



Million Hearts®

Hypertension and Nursing

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Heart Disease and Stroke

Leading Killers in the United States

- More than 1.5 million heart attacks and strokes each year
- Cause 1 of every 3 deaths
 - 800,000 deaths
 - Leading cause of preventable death in people <65
 - > \$300B in health care costs and lost productivity
- Greatest contributor to racial disparities in life expectancy



Heart Disease is the #1 Cause of Death in the US

~75 Million have Hypertension

September 2013

Vital signs™
CDC



200,000

At least 200,000 deaths from heart disease and stroke each year are preventable.

6 in 10

More than half of preventable heart disease and stroke deaths happen to people under age 65.

2x

Blacks are nearly twice as likely as whites to die from preventable heart disease and stroke.



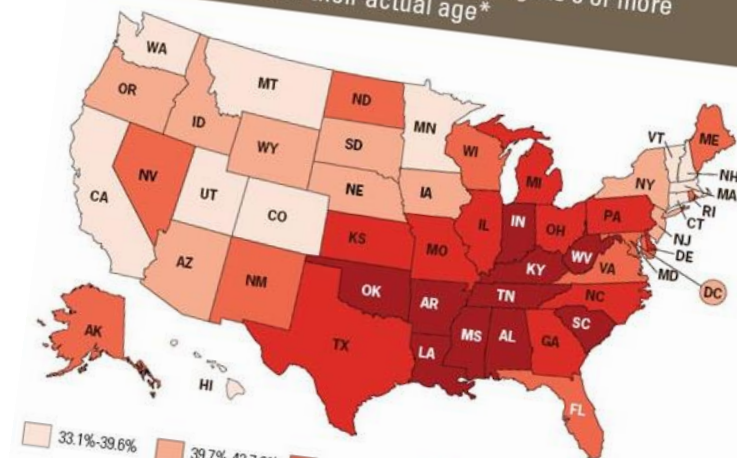
Heart Age

- US adults have hearts 7 years older than they should be.
- Hypertension and Smoking are key drivers of Heart Age.

SEPTEMBER 2015

Vital signs™
CDC

Percentage of adults whose heart age is 5 or more years older than their actual age*



*Adults aged 30-74 with no history of heart attack or stroke.

MMWR: Vital Signs: Predicted Heart Age and Racial Disparities in Heart Age Among U.S. Adults at the State Level. Published September 4, 2015. Available at:

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a6.htm?s_cid=mm6434a6_w

MMWR: Vital Signs: Avoidable Deaths from Heart Disease, Stroke, Hypertensive Disease – United States, 2001-2010. Published September 6, 2013. Available at:

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6235a4.htm?s_cid=mm6235a4_w



Key Components of Million Hearts®

Keeping Us Healthy
Changing the environment

Health
Disparities

Excelling in the ABCS
Optimizing care

Aspirin when appropriate

Blood pressure control

Cholesterol management

Smoking cessation

Focus on
the **ABCS**

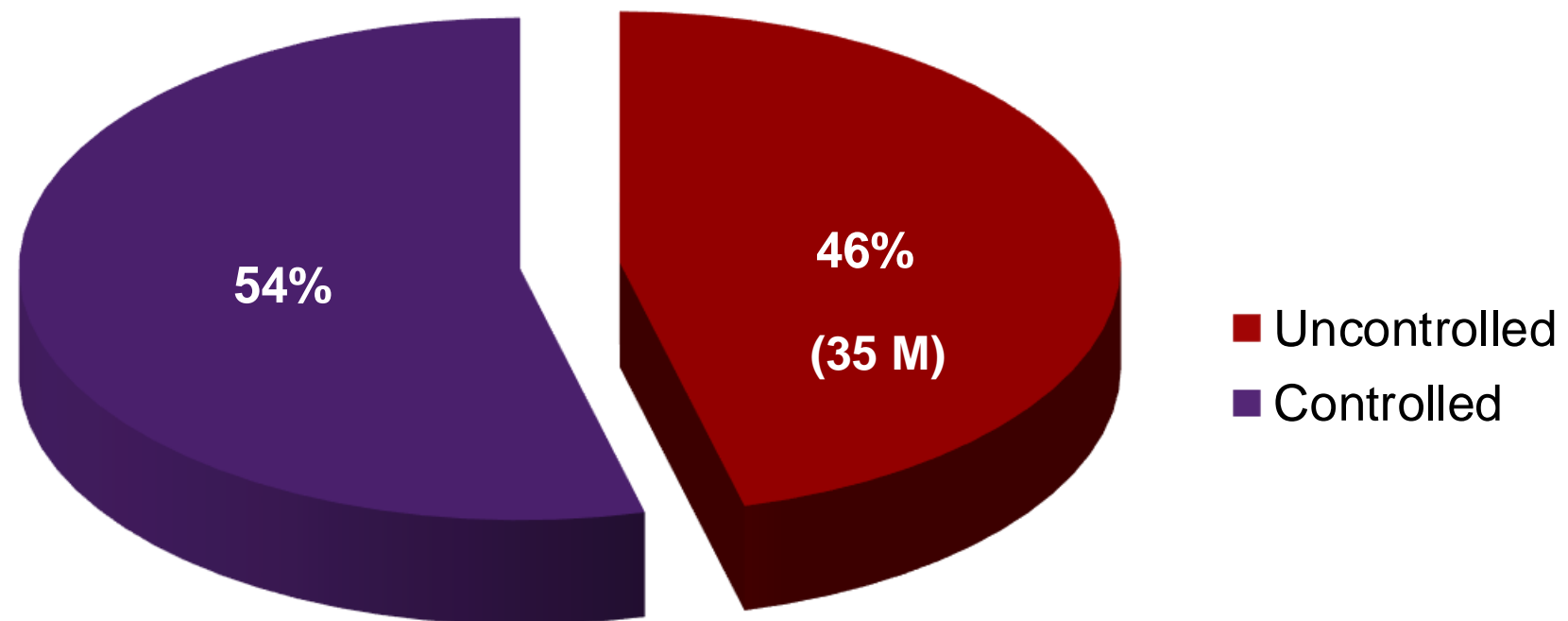
Health
information
technology

Innovations in
care delivery



Only Half of Americans with Hypertension Have It Under Control

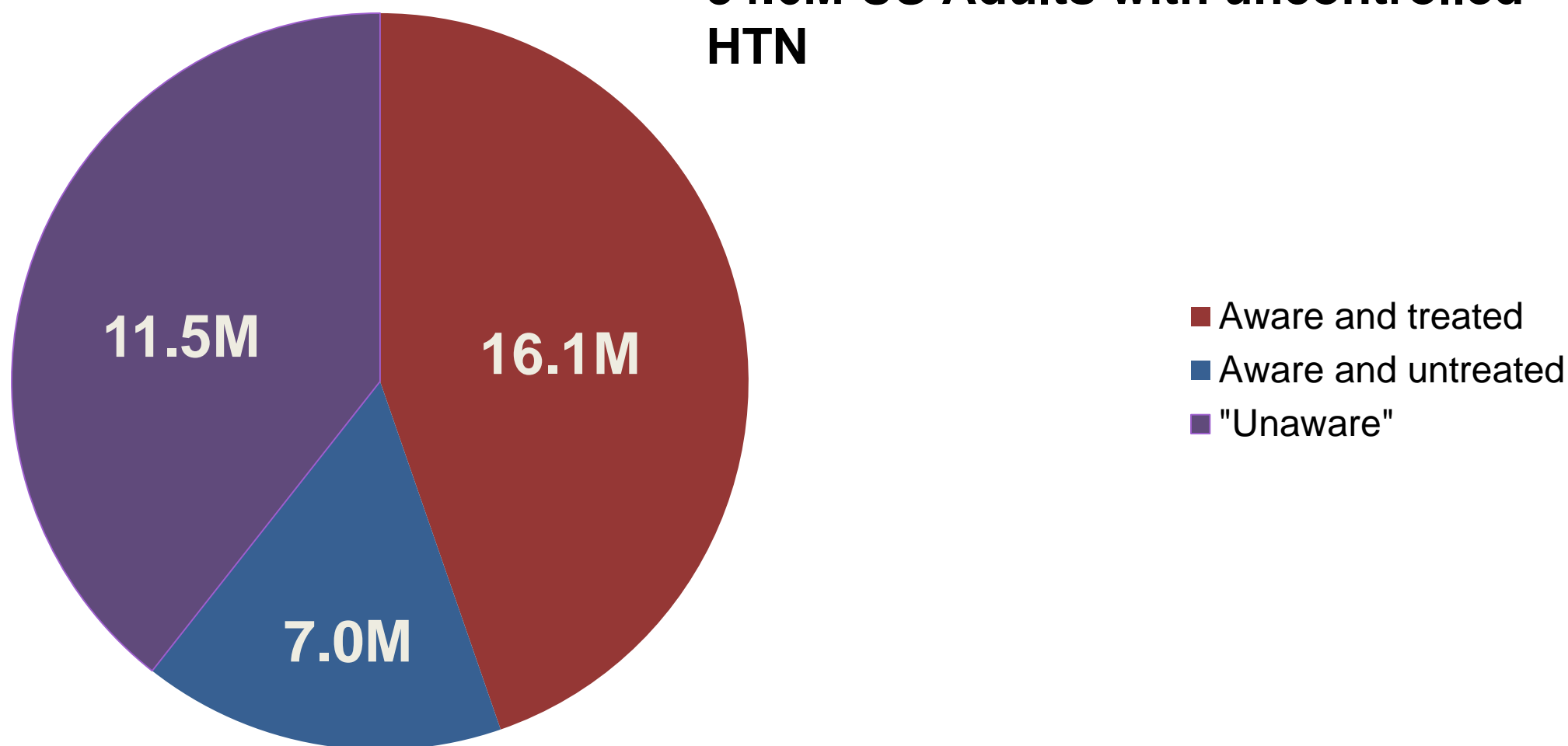
75 MILLION
ADULTS WITH HYPERTENSION (32%)



SOURCE: National Health and Nutrition Examination Survey 2013-14.

Uncontrolled HTN

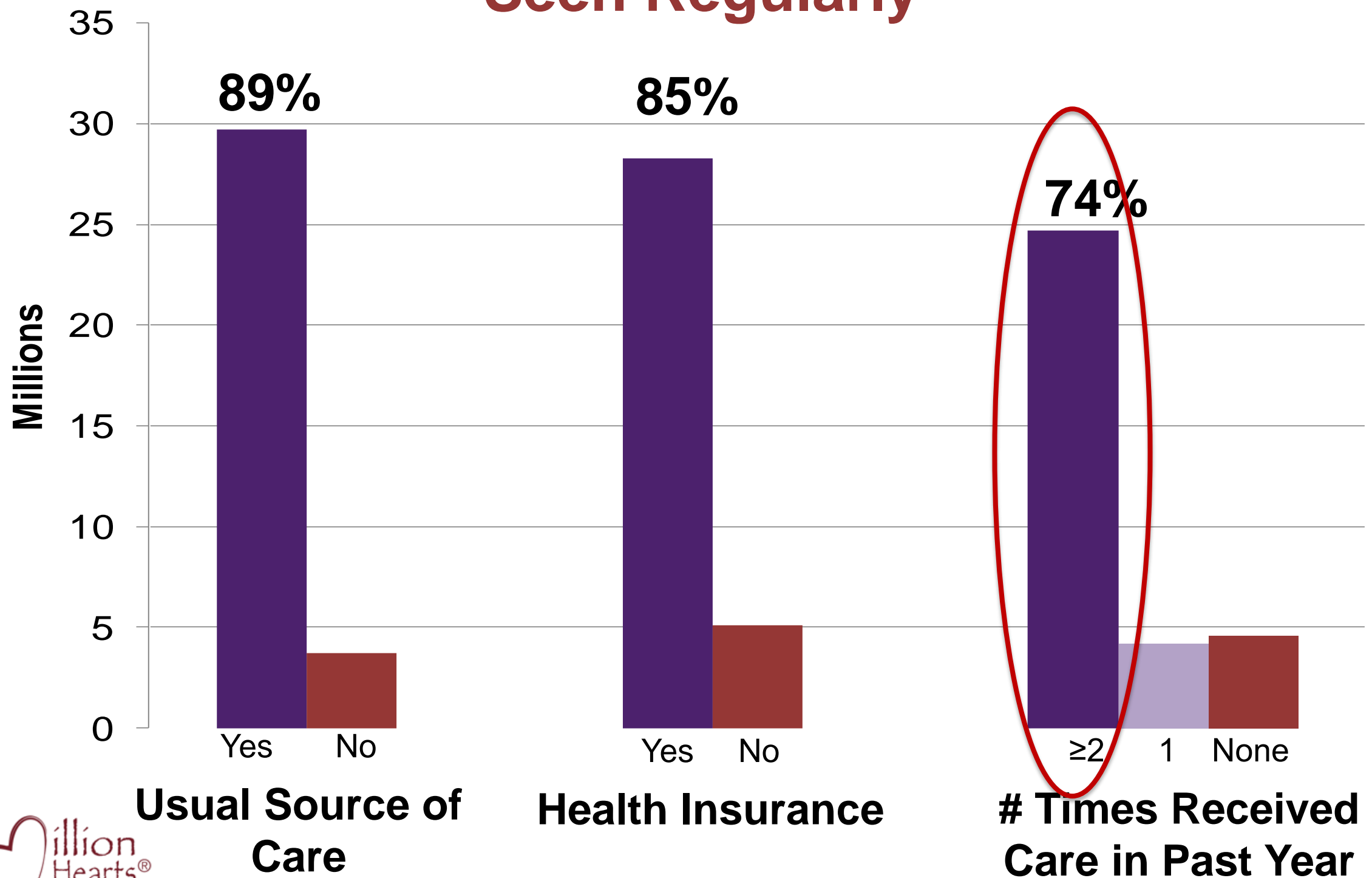
34.6M US Adults with uncontrolled HTN



Source: 2013-2014 National Health and Nutrition Examination Survey



Most People with Uncontrolled HTN are Insured and Seen Regularly



Source: National Health and Nutrition Examination Survey 2009-2012.

Actions that Improve Hypertension Control

Evidence-based, Team-Delivered

16.1M Aware and Treated but Uncontrolled

- Standardizing and Simplifying Treatment
 - Medication Adherence
 - Self-monitoring with Clinical Support
-
- Recognizing and Rewarding Success



Hypertension Control Change Package

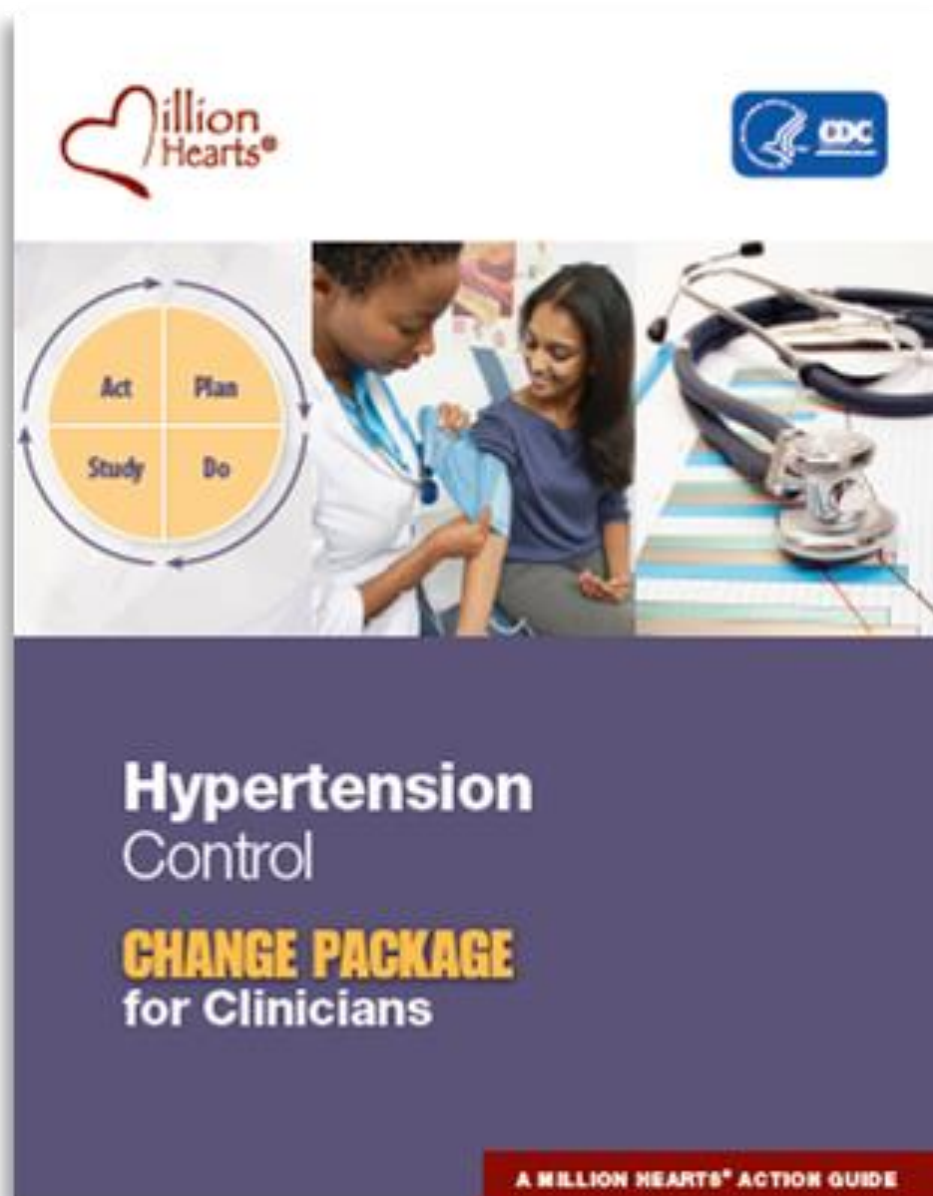


Table 1. Hypertension Control Change Package—Key Foundations (continued)		
Change Concepts	Change Ideas	Tools and Resources
Implement a Policy and Process to Address BP for Every Patient with HTN at Every Visit	Develop HTN control policy and procedures	<ul style="list-style-type: none"> American Medical Group Foundation. Provider Toolkit to Improvement Hypertension Control. BP Addressed for Every Hypertension Patient at Every Primary Care or Cardiology Visit: http://bit.ly/1zdx7Vh* Kaiser Permanente. Blood Pressure Check Visit Policy and Procedure: http://bit.ly/1nqETWj*
	Leverage local Patient Centered Medical Home (PCMH) activities to help drive comprehensive approach to HTN management	<ul style="list-style-type: none"> Washington State Department of Health. Improving the Screening, Prevention, and Management of Hypertension—An Implementation Tool for Clinic Practice Teams: PCMH Change Concepts, Ideas, and Resources (pp. 18-33): http://bit.ly/2Goe6e
	Develop a flowchart for how hypertensive patients will be proactively tracked and managed	<ul style="list-style-type: none"> Health Resources and Services Administration. Implementation: Hypertension Control: Critical Pathway for HTN control (Figure 3.1):

Table 2. Hypertension Control Change Package—Population Health Management		
Change Concepts	Change Ideas	Tools and Resources
Train and Evaluate Direct Care Staff on Accurate BP Measurement and Recording	Provide guidance on measuring BP accurately	<ul style="list-style-type: none"> American Medical Group Association. Registry Used to Track Hypertension Patients: http://bit.ly/12k9MT1* 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/11gdXdO American Heart Association. Heart360. An Online Tool for Patients to Track and Manage Their Heart Health and Share Information: http://bit.ly/1hVJCWv
	Assess adherence to proper BP measurement technique	<ul style="list-style-type: none"> 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/1thJlRE 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*
	Use Practice Data to Drive Improvement	<ul style="list-style-type: none"> 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/2Goe6e Health Center Network of New York. Specifications Hypertension Measures: http://bit.ly/1xErvxU New York City Department of Health. Provider Dashboards: http://bit.ly/1wFB9Ao New York City Department of Health. John Doe Dashboard: http://bit.ly/1zKuSsx More detailed information: Your Practice Hypertension Panel Summary (http://bit.ly/1z31AD1) and Hypertension Panel Management Patient List

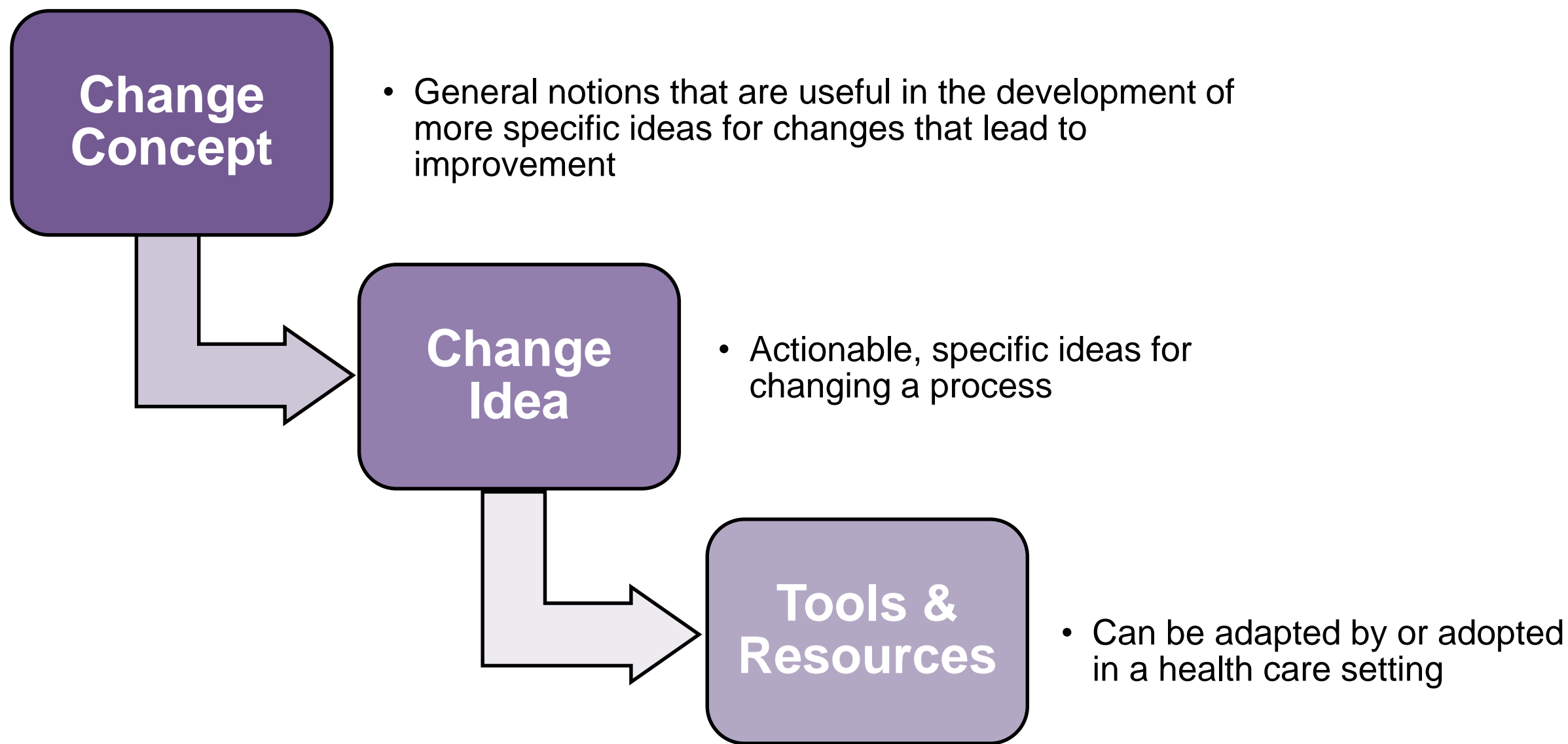
Access the Change Package at:
http://millionhearts.hhs.gov/Docs/HTN_Change_Package.pdf

Hypertension Control Change Package

Focus Areas

1. Key foundations
 2. Population health management
 3. Individual patient supports
- Hypertension control case studies





Change Concept

Change Ideas

Tools & Resources

Train And Evaluate Direct Care Staff On Accurate Blood Pressure Measurement And Recording

1. Provide Guidance On Measuring BP Accurately

2. Assess Adherence To Proper BP Measurement Technique

PLANK 1

TOOL: Competency Checklist Blood Pressure Measurement (Cleveland Clinic)

S = Satisfactory | U = Unsatisfactory | NP = Not Performed

Cleveland Clinic Community Primary Care Practices
Competency Checklist Blood Pressure Measurement

	S	U	NP
Closed room curtain or door.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Performed hand hygiene.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taken while patient is sitting in an upright position in a patient exam room chair. Place entire arm at patient's heart level. (Placing the arm above or below the heart level will affect the accuracy of the reading.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taken just prior to clinical support staff leaving the room.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taken after all questions are answered and documented into the EMR. (Talking can increase the BP, avoid during direct procedure.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Taken on a bare arm, wrap appropriate size cuff smoothly and evenly around the arm 1-2 inches above the antecubital space (do not place cuff over clothing), feet flat on the floor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Palpate the brachial artery on the ulnar side of the antecubital space with the second and third finger tips of one hand. With the same hand hold the bell of the stethoscope. Close the control valve clockwise with the other hand and inflate the compression bag (cuff) as rapidly as possible by pumping the inflation bulb. Continue until the pulse you are palpating can no longer be felt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inflate the cuff for an additional 30mm Hg.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Position the bell of the stethoscope over the brachial artery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Release the valve turning it counterclockwise. Do not deflate too slowly or you will obtain a falsely elevated pressure due to venous congestion. (Do not deflate too quickly or you will get an erroneous reading.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Read the manometer at eye level.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Document findings on appropriate form or in the EMR. Notifies provider of any significant findings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Employee _____ Signature _____
Evaluator _____ Signature _____
Date ____/____/____

PLANK 4

TOOL: Blood Pressure Spot Check (Kaiser Permanente)



KAISER PERMANENTE
Blood Pressure Spot Check
(Because we care to do the best)

MA/Nurse Name	
Date	
Time	
MOB	
Department/Module	

Important Criteria	Yes
Bare Arm	
Arm Support at Heart Level	
Not Talking During B/P	
Both Patient and MA/Nurse	
Correct B/P Cuff Size	
Peds: Feet on floor & legs uncrossed	

Date Education Done: _____
Educational Recommendations at time of Audit: _____
System or Workflow Issues Identified: (ex: need adjustment) _____
Spot Check completed by _____ Please Print
Return to your DA/ADA when complete.

PROVIDER TOOLKIT
TO IMPROVE HYPERTENSION CONTROL

PROVIDER TOOLKIT
TO IMPROVE HYPERTENSION CONTROL

PLANK 1

TOOL: New Employee Blood Pressure Measurement Initial

INITIAL COMPETENCY CHECKLIST
New Employee Blood Pressure Measurement

Employee Name: _____
Upon completion, place in the employee personnel folder.

Task Assessed	Has the patient sit quietly for a period at rest (5 minutes is best practice) with the back supported. Takes the BP at the end of the rooming process for this rest.
Asks patient if they have been eating, smoking, had caffeine, exercised or alcohol within last 30 minutes to one hour. If "yes" documents in vitals and educates for future visits.	
Has patient remove clothing where cuff will be placed. Bare arm is required.	
Selects appropriate cuff size. The "INDEX" arrow is positioned within the "R" markings on cuff. If the "ART" arrow is near either end of the "Range" chart if two cuff sizes fit, use the larger one.	
Secures the blood pressure cuff evenly around the arm, about 1 inch above space with the artery position mark (ART) over the brachial artery. Wraps 4 fingers can be inserted between the cuff and the arm.	
Ensures patient arm is supported on a solid surface or held steady by staff at the level of the heart (mid-sternum).	
Informs patient that his/her blood pressure will be measured using an auto that will provide a more accurate reading and that a squeezing sensation will instruct the patient to sit quietly, legs uncrossed and without talking or moving blood pressure measurement is complete. Encourages patient to relax all muscles not engage in patient conversation or obtain any additional vital signs during.	
OMRON SINGLE BP	Pushes ON/OFF button
Pushes MODE: SINGLE	
Sets P-SET (inflation level) to AUTO (Must hear click when AUTO is selected)	
Pushes START	
If battery pack is in use, measurement will remain visible for 5 minutes. Or turns itself off after 5 minutes of inactivity, the data is lost.	
If the OMRON errors 1-2 times on the auto mode, take the BP using the O mode listed below.	
Records first reading.	
If the initial BP is 140/90 or greater, repeats a BP measurement after 5 minutes waiting. Use single measurement technique (SINGLE MODE).	
Records the second BP reading. Informs provider if the second reading is 140/90 or greater.	
OMRON MANUAL BP	Push ON/OFF button
Push MODE: MANU	
Sets P-SET (inflation level) to AUTO (Must hear click when AUTO is selected)	
Push START. The OMRON will automatically inflate the cuff to the optimal pressure and begin deflating. Using bell of stethoscope, listens for the first sound heard (systolic) and the last sound heard (diastolic) and notes each number on OMRON screen.	
Records manual reading.	
For error message, reviews error codes and corrects.	
Plan of Action for Improvement Needs:	
Reviewer Signature: _____	

PROVIDER TOOLKIT
TO IMPROVE HYPERTENSION CONTROL

PLANK 1

TOOL: Quarterly Blood Pressure Auditing Tool (HealthPartners)

Quarterly Blood Pressure Audit Tool

Use this tool quarterly for all nurses and medical assistants who take blood pressures.

Employee Name: _____

Chart Audit:

Audit 5 patient charts who have a blood pressure of $\geq 140/90$. Review to ensure that a follow-up BP was taken and documented following appropriate blood pressure procedures.

	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
MRN					
BP Date					
Second BP Taken & Documented	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
Comments:					

Follow up needs
☐ No follow up needed
☐ Follow up needed in _____ to assess improvement
☐ Improvement needs include: _____

Assessment Observation

Observe one patient Date of Observation: _____

Task Assessed	Meets	Needs Improvement	Comments
Initiates BP measurement at end of rooming process using OMRON monitor after patient has had a period of rest. (5 minutes is best practice)			
Measures BP following established procedure:			
• Feet support flat on the floor			
• Back supported			
• Clothing removed where cuff is placed			
• Selects appropriate cuff size			
• Secures cuff so that 2 fingers can be inserted between cuff and arm			
• Arm is supported and level with heart			
• Remains quiet during measurement			
Accurately records BP			
Repeats BP measurement if initial reading is 140/90 or greater. Has patient wait quietly for at least 5 minutes before retaking & records second measurement in "New Vitals."			

Follow up needs
☐ No follow up needed
☐ Follow up needed in _____ to assess improvement
☐ Improvement needs include: _____

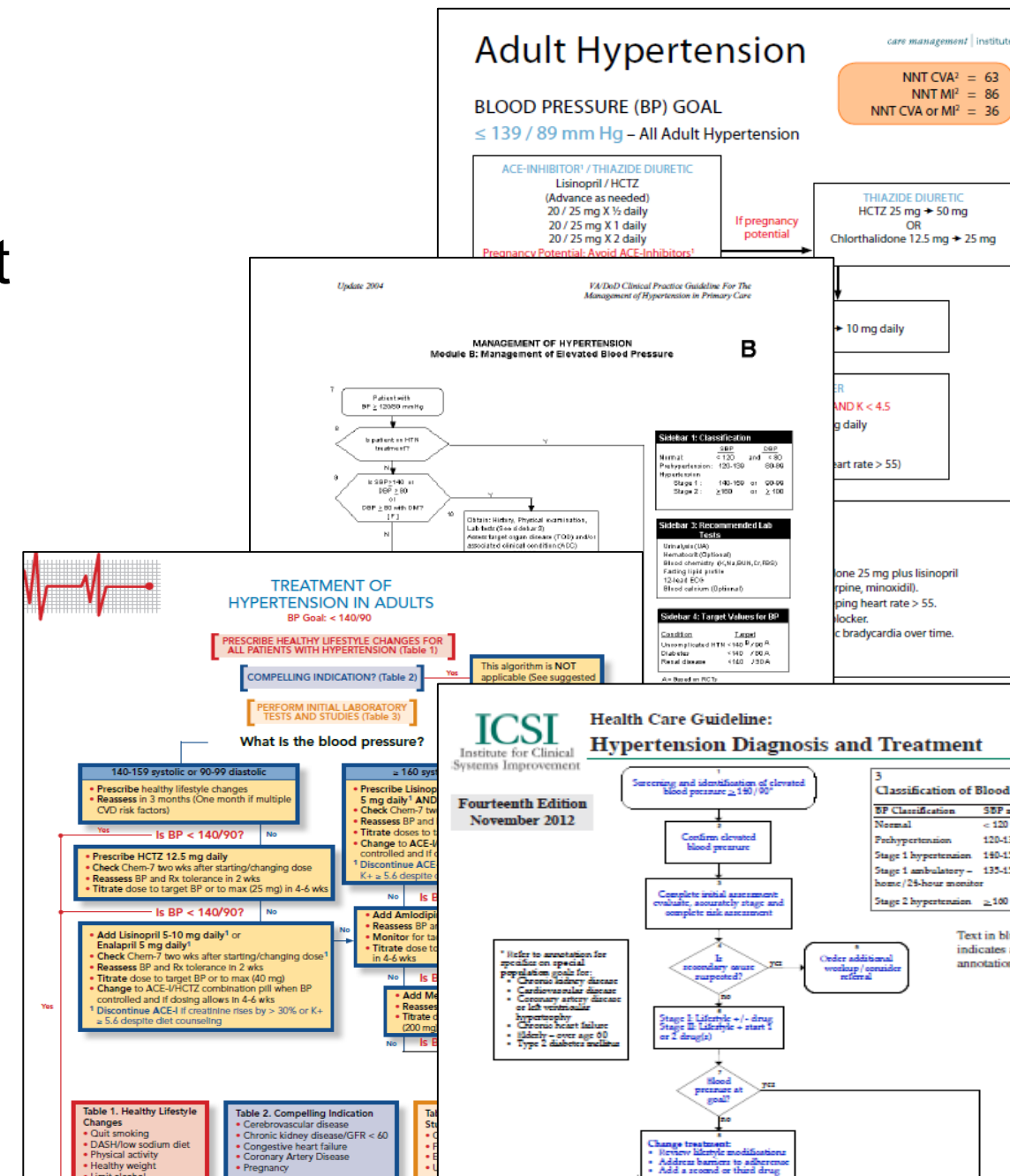
Reviewer Signature: _____

PROVIDER TOOLKIT
TO IMPROVE HYPERTENSION CONTROL

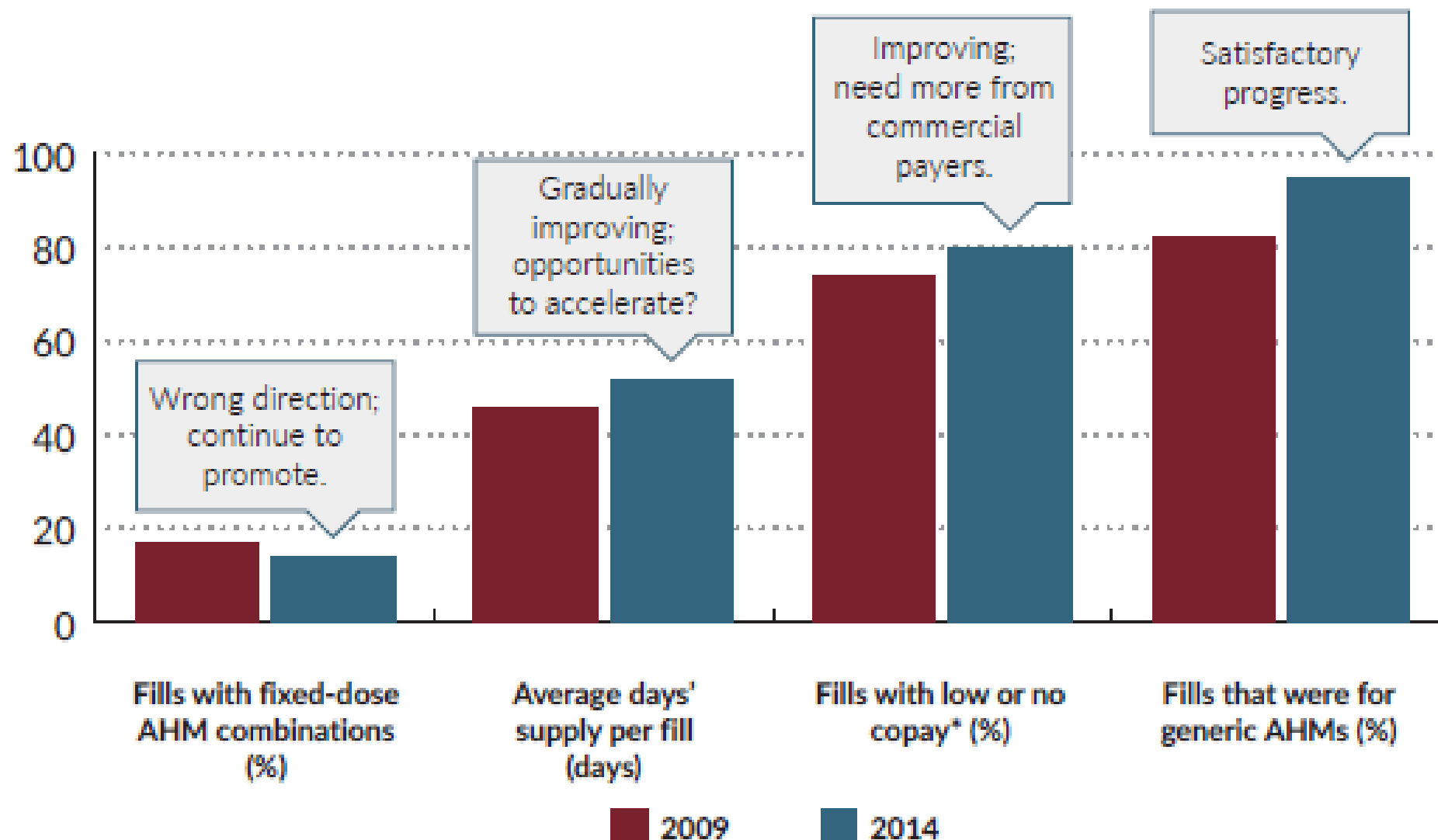
Measure Up Pressure Down 1

How Does a Protocol Improve Control?

- Outlines process for management of patients *resistant to treatment*
- Raises patient and team “radar” about hypertension
- Reduces variation in clinical practice and ensures evidence-based care for ***all*** patients with hypertension



Trends in Factors That Promote Adherence to Antihypertensive Medication (AHM), 2009 vs. 2014, IMS Health

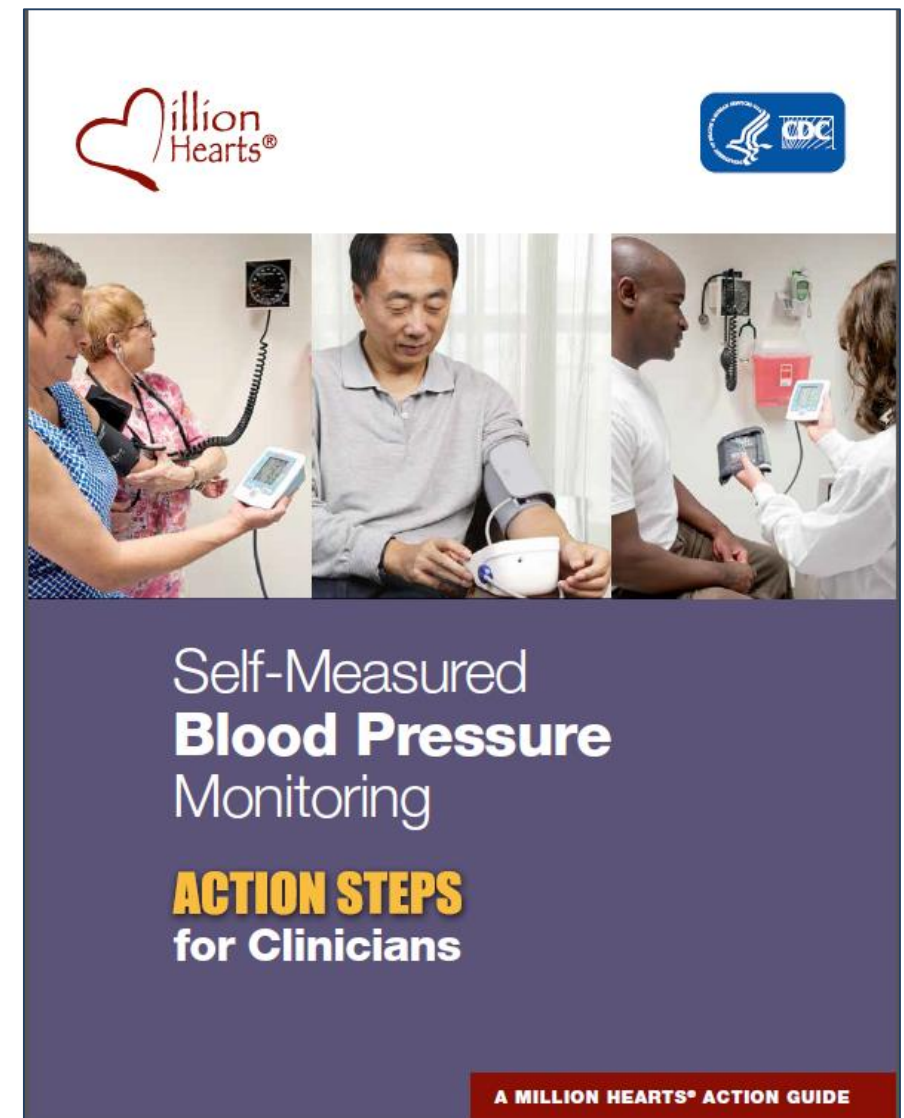


Source: https://millionhearts.hhs.gov/files/MH_SnapshotsProgress_MedAdher.pdf. Go to <https://millionhearts.hhs.gov/tools-protocols/medication-adherence.html> for more information.



Self-Measured Blood Pressure Monitoring (SMBP): Action Steps for Clinicians

- ❑ Guidance for clinicians on SMBP
 - Prepare Care Teams to Support SMBP
 - Select and Incorporate Clinical Support Systems for SMBP
 - Empower Patients to Use SMBP
 - Encourage Coverage for SMBP Plus Additional Clinical Support
- ❑ Teach patients to use monitors
- ❑ Check home machines for accuracy
- ❑ Suggested protocol for home monitoring



Barriers to Implementation

- Coverage/reimbursement
- Uptake by clinical community
 - Training issues
 - Capacity
 - Confidence in patients' readings
 - Reimbursement for the time
- Inclusion of SMBP values
 - into patient portals and EHRs for use in HTN management
 - Into clinical quality measures
- New technologies (e.g. cuff-less smart phone apps)



Wisconsin Hypertension Control Champions

- 2012
 - Ellsworth Medical Clinic, Ellsworth
- 2013
 - River Falls Medical Clinic, River Falls
 - ThedaCare, Appleton



Actions that Improve Hypertension Control

Evidence-based, Team-Delivered

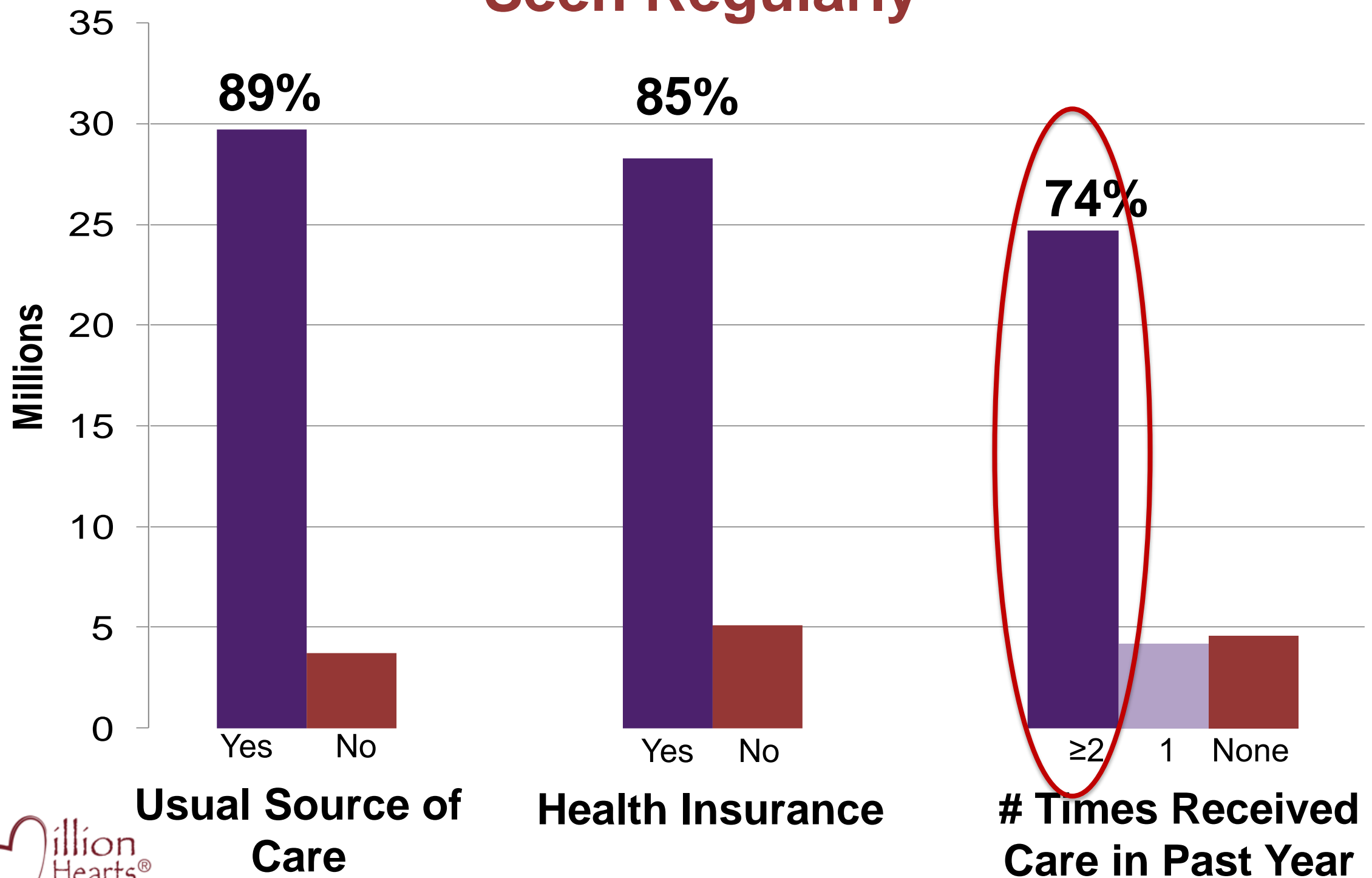
Untreated / Not on Meds

11.5M U+ U and 7.0M A and U

- Find the Undiagnosed
- Diagnostic protocol – close the loop
- Standardized treatment protocol

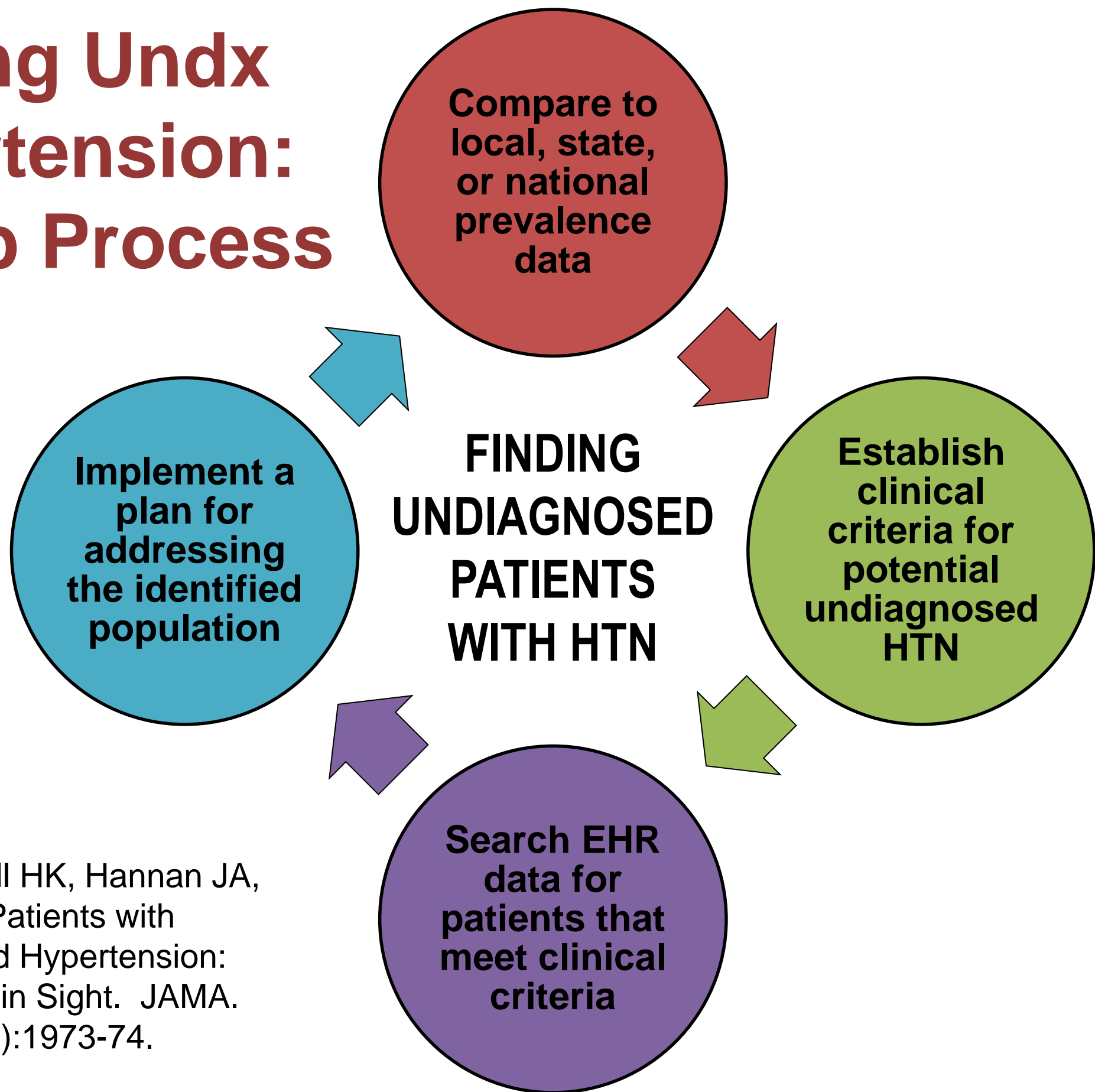


Most People with Uncontrolled HTN are Insured and Seen Regularly



Source: National Health and Nutrition Examination Survey 2009-2012.

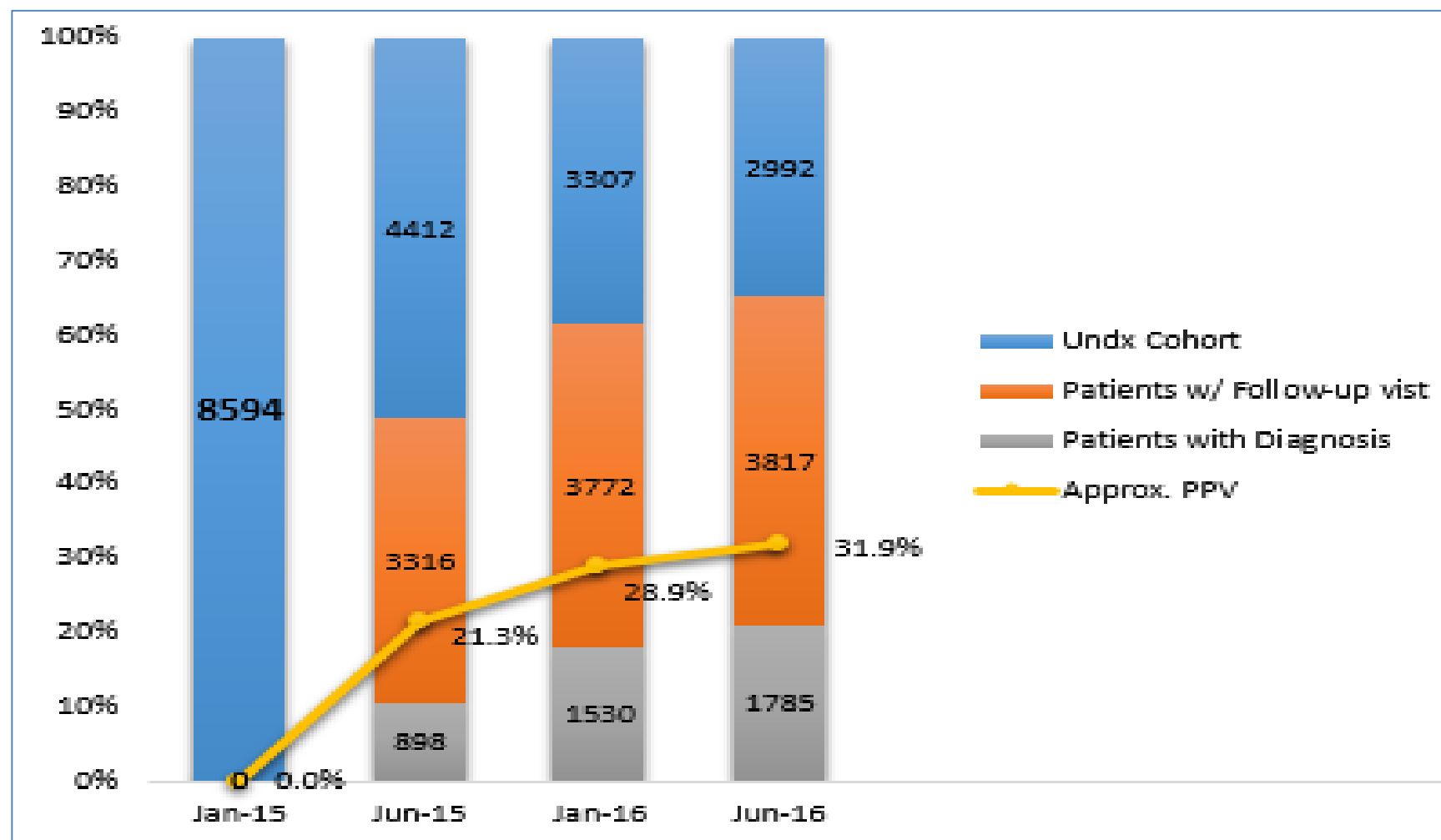
Finding Undiagnosed Hypertension: 4-Step Process



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

Finding Undiagnosed Hypertensive Patients “Hiding in Plain Sight”

11,000/120,000 CHC patients had high BP measurements, but no HTN dx



NACHC Undiagnosed Hypertension Change Package at
<http://mylearning.nachc.com/diweb/fs/file/id/229350>



Hiding in Plain Sight: *Resources to Help Find the Undiagnosed*

- ❑ **Hypertension Prevalence Estimator** – For practices/health systems to use to estimate their expected hypertension prevalence among their patient population
- ❑ **Whiteboard animation** – a creative depiction of the “hiding in plain sight” phenomenon and what clinical settings can do
- ❑ National Association of Community Health Centers – **Consolidated Change Package** - leveraging health IT, QI, and primary care teams to identify hypertensive patients hiding in plain sight
- ❑ millionhearts.hhs.gov/tools-protocols/hiding-plain-sight/index.html





Tools you can use and other

RESOURCES



Million Hearts® Microsite

Now LIVE at <https://tools.cdc.gov/medialibrary/index.aspx#/microsite/id/279017>

- Includes Million Hearts® evidence-based protocols, action guides, and other QI tools
- Syndicates Million Hearts® content through your website for your clinical audience
- A small amount of code - customizable by color and responsive to layouts and screen sizes - is needed to embed microsite.
- Content is cleared and continuously maintained by CDC

Million Hearts® for Clinicians



About Million Hearts

Co-led by the Centers for Disease Control and Prevention and the Centers for Medicare & Medicaid Services, Million Hearts® is a national initiative with an ambitious goal to prevent 1 million heart attacks and strokes by 2017.

Protocols

Find treatment protocols, action guides, and other tools to help educate, motivate, and monitor your patients.

Action Guides

The Million Hearts® Action Guide series provides clinicians, employers, and public health practitioners with evidence-based strategies for improving cardiovascular health.

Undiagnosed Hypertension

Are there patients in your practice with undiagnosed hypertension who may be "hiding in plain sight"?

Data & Reports

Access the latest data and published research on heart disease and stroke.

Learn & Prevent

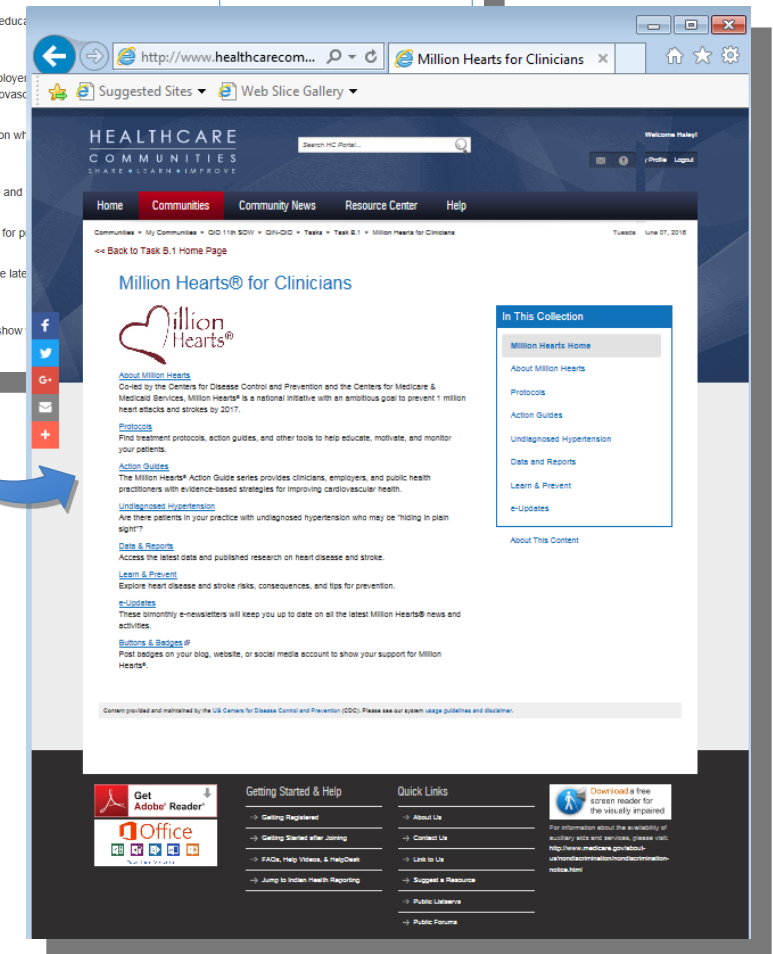
Explore heart disease and stroke risks, consequences, and tips for prevention.

e-Updates

These bimonthly e-newsletters will keep you up to date on all the latest Million Hearts® news and activities.

Buttons & Badges

Post badges on your blog, website, or social media account to show your support for Million Hearts®.



Go to CDC's Public Health Media Library for more information: <https://tools.cdc.gov/>

Benefits of Using the Million Hearts® Microsite

- Syndicated content is updated automatically
 - Ends the need to manually cut and paste static information and links into your site.
 - Requires little to no maintenance
- Ensures you have the latest scientifically sound and credible Million Hearts® resources on your website for your clinical audience
- Extends the reach of key Million Hearts® messages and tools to targeted users
- Aligns Million Hearts® messaging for maximum impact





Million Hearts Partners at Work on Hypertension Control

- 50 State Health Departments and District of Columbia
- AHRQ Evidence Now (2018)
- CMMI Million Hearts Risk Reduction Model (2021)
- CMS' QIN-QIOs focus on the ABCS (2019)
- CDC 2016 Champions Program (2017)
- CMS Transforming Clinical Practice Initiative
- CDC HTN project with Y, NACHC, ASTHO (2018)
- NINDS Mind Your Risk campaign on Brain Health (2018)
- Million Hearts Cardiac Rehab Collaborative (2021)





CARDIAC REHABILITATION

SAVING LIVES  RESTORING HEALTH  PREVENTING DISEASE

BENEFITS OF CARDIAC REHABILITATION

Benefits to People

Those who attend 36 sessions have a **47%** lower risk of death and **31%** lower risk of heart attack than those who attend only one session.



Benefits to Health Systems

Costs per year of life saved range from **\$4,950 to \$9,200** per person. Cardiac rehab participation also reduces hospital readmissions.

REFERRAL



**Many People Who Can Benefit
Are Not Being Referred**

**We Know What Works
To Improve Referral Rates**



Minority status predicts lower referral and participation rates.

Women, minorities, older people and those with other medical conditions are under-referred to cardiac rehab



Automatic, systematic referral to cardiac rehab at discharge can help connect eligible people with these programs.



One of the best predictors of cardiac rehab referral is if the eligible person speaks English.

Asian Americans are 18 times more likely to have limited English, compared to whites.



Strong coordination between inpatient, home health, and outpatient cardiac rehab programs boosts referral rates, as well as participation rates and outcomes.



Black women are 60% less likely to be referred and enroll in cardiac rehab programs, compared to white women.



Patients' medical teams -- and families -- can support and encourage participation in cardiac rehab programs.

Awareness campaigns should be targeted to people and caregivers.



**ONLY
20%** OF ELIGIBLE
PATIENTS ARE
REFERRED...



... AND ONLY HALF OF
REFERRED PATIENTS
ACTUALLY PARTICIPATE

Changing the Environment: Reducing Sodium Intake

- Develop and implement efforts to increase public awareness
- Help reduce sodium in diets
- Adopt sodium standards
- Encourage reductions in amount of sodium in foods sold or served
- Sodium reduction resources
 - [HHS and GSA Health and Sustainability Guidelines for Federal Concessions and Vending Operations](#)
 - [FDA.gov/Food/Guidance Regulation /Guidance](#)
 - [2015-2020 Dietary Guidelines for Americans](#)
 - [CDC: Sodium Reduction Resources for Everyone](#)
 - [Center for Science in the Public Interest: Healthier Food Choices for Public Places](#)



Healthy Is Strong



- **Target Audience**
Focused on patient empowerment and activation to engage with providers healthcare systems
- **Healthcare Provider & Healthcare Systems**
Focused on connecting the target audience with health professionals and the systems that they work within
- **Community Partners & Local Stakeholders**
Promoted awareness of HIS campaign by stimulating behavior change among target audience



<http://millionhearts.hhs.gov/learn-prevent/healthy-is-strong.html>



Million Hearts® Accomplishments*

Changing the Environment

Reduce Smoking



Almost 4 million fewer cigarette smokers[†]

Reduce Sodium Intake



Voluntary Sodium Guidance to Industry issued June 1, 2016[‡]

Eliminate Trans Fat Intake



Accomplished: FDA issued the final determination on artificial trans fat[§]



* Note this is a select set of notable Million Hearts® accomplishments.

† National Health Interview Survey, comparing 2011 data to 2014 data.

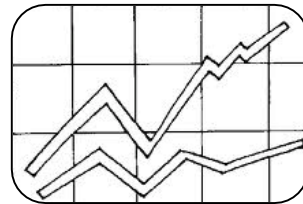
‡ <http://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ucm494732.htm>

§ <http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm372915.htm>.

Million Hearts® Accomplishments*

Optimizing Care in the Clinical Setting

Focus on the ABCS



Millions of Americans are covered by health care systems that are recognizing or rewarding performance in the ABCS[†]

Health Tools and Technology



Over half a million patients have been identified as potentially having hypertension using health IT tools[‡]

Innovations in Care Delivery



Millions of dollars in public and private funds have been leveraged to focus on improving the ABCS[§]



* Note this is a select set of notable Million Hearts® accomplishments.

† CMS Physician Compare and HRSA Uniform Data Set.

‡ Unpublished data from AMGA/MUPD and NACHC HIPS project.

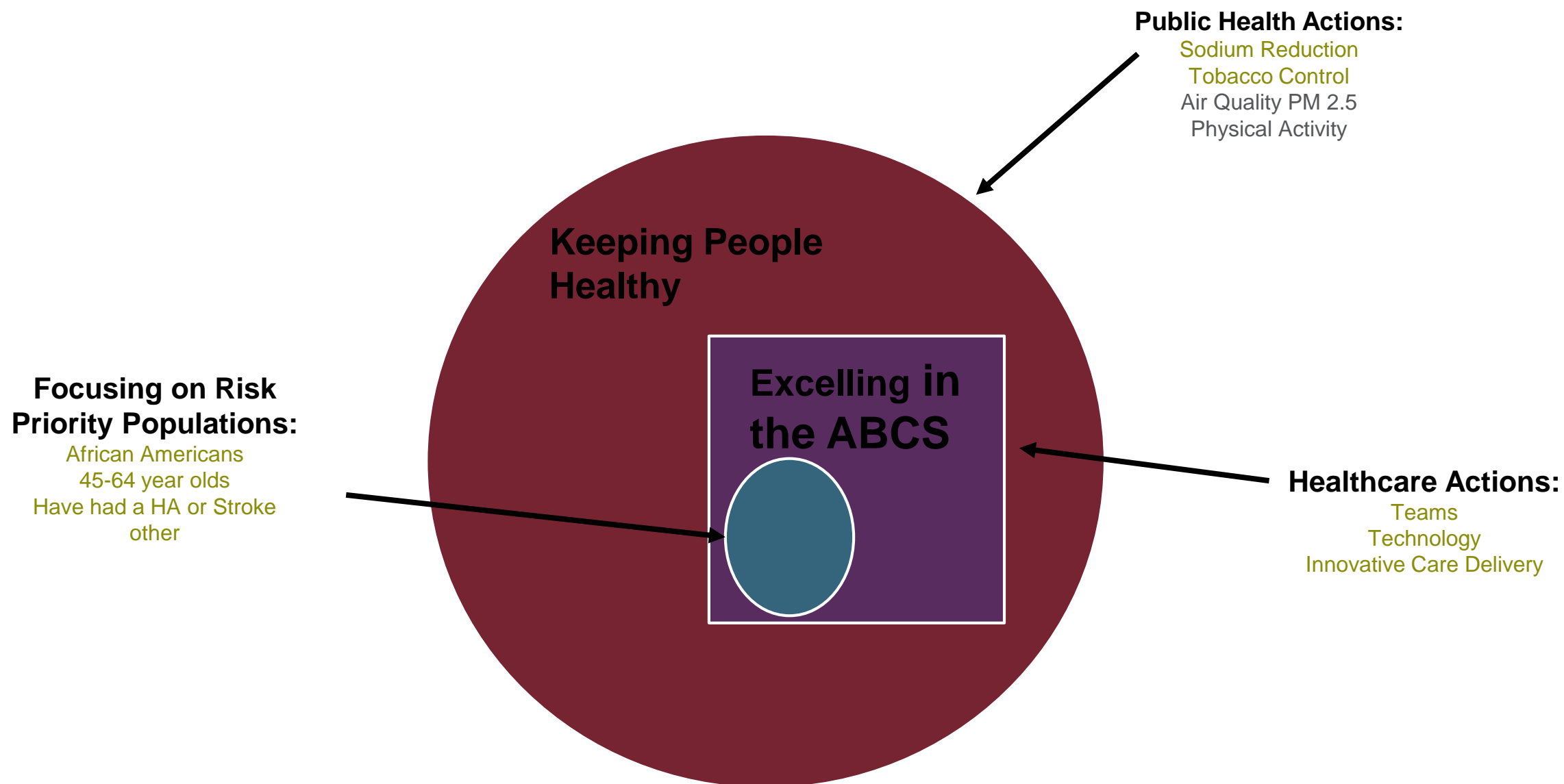
§ CMS Million Hearts Risk Reduction Model; AHRQ EvidenceNOW; AHA Southwest Affiliate HTN project.

Future of Million Hearts

- CDC and CMS continue to co-lead
- ABCS will remain in
- Sodium will remain in – and we need your assistance – especially thinking about the power of procurement
- Clearer emphasis on Priority Populations



Million Hearts 2.0 Concept





**Questions +
Thank You!**