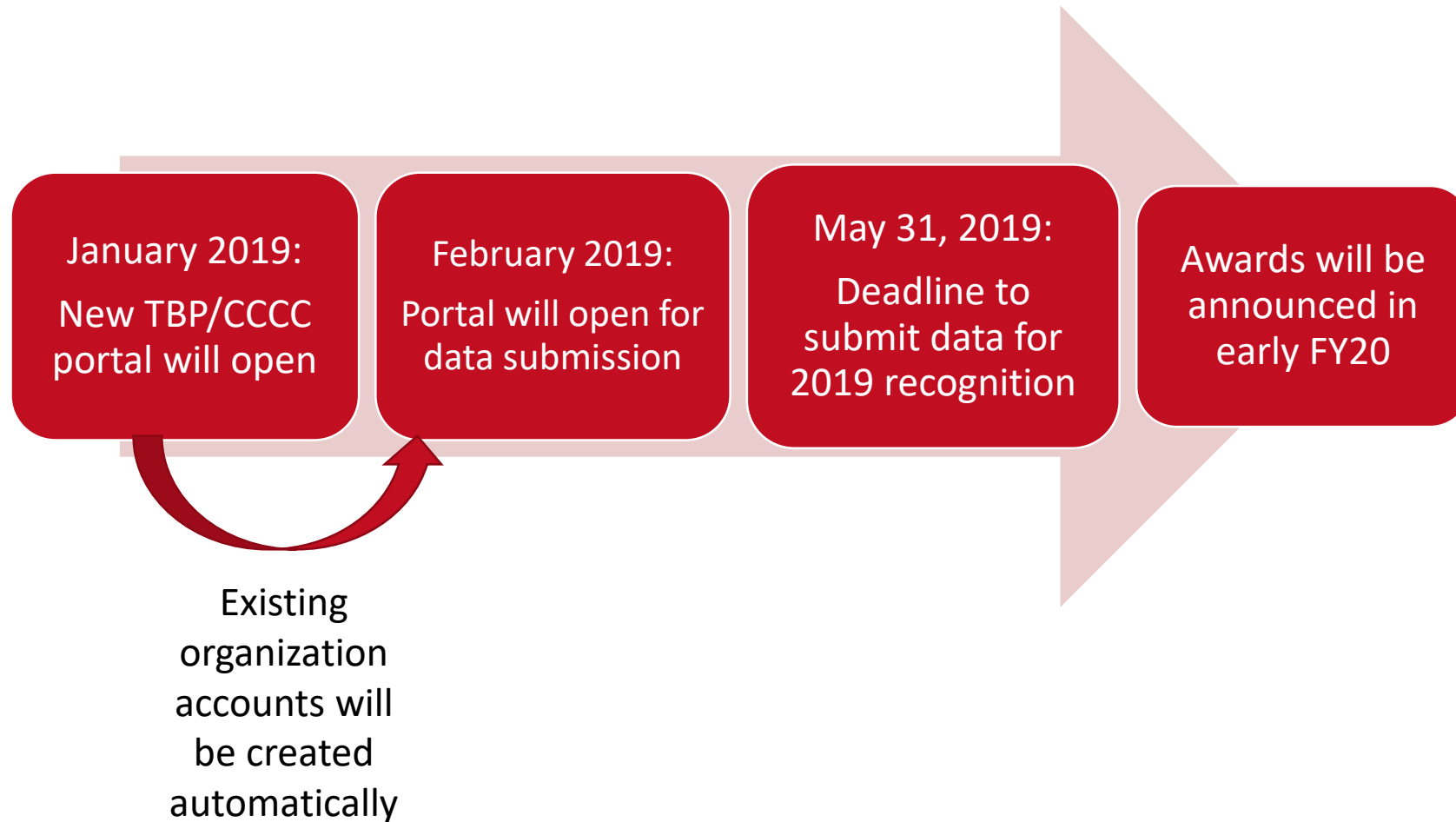
Of those who have been diagnosed with hypertension, what is the number of adult (18-85 years) patients under control, $<140/90$?

Enter the number of adult patients in your healthcare organization

Required Field

RECOGNITION

REGISTRATION AND DATA SUBMISSION TIMELINE



2019 RECOGNITION LEVELS



PARTICIPATION STATUS

Recognizes practices that have submitted data and committed to reducing the number of adult patients with uncontrolled blood pressure.



GOLD STATUS

Recognizes practices that have 70 percent or more of their adult patient population with high blood pressure controlled.

NQF Measure #18 defines HTN as $\geq 140/90$

RECOGNITION RESOURCES



In addition, we're pleased to offer easy-to-use digital recognition resources to help you share your commitment to lowering HBP in your community and showcase your involvement with Target: BP. **Simply click the button below and the download will begin immediately.**

Gold Recognition Resources ↓

Your download includes:



Recognition Resources



Check. Change. *Control.*
Cholesterol



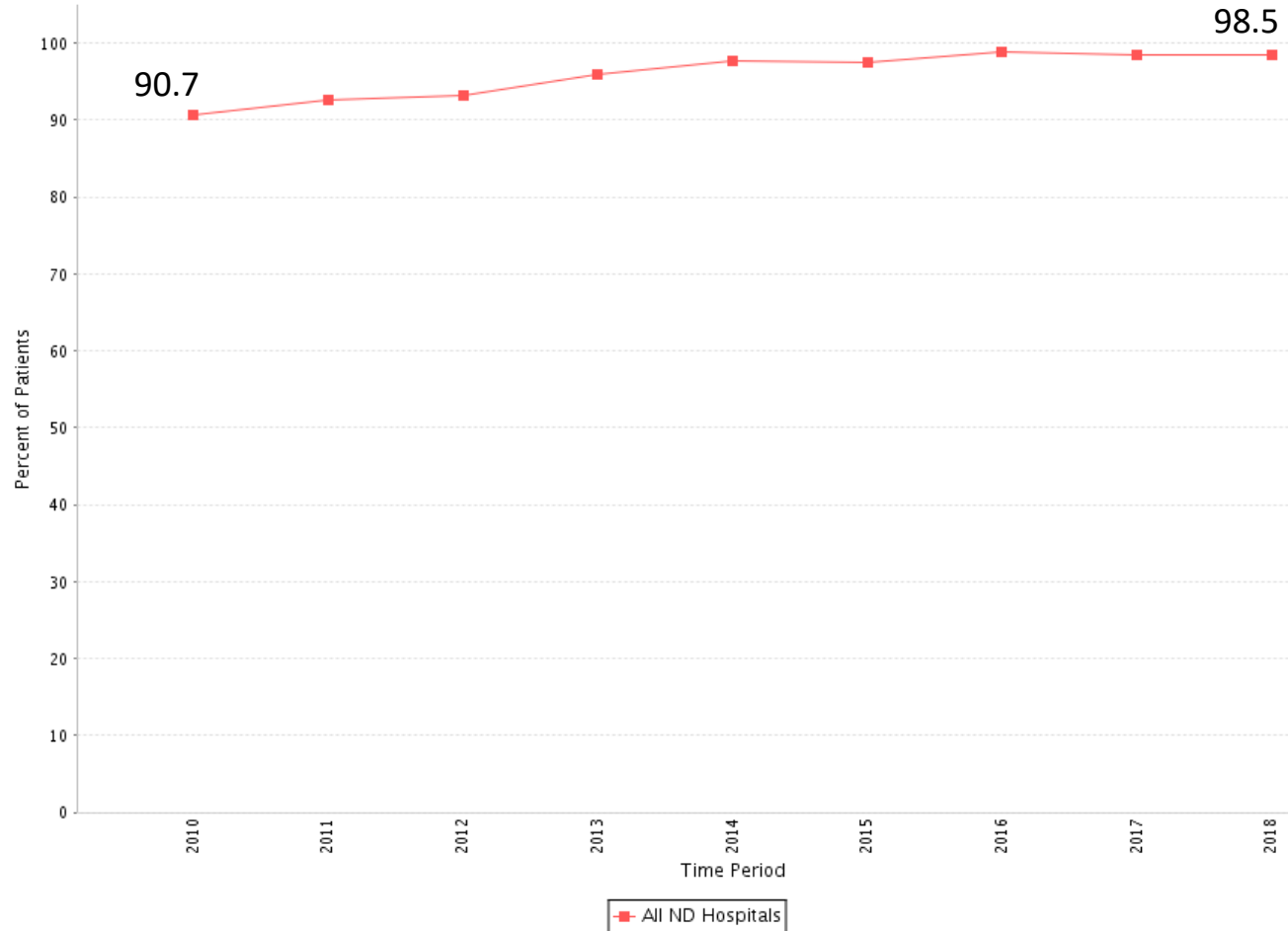
WHY IS CHOLESTEROL MANAGEMENT IMPORTANT?

- HIGH CHOLESTEROL IS A MAJOR RISK FACTOR FOR HEART DISEASE AND STROKE
- NEARLY 1 IN 3 AMERICAN ADULTS HAVE HIGH LDL (“BAD”) CHOLESTEROL
- 40% OF AMERICANS HAVE HIGH CHOLESTEROL (OVER 200 MG/DL) –
OVER 94 MILLION PEOPLE



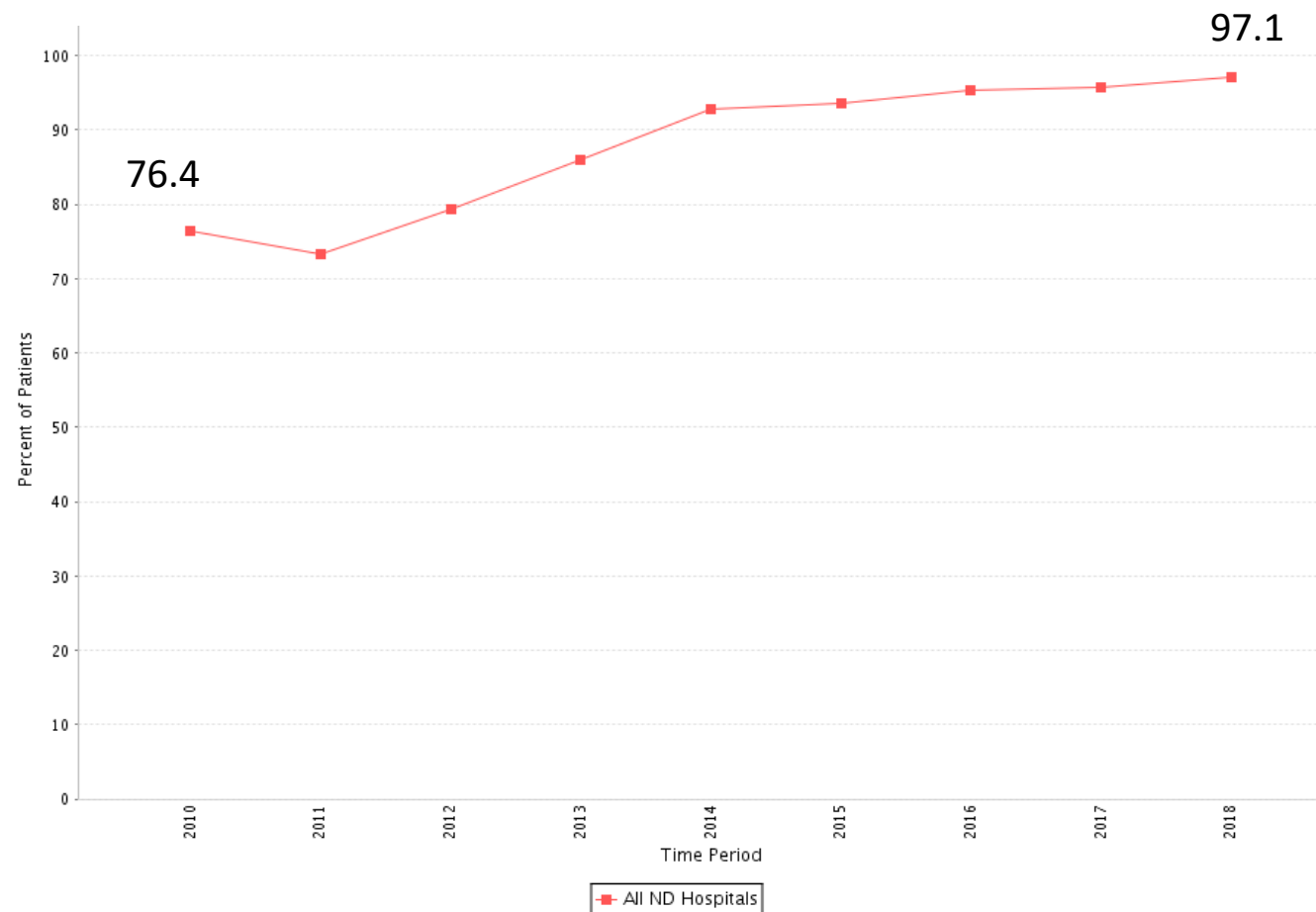
ND GWTG Stroke – Medical History of LDL > 100

Percent of Ischemic stroke or TIA patients with LDL $\geq$ 100 or on cholesterol-reducer prior to admission, who are discharged on cholesterol reducing drugs.



ND GWTG Stroke - Statin Prescribed at Discharge

Percent of Ischemic stroke or TIA who are discharged on Statin Medication.



Updated Cholesterol Guidelines

November 2018:

- Emphasis **on lifetime risk** - high cholesterol at any age can increase risk
- **Healthy lifestyle** remains critical component to prevent and treat high cholesterol
- More **personalized risk assessments** and tailored treatment options for high LDL
- For adults age 20 and older, without cardiovascular disease and not on lipid lowering therapy, either a **fasting or non-fasting** lipid profile is effective



What's new?

- In some cases, a **coronary artery calcium (CAC) test** can help health care providers decide whether to start statin therapy when a person's risk may not be clear
- If a person has problems taking a statin or if a statin alone isn't sufficiently lowering LDL cholesterol, there are some **additional drug options**
- Importance of **patient/provider discussion** to make a lifestyle and medication treatment plan that the individual can follow to reduce risk



What did not change?

The 2018 guidelines did not make any major changes to, and continue to support, the AHA's current **healthy lifestyle recommendations**



A stylized graphic on the left side of the slide. It features a red mushroom with a white stem and a white ring on its cap. Above the mushroom is a red flame-like shape. A dotted white line curves around the mushroom, and a dotted red line curves along the top right edge of the slide.

**Check. Change.
Control.Cholesterol**

What is it?

Check. Change. *Control.* Cholesterol™

- Improve awareness, detection and management of high cholesterol
- Educate and empower **consumers** and **patients**
- Provide **healthcare providers** with evidence-based information, tools, and recognition



American Heart Association®

Check. Change. Control.
Cholesterol™



American
Heart
Association®

Web site:

www.heart.org/changecholesterol

American Heart Association

Check. Change.
Control.
Cholesterol™
Recognition



About the Initiative

Everything you need to know about the Check. Change. *Control.* Cholesterol initiative.

[More details >](#)

Stand and Be Counted

Join our Check. Change. *Control.* initiative and receive special recognition for your efforts.

[Register >](#)

Stay in the Know

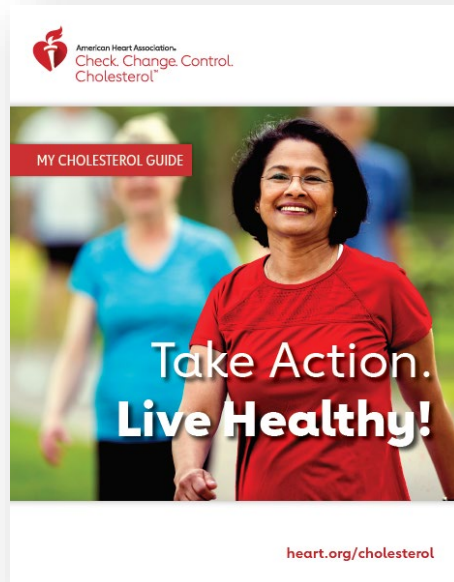
Keep up-to-date with our informative resources and timely updates about cholesterol.

[Learn how >](#)



American
Heart
Association®

For Patients & Consumers

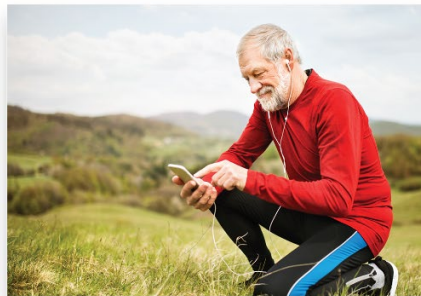


- My Cholesterol [Guide](#)
- Check. Change. *Control.* [Calculator](#)
- Cholesterol Animation [Library](#)
- Downloadable [Sheets](#)
- Cholesterol [Podcasts](#)
- Cholesterol [Videos](#)
- All of the above and more at www.heart.org/cholesterol

Cholesterol Podcasts

Familial Hypercholesterolemia, FH for short. It is an inherited disorder that leads to aggressive and premature cardiovascular disease. With this series of podcasts you will learn really what FH is, how to manage it, FH and children, and women.

[Listen to the podcast series](#) >



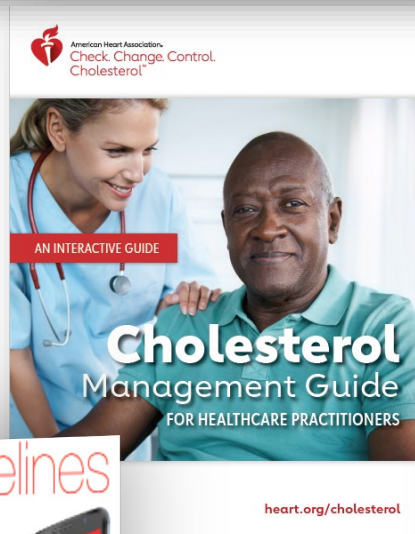
American Heart Association®
Check. Change. Control.
Cholesterol™



American
Heart
Association®

For Professionals

**NEW
CHOLESTEROL
GUIDELINES
RELEASED.**



- Healthcare Provider Toolkit
- Risk Calculator
- Guidelines on the Go App
- Podcasts
- CME/CE courses
- All of the above and more at Professional Heart Daily www.professional.heart.org/cholesterol



ASCVD Risk Calculator

The ASCVD Risk Calculator tool is used to calculate your patients' risk for heart disease and stroke using the 2013 ACC/AHA guidelines

ACCESS NOW



American Heart Association.
**Check. Change. Control.
Cholesterol™**



**American
Heart
Association®**

A stylized graphic on the left side of the slide. It features a red torch with a white handle and a red flame. The torch is positioned vertically, and the flame is composed of several red, flame-like shapes. A dotted red line curves around the torch and flame. The background is a solid dark gray.

Registration and Data Submission

CCCC Recognition Program

National and local recognition for practices and health systems that:

- Register with the program
- Commit to using an ASCVD risk calculator
- Submit adult patient data
- Reach defined recognition levels

Atherosclerotic Cardiovascular Disease (ASCVD) includes several conditions that are caused by the buildup of plaque that narrows blood vessels and can cause cardiovascular diseases.



American Heart Association®

Check. Change. Control.
Cholesterol™



American
Heart
Association®

REGISTRATION REQUIREMENTS



STEP 1: REGISTRATION

Register to become part of the **Check. Change. Control. Cholesterol initiative** and get connected with our staff and resources.

TO REGISTER, ORGANIZATIONS NEED:

- The total adult (21-75 years) patient population count
- The total number of clinical providers in the organization
- Percentage of patients that identify as:
 - Race other than White and/or
 - Ethnicity: Hispanic or Latino
- The total number of clinical locations in their health system
- Organization's Electronic Health Record (EHR) system

<http://www.heart.org/changecholesterol>

2019 RECOGNITION LEVELS

No changes have been made to the recognition levels.

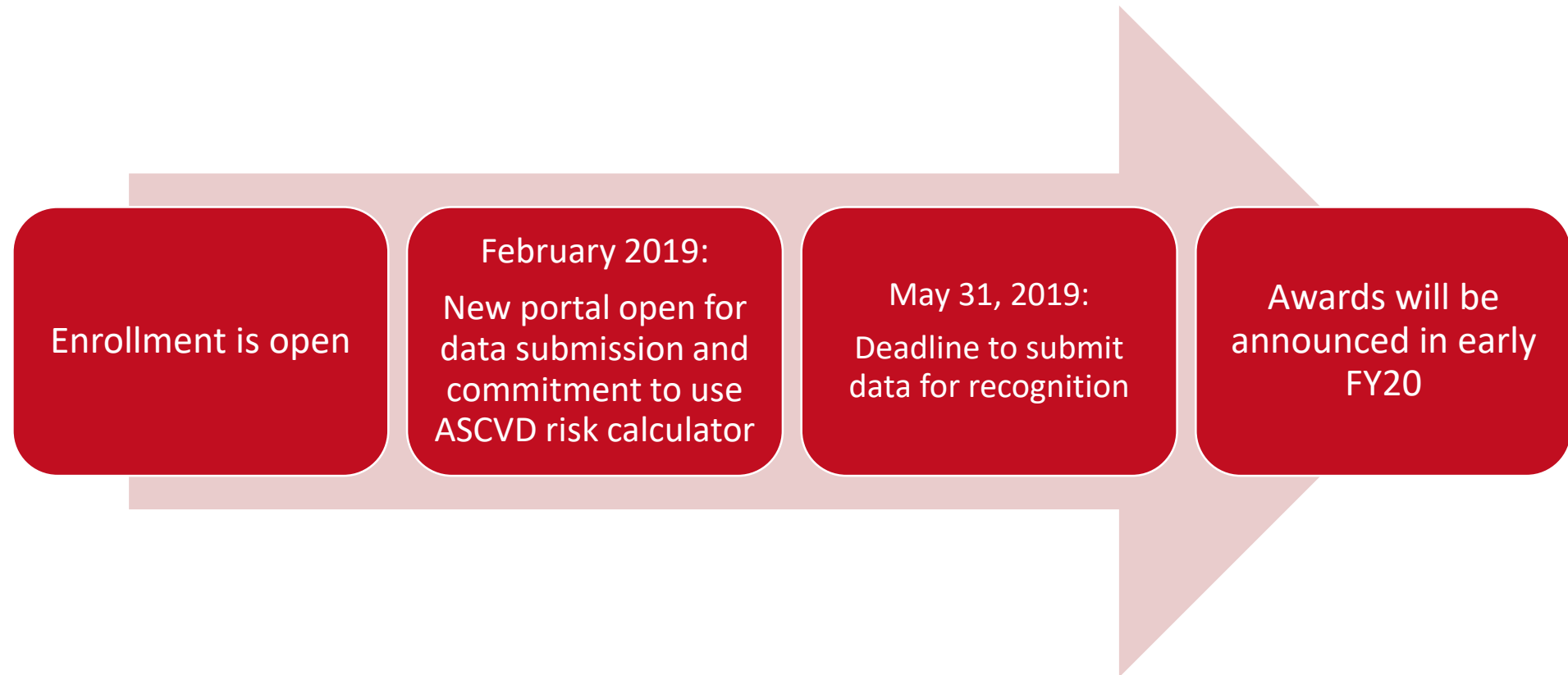


COMMIT TO INCORPORATE ASCVD
RISK CALCULATOR INTO PRACTICE



SUBMIT MIPS 438 CHOLESTEROL
MANAGEMENT DATA AND ACHIEVE
70% OR GREATER STATIN THERAPY
USE WITHIN THE ADULT PATIENT
POPULATIONS

REGISTRATION AND DATA SUBMISSION TIMELINE



QUESTIONS?

**PLEASE COMPLETE THE INTEREST QUESTIONNAIRE
IN YOUR FOLDER.**

LORI HALL

LORI.HALL@HEART.ORG – 734-646-9330

MINDY COOK

MINDY.COOK@HEART.ORG - 218-770-3305

THANK YOU!!

2019 Hypertension Summit

BREAK TIME!

Snacks, Networking and Self-Care



CARDIAC READY COMMUNITY PROGRAM

DISCLOSURES

- I have no financial disclosures
- I have no conflicts of interest

OBJECTIVES



Understand how the Cardiac Ready Community program started and the main goals of the program



Understand what it means to become a Cardiac Ready Community

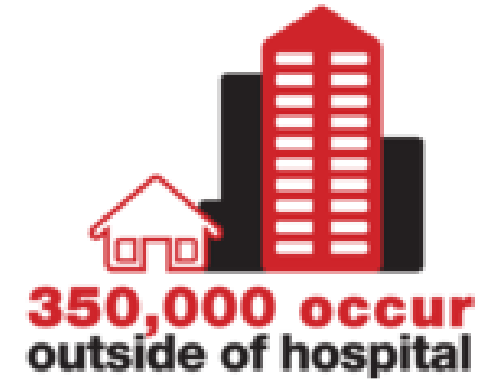


Know the steps your community can take to become designated as a Cardiac Ready Community

CARDIAC READY COMMUNITY GOAL

- *Designed:* to promote survival from a cardiac event, such as sudden cardiac arrest (SCA) which occurs outside of the hospital setting
- *Goal:* prepare community to respond and assist appropriately when an individual has a cardiac event
- *Community will be able to:*
 - Recognize a cardiac emergency
 - How/when to dial 9-1-1
 - Begin CPR
 - Have public access to Automated External Defibrillators (AEDs)

WHY IS THIS IMPORTANT?



- Heart disease is currently the leading cause of death in North Dakota and the United States
- OHCA survival less than 11%
- Bismarck/Mandan: OHCA occurs-
 - 72% Home
 - 17% Healthcare Facility
 - 11% Public location

WHY THIS IS IMPORTANT

- Time is muscle!
- For every minute without life-saving CPR and defibrillation, **chances of survival decrease 7-10%**

Time is Critical!

- Brain damage begins in 4–6 min
- Brain damage irreversible in 8–10 min

Circulation must be restored within 4–6 minutes.





THIS PROGRAM WILL HELP TO INCREASE PUBLIC AWARENESS



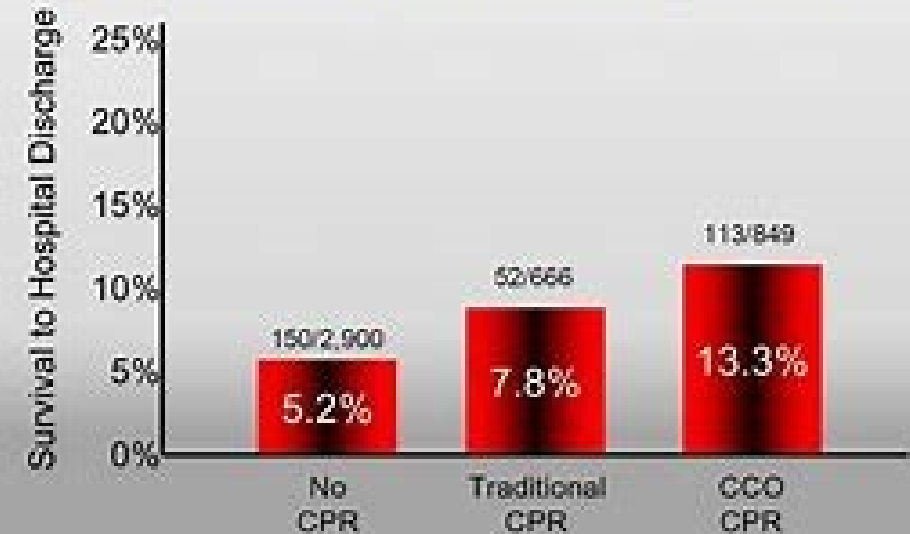
HANDS ONLY CPR & AED USE

Tripled Survival Chances

Communities have to be willing to
respond

Education key

Bystander CPR in Arizona (2005 to 2010)
All out-of-hospital cardiac arrests

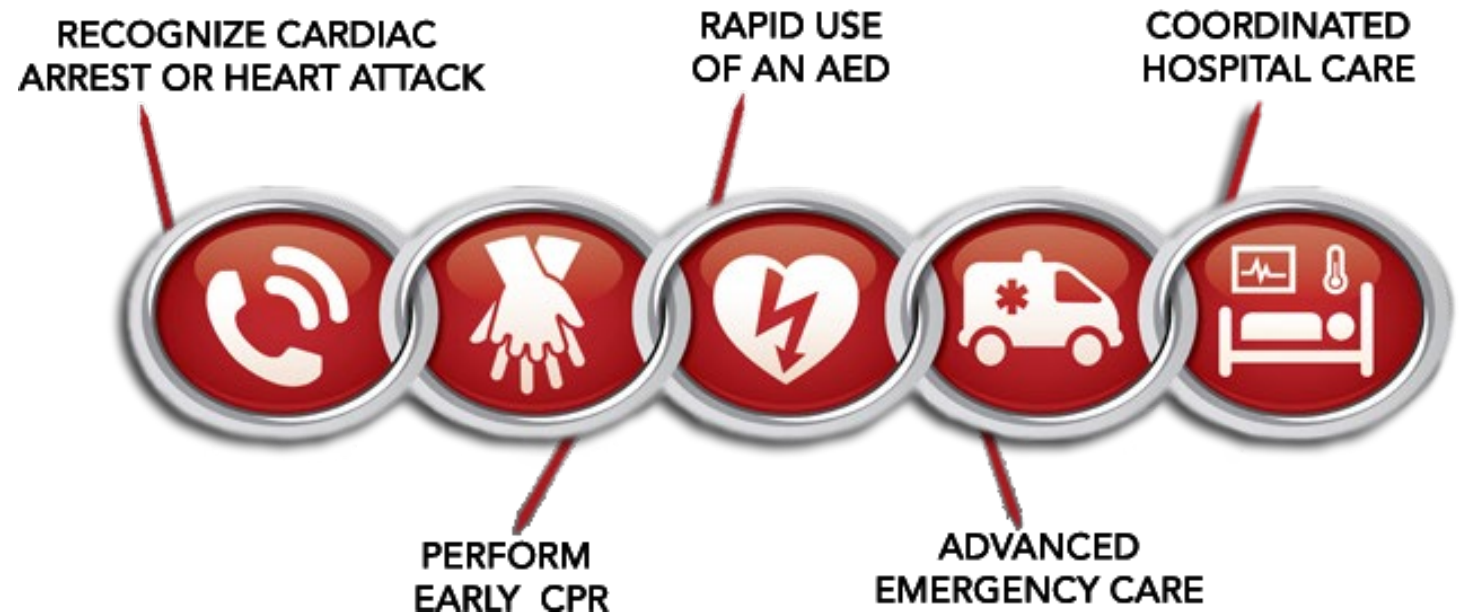


Source: Arizona Department of Health Services, Bystander CPR in Arizona, 2005-2010. Phoenix, 2011.

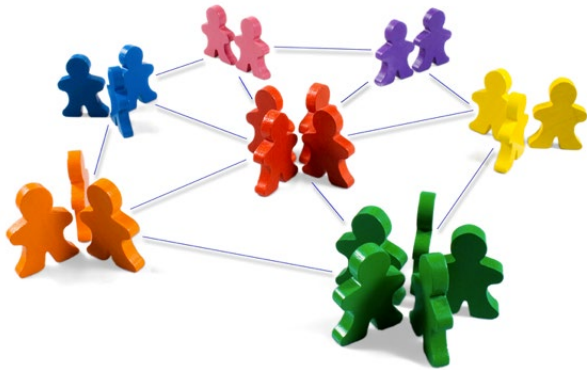
AMERICAN HEART ASSOCIATION CHAIN OF SURVIVAL

- Criteria supports the AHA Chain of Survival:
 - Immediate recognition of cardiac arrest and activation of the emergency response system
 - Early CPR with an emphasis on high quality chest compressions
 - Rapid defibrillation
 - Effective basic life support with advanced life support intercept
 - Integrated post-cardiac arrest care

CHAIN OF SURVIVAL



CRITERIA



■ Community Leadership

- Various lead stakeholders i.e. city officials, clinic personnel, EMS personnel, school board members etc.
- Goal is complete community involvement! All aspects of the community have to work together to prepare community members to respond.
- Each life lost has an impact on the whole community – families, friends, social groups, jobs – we are all interconnected.

On Going Community Awareness Campaign

- Educate community with flyers, newspapers, verbal education, social media pages etc.
- Get creative!



COMMUNITY BLOOD PRESSURE CHECKS

- Blood pressure screenings can be held during community events, health fairs, clinic visits etc.
- Educate on their numbers and refer hypertensive patients
- Keep track of how many community members have been screened!



NORMAL BLOOD PRESSURE

*Recommendations: Healthy lifestyle choices and yearly checks.

ELEVATED BLOOD PRESSURE

*Recommendations: Healthy lifestyle changes, reassessed in 3-6 months.

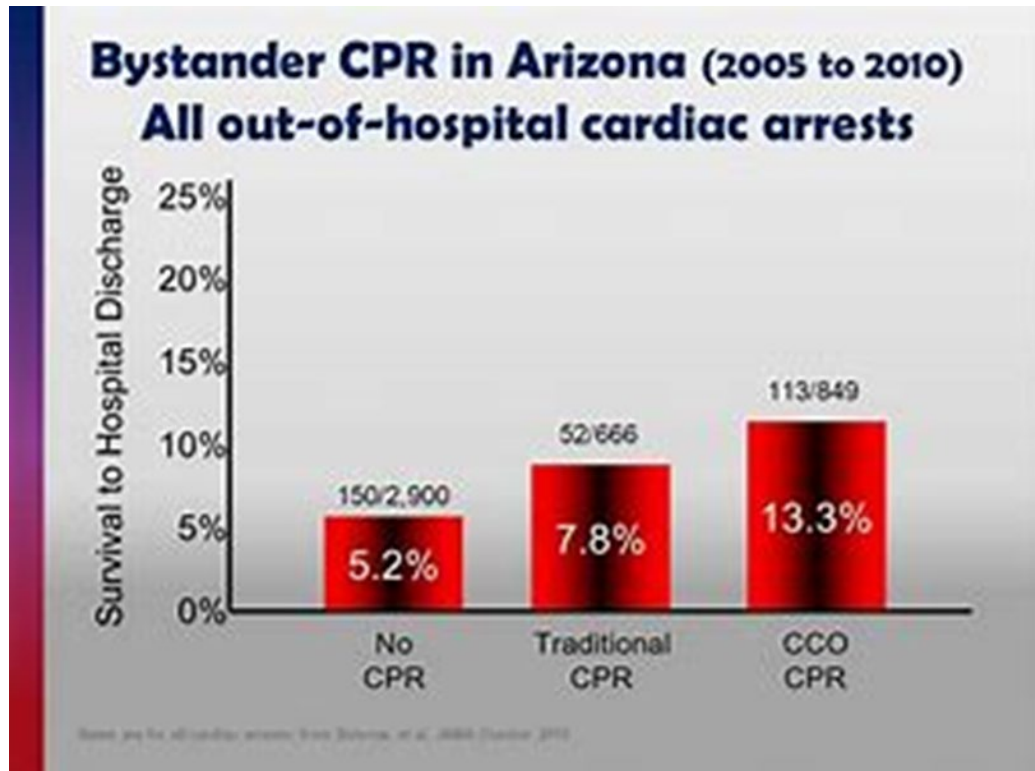
HIGH BLOOD PRESSURE / STAGE 1

*Recommendations: 10-year heart disease and stroke risk assessment. If less than 10% risk, lifestyle changes, reassessed in 3-6 months. If higher, lifestyle changes and medication with monthly follow-ups until BP controlled.

HIGH BLOOD PRESSURE / STAGE 2

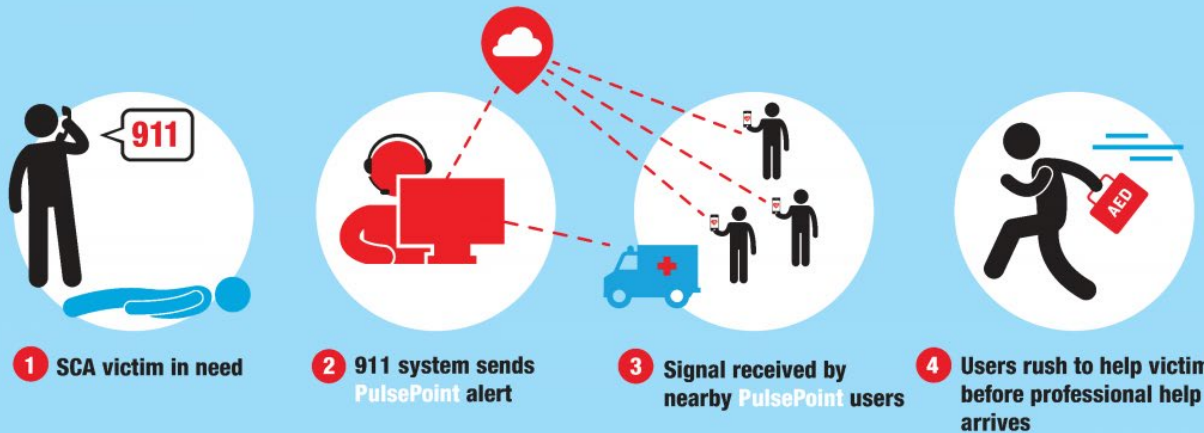
*Recommendations: Lifestyle changes and 2 different classes of medicine, with monthly follow-ups until BP is controlled.

CPR/AED TRAINING



- Hands only CPR training done by certified CPR instructor
- Can be done during community events (half time of sporting events), high schools, shopping malls
- Keep track of how many community members are CPR and AED trained

LEARN CPR - GET THE APP - SAVE A LIFE

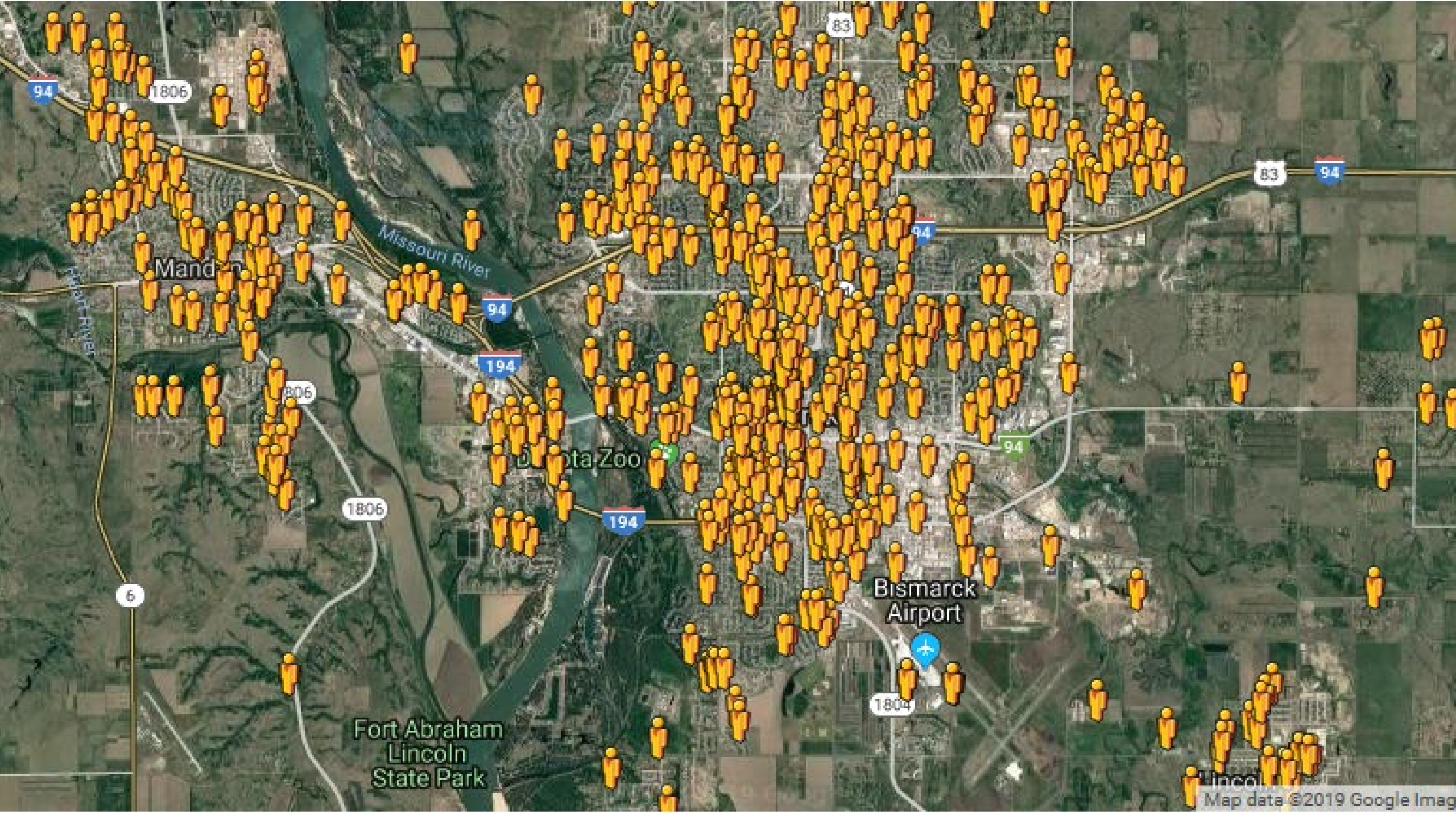


PulsePoint

PULSEPOINT:

BISMARCK

FARGO



Mandan

Missouri River

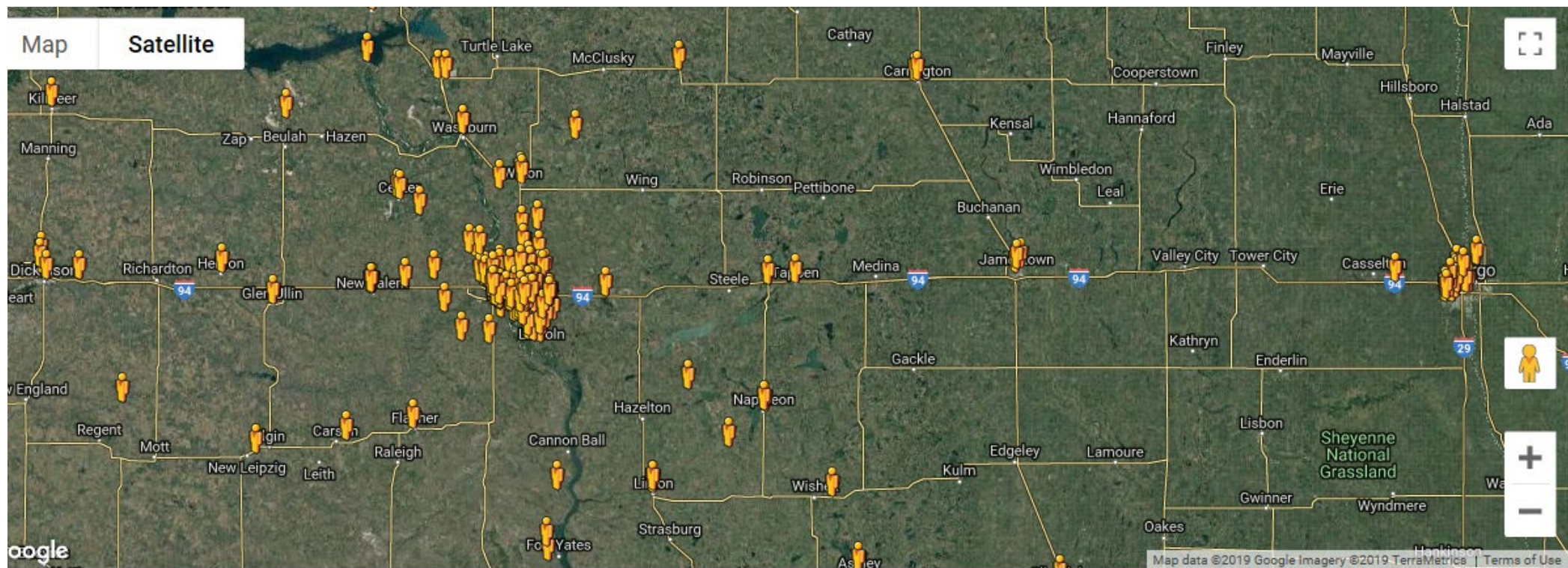
Bismarck Zoo

Bismarck
Airport

Fort Abraham
Lincoln
State Park

Lincoln

Map data ©2019 Google Imag



PUBLIC ACCESS AED



Get the app.
Locate and
register AEDs.
Help save lives.



PulsePoint
AED

- Can take the longest in order to fund for AEDs
- Educate community on what AEDs do, how to use them and where they are located
- Place in public places and high traffic areas
- Bismarck/Mandan and Fargo – PulsePoint
 - Over 200 AEDs registered in the community

CURRENT CARDIAC READY COMMUNITIES

- 10 communities are designated as Cardiac Ready Communities
- 25 communities are working towards becoming designated



DESIGNATION



- Once a community has met the minimum set of criteria, they apply for designation
- Once approved through the ND Department of Health, they are given a 3 year Cardiac Ready Community designation
- Highway sign provided to each community designated to display

AED GRANT UPDATE

- With a Grant received by the American Heart Association, the Division of Emergency Medical Systems was able to purchase a number of AEDs
- All communities participating in the Cardiac Ready Community program were eligible to apply for the AEDs. These will be distributed in the near future.
- Could be the last step for several communities to become designated



FUTURE OUTLOOK

- Cardiac Ready Campus
 - Currently working on creating criteria for Cardiac Ready Campus
 - May help lead to Cardiac Ready Community
 - UND already working on designation
 - Will have more information as it becomes available
- Looking into incorporating other initiatives such as Stop the Bleed

EDUCATION

- **EMS Rendezvous**
 - April 11-13, 2019
 - Bismarck, ND
- **State Stroke and Cardiac Conference**
 - October 29-30, 2019
 - Bismarck, ND
- **State Trauma Conference**
 - September 25-26, 2019
 - Bismarck, ND



QUESTIONS?

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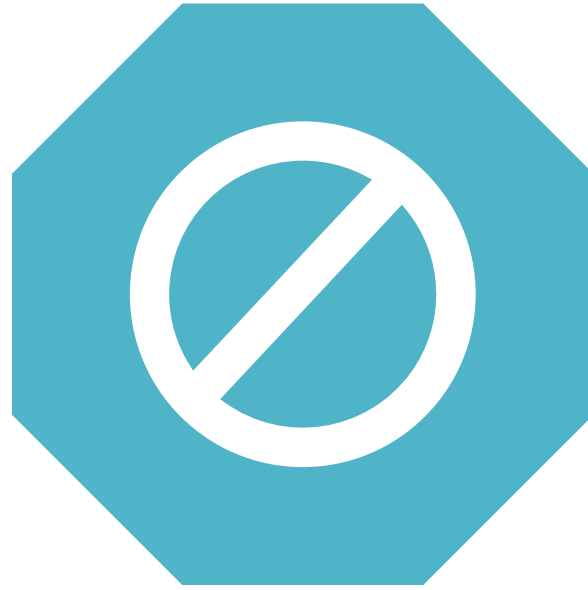
Engaging Patients Through Lifestyle Change Modification

Jennifer Haugen, RDN, CSSD, LD

Integrative Medicine Supervisor

Chad Spradlin, MBA, PES

*Health and Wellness Coach-
Integrative Medicine*



No Disclosures

Learning Objectives

1. Participants will be able to link leading causes of death to lifestyle behaviors.
2. Participants will be able to define the 6 stages of change.
3. Participants will learn coaching strategies to help motivate patients to make lifestyle change.
4. Participants will be able to identify partners in their community and/or health system to support patients lifestyle change goals.



Top 2 Leading Causes of Death in the United States

1. Heart Disease

Healthy People 2020 Identifies the leading (controllable) risk factors for heart disease and stroke are:

High blood pressure

High cholesterol

Cigarette smoking

Diabetes

Unhealthy diet and physical inactivity

Overweight and obesity

2. Cancer -25% of all deaths in US

76% of lung cancer deaths are related to combination of low f/v intake, physical inactivity, tobacco use, exposure to environmental smoke, air pollution

Why Lifestyle Change?

According to the CDC, about 20% to about 40% of deaths from each of these causes (top 5) could be prevented through lifestyle changes such as avoiding tobacco, increasing physical activity and healthier eating.

The report, published in the May 2, 2014 issue of *Morbidity and Mortality Weekly Report*, compared the death rates from these causes in all 50 states from 2008-2010.

The analysis showed if all states had the lowest death rate for each cause, it would be possible to prevent:

- 21% of early cancer deaths, prolonging about 84,500 lives

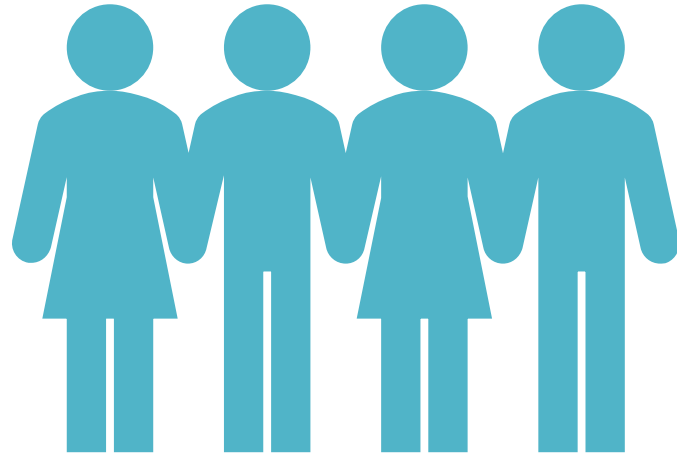
- 34% of early heart disease deaths, prolonging about 92,000 lives

- 39% of early chronic lower respiratory disease deaths, prolonging about 29,000 lives

- 33% of early stroke deaths, prolonging about 17,000 lives

- 39% of unintentional injury deaths, prolonging about 37,000 lives

Weight loss (as result of lifestyle changes) of 5-10 % produced improvements in cardiovascular risk factors, but greater weight losses were associated with even greater improvement. –NHLIB



How can we engage our patients in lifestyle modifications to help prevent and control disease?

How well do you know your patient?

Demographics

Food security

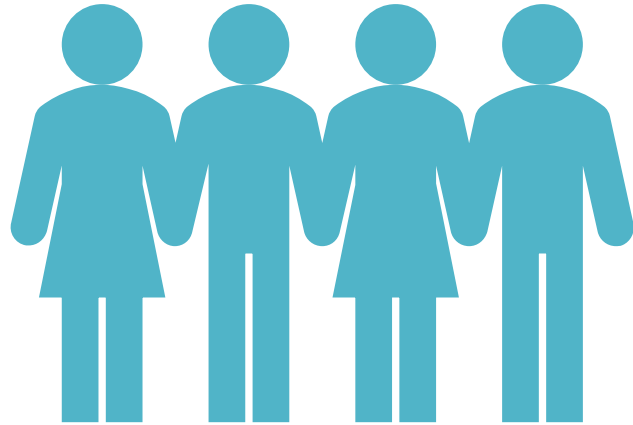
Resources and access to resources

- Fitness center
- Grocery store/food bank
- Clinic
- Technology
- Health insurance

Support system (family, friends)

Stages of Change

- Pre-contemplation-No intention
- Contemplation-Change on horizon, 6 months
- Preparation-Getting ready – next 30 days
- Action-Consistently changed, within 6 months
- Maintenance-Staying there more than 6 months
- Relapse – Recycling



Meet at patients place of readiness

What are your thoughts about?



Lets Role play

Partner up, one of you Share something about yourself that you:

- Want to change
- Need to change
- Should change
- Have been thinking about changing

What change are they considering?

- Explain why they should make this change
- Give at least three specific benefits that would result from making the change
- Tell them how they could make the change
- Emphasize how important it is to change
- Persuade them to make the change
- If you meet resistance, repeat the above

Feedback

- What was the experience like?
- What did you like?
- What did you not like?
- What did you notice?
- Did you feel encouraged to make the change?

“People tend to resist that
which is forced upon them”

“People tend to support what
which they helped create”

- Vince Pfaff

Motivational Interviewing

a directive, client-centered counseling style for eliciting behavior change by helping clients to explore and resolve ambivalence.



What makes MI Successful

Relational aspect

- Ambivalence is resolved through empathy and a spirit that instills capability

Technical aspect

Ambivalence is resolved through the selective reinforcement of a client's thoughts and commitment for change

Partnership



Acceptance



Compassion



Evocation



Role Play

Share something about yourself that you:

- Want to change
- Need to change
- Should change
- Have been thinking about changing But haven't changed yet

In other words, share something that you're feeling ambivalent about.

Listener

- Listen carefully with a goal of understanding
- Give no advice
- Ask these open questions and listen with interest
- Why would you want to make this change?
- How might you go about it, in order to succeed?
- What are the three best reasons to do it?
- Give a short summary/reflection of the speaker's motivations for change
- Then ask: "So what do you think you'll do?" and just listen



Feedback

- What was the experience like?
- What did you like?
- What did you not like?
- What did you notice?
- Did you feel encouraged to make the change?

Process of MI

- Engage- Establish a connection, explore strengths and values
- Focusing- Develop a direction that the client chooses
- Evoking- Eliciting patients motivations for change
- Planning- Formulating a specific plan of action, only when the patient is ready

Yes, but...
Lifestyle Change
is Hard.

Addressing
patient one
liners.

It's winter and fruits and vegetables aren't good in ND

It have knee problems (or insert other) and can't exercise.

I don't like to sweat.

My husband is the cook and I have to eat what he makes.

Eating healthy is expensive.

I already know what to do..(exercise, diet)..but just don't do it.

What do patients ask for?

Accountability

Why's behind change (you are the expert)

Ideas (meal plan, how to begin with exercise)

Help to identify realistic short term, medium term and long term goals

Addressing and eliminating barriers

Identify potential barriers

Cost

Grants/Scholarships

Food security

Community based programs (high reach low cost)

Demographic Location

Leverage technology

What is available

School/armory to walk

At home Exercise equipment

Garden produce

Know your partners/resources and when to
refer out

Real Life Example 1

Betty referred to weight management clinic by cardiology for weight loss prior to procedure. Goal to lose 50lbs.

Stats: BMI =62.65, A Fib needing ablation procedure.

Barriers = Limited finances due to medical bills, lives in rural area, limited exercise tolerance

Currently on a low carb diet because family member was on it and seeing success. Reports feeling tired and joint pain.

Plan: Start with dietitian – met initially. Decided to journal her food, “move more” and increase F/V intake. Focus on what she can do versus what she cannot.

...3 months later

Betty has lost 37 lbs on way to 50 lbs goal! Current BMI 57.54.

Patient reports not taking naps during the day due to more energy

Joint pain is resolved

Following a balanced calorie controlled plan

Follow up for accountability every 2 weeks where strategies for behavior change are reviewed



Real Life Example 2

Bob is in his 70's. Lives alone. Vision impairment but active. Main goal is to lower glucose to prevent diabetes. Weight loss goal of 20 lbs.

Enters our clinic for biometric screenings (glucose primarily). Knows that he was able to reduce sugars and cholesterol when he lost weight in the past.

Stats: weight 211.5 lbs; glucose 121.

Barriers = dislikes cooking, financial concerns.

Met with Health and Wellness Coach for baseline biometric screening. Met with a Registered Dietitian to discuss current eating patterns and identify where change is needed – fast food, excessive energy intake, and lack of fruits and vegetables. Exercising >60 minutes per day.

Plan: continue exercise routine. RD helps to identify how to cut calories and increase fruits and vegetables in easy ways.

6 months later

Biometric screenings complete

Glucose 121 to 104

Weight from 211.5 lbs to goal weight of 179.8 lbs

Continues to exercise daily (1 hour or more) and has incorporate frozen vegetables into his meals and assisted to make healthy easy meals at home from work with RD





Partner up for Patient Centered Care

Health care team (registered dietitian, diabetes educator, physical therapist, occupational therapist, social worker, disease manager, health coach, PCP)

YMCA and other fitness centers and community centers

Food pantries

Public Health Department programs and services

Insurance companies/Accountable Care Organizations (ACO)

Diabetes Prevention Programs

Counselors/Psychology



Conclusion

Meet your patients at their stage of change

Recognize barriers versus excuses

Focus on the positives and what they can do versus what they cannot

Partner up within your community and health system for your patients best chance of success

Small changes make big differences



Resources

2018, MAYO CLINIC, ONSITE TRAINING, MOTIVATIONAL
INTERVIEWING

HEALTHY PEOPLE 2020

“EFFECTS ON CARDIOVASCULAR RISK FACTORS OF
WEIGHT LOSSES LIMITED TO 5-10%.”
[HTTPS://WWW.NCBI.NLM.NIH.GOV/PMC/ARTICLES/PMC4
987606/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4987606/)

“CDC: LIFESTYLE CHANGES CAN REDUCE DEATH FROM
TOP 5 CAUSES” [HTTPS://WWW.CANCER.ORG/LATEST-
NEWS/CDC-LIFESTYLE-CHANGES-CAN-REDUCE-DEATH-
FROM-TOP-5-CAUSES.HTML](https://www.cancer.org/latest-news/cdc-lifestyle-changes-can-reduce-death-from-top-5-causes.html)

J Prev Med Public Health. 2010 Nov;43(6):459-71. doi:
10.3961/jpmph.2010.43.6.459.
[HTTPS://WWW.NCBI.NLM.NIH.GOV/PUBMED/21139406](https://www.ncbi.nlm.nih.gov/pubmed/21139406)

Thank you for attending the 2019 Hypertension Summit!

Please complete:
Evaluation Form

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Health

