



MedStar Health

Knowledge and Compassion
Focused on You

Measure Up / Pressure Down: Improving Blood Pressure Control in Washington, DC

AMGA Webinar – July 17, 2014

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About me

- General internist in Washington, DC
- Medical Director for EHR and Health IT Policy – MedStar Health
- Medical Director for Million Hearts® - MedStar Health
- Thinking Differently – MedStar Institute for Innovation
- Chair, Medical Informatics Committee, American College of Physicians
- Senior Fellow in Health IT Policy, Center for American Progress
- Visiting Scholar in Health IT Policy, Engelberg Center for Healthcare Reform, Brookings Institution

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Disclosures

Member – ePocrates Clinical Advisory Board

I do not have any financial relationships with commercial interests related to the content of this presentation

Disclaimer

While the content of this presentation is consistent with positions expressed by the American College of Physicians, the Engelberg Center for Healthcare Reform of the Brookings Institution, the Center for American Progress, and MedStar Health – any conclusions, policy positions or recommended actions are mine, and are not necessarily those of the organizations listed above

MedStar Health: Largest Not-For-Profit Health System in the MD-DC Region

❑ Components

- 1 research institute
- 10 hospitals
- 150 ambulatory sites

❑ Staff

- 5,600 physicians
 - 1,500 employed
- 30,000 associates
 - 7,000 nurses
 - 1,100 physicians in residency programs

• MedStar Health in 2012

- 160,000 admissions
- 200,000 home health visits
- 580,000 ED visits
- ~1.5 million outpatient visits
 - ~0.5 million to primary care providers

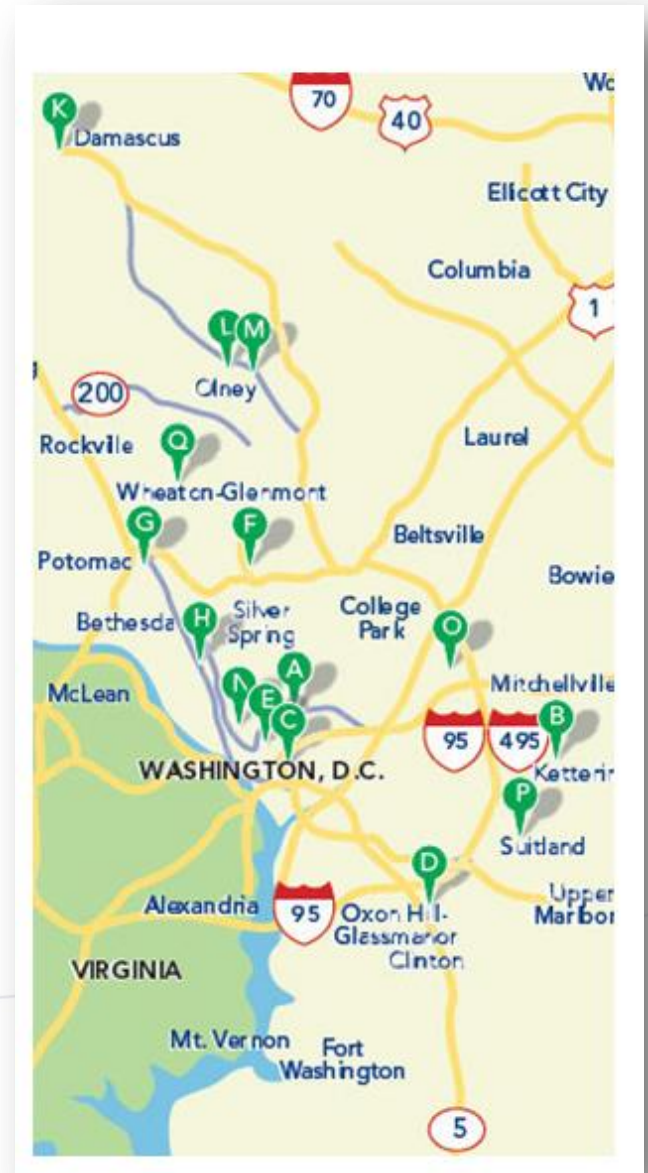
The screenshot displays the MedStar Health website. At the top, the MedStar Health logo is on the left, and a search bar is on the right. Below the logo, a tagline reads: "a not-for-profit, regional healthcare system serving Maryland and the Washington, D.C., region". Navigation buttons for "Careers", "Contact Us", and "Find A Doctor" are visible. A horizontal menu bar contains links: "About Us", "News", "Facilities", "Programs & Services", and "Health Encyclopedia". The main content area features a large section for the "MedStar Heart Institute" and "Cleveland Clinic Heart and Vascular Institute", announcing their partnership. To the right, a "Recent News" section lists several articles. Below these, there are two columns: "Maryland Hospitals" and "Diversified Services", each listing various medical centers and services. At the bottom, there are four promotional boxes: "Because of You", "Quality of Care", "View our Annual Report", and "Named a Best Place to Work".

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MedStar Health's Primary Care Network

- ❑ In 2012: ~160,000 unique patients
- ❑ 42 adult primary care locations
- ❑ 162 adult primary care providers
 - All using common guidelines for preventive and chronic care screening and management
- ❑ ~54,000 (34%) with hypertension
 - ❑ ~65-68% at goal (per NQF0018)



EHR Implementation at MedStar Health

- Started in 1997
 - Slow diffusion into PCP practices and others that opted-in
- Started enterprise implementation in 2008
- Implementation included decision alerts for existing MedStar endorsed guidelines / best practices
- Alert structure
 - Targeted to specialty / role
 - “Politely active” – HUD>Global>Actionable
 - Alerts for what is missing / out-of-date / not at goal
 - Actionable alerts contain rule, information, single-click actions for documentation, orders, etc.

Example of Alert Structure

General HPI | Specialty-Specific | Extra Hx-1 | Extra Hx-2 | Extra Hx-3 | Extra Hx-4

History of Present Illness | Select Specialty: Internal Medicine | View All Protocols

PCP: | Ref Provider: | Visit Type: Follow-up Visit | CC: asthma | View Prior HPI

History: | Clear All | Check Box to Insert Form(s) or Template

Colorectal Cancer Screening

Screening with one of the following for colorectal cancer is recommended for all persons age >50, or if African American at age 45 or older:

Annual fecal occult blood testing (FOBT) or Sigmoidoscopy every 5 years
or CT colonoscopy (virtual colonoscopy) every 5 years or
Annual FOBT and sigmoidoscopy every 5 years or Double contrast BE every 5 years
or Colonoscopy every 10 years

Last Hemoccult: N/A | Last Flex Sig: N/A
Last Barium Enema: N/A
Last Colonoscopy: N/A
Last Virtual Colonoscopy: N/A
Last Colorectal Cancer Screening Recommendation/Action: N/A

- ☐ Order Colonoscopy
- ☐ Order Virtual Colonoscopy
- ☐ Give Annual FOBT (3 slide kit)
- ☐ Order Flex Sig
- ☐ Order Double Contrast BE
- ☐ Order Flex Sig and FOBT
- ☐ GI Consult/Referral for Colonoscopy or Flexible Sigmoidoscopy
- ☐ Print Handouts
- ☐ Patient declines screening
- ☐ Screening not indicated - S/P total colectomy
- ☐ Screening done by other provider
- ☐ Screening not indicated at this time
- ☐ Screening not indicated-Permanent Shut Off
- ☐ Screening to be ordered at next preventive care exam
- ☐ Screening to be ordered by other provider

(C) 2014

Close

Medications | Orders | Defer | © | Close

Check All | Clear All | Close

Prev Form (Ctrl+PgUp)

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Knowledge

Provider Attitudes Towards EHRs and Meaningful Use



In 2012 MedStar Health Became the First Health System to Partner with Million Hearts[®]

- ❑ **A**spirin consistently recommended for those where benefits outweigh risks
- ❑ **B**lood pressure screening and treatment to goal
- ❑ **C**holesterol screening and treatment to goal
- ❑ **S**moking: Determine status for current smokers, aggressively counsel/treat towards quitting

The screenshot displays the Million Hearts website. At the top, there is a navigation bar with links for Home, Text Size (A, A), Español, and a search bar. Below this, a secondary navigation bar includes links for The Initiative, About Heart Disease & Stroke, Be One in a Million Hearts™, Resources, Stay Connected, and News & Events. The main content area features a large red banner with the text: "Help us prevent 1 million heart attacks and strokes over five years." Below this, a form asks users to "Share your commitment as:" with a dropdown menu currently set to "Individual" and a "Get Started" button. To the right of the banner, a large statistic is displayed: "\$444,000,000,000" followed by the text "Heart disease & stroke cost the nation \$444 billion/year in health care costs and lost economic productivity." and a "Learn More" button. Below the banner, there is a section titled "The Initiative" with a brief description of the Million Hearts™ mission. To the right of this section, a box titled "Remember Your ABCS" lists the four components: A — Appropriate Aspirin Therapy, B — Blood Pressure Control, C — Cholesterol Management, and S — Smoking Cessation.

Million Hearts®

- “Prevent 1M heart attacks and strokes over 5 years”
 - There is no more appealing message
- “Know Your ABCs”
 - Simple and understandable approach
- Perfection isn’t required to make a huge difference
 - Improve performance on known measures
- Cardiovascular risk interventions
 - Already endorsed by our health system

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Million Hearts® Premise

Improving Performance Makes a Difference

Intervention	Baseline – 2012	Goal – 2017
Aspirin for those at high risk	47%	70%
Blood Pressure – screening and control	46%	70%
Cholesterol – screening and control	33%	70%
Smoking Cessation	21%	70%

- Of the ~2M heart attacks and strokes occur each year, achieving the 2017 goals would reduce the number of new heart attacks / strokes by 10% per year
- Over 5 years – prevent 1M new heart attacks / strokes

12

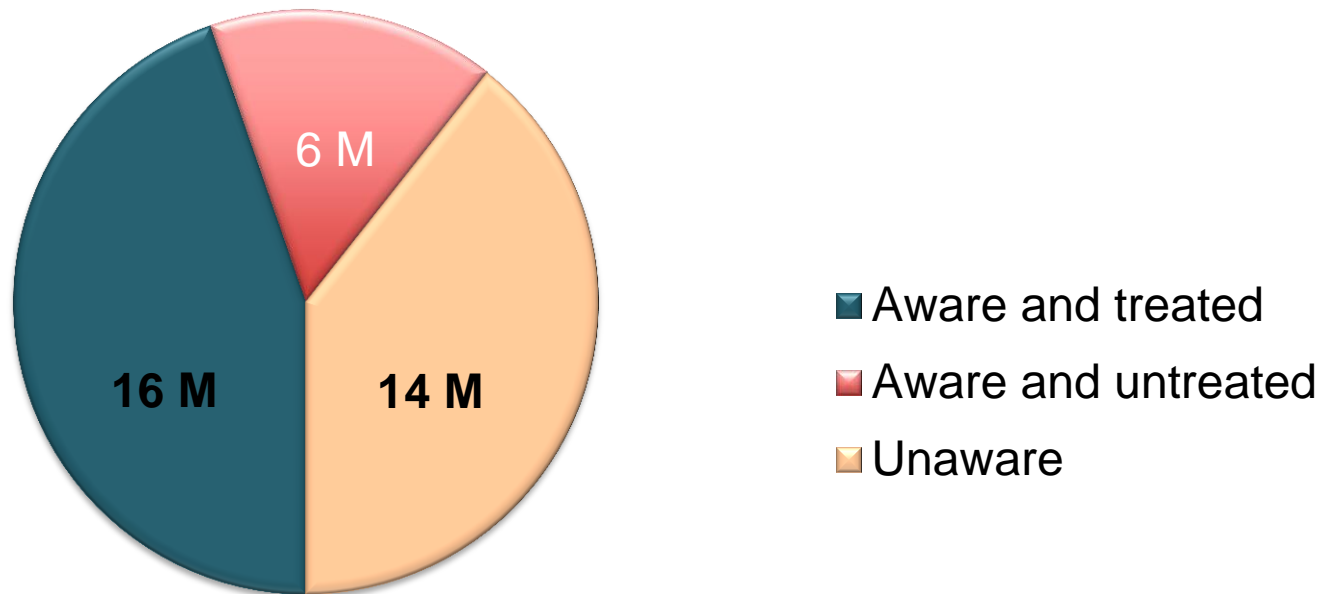
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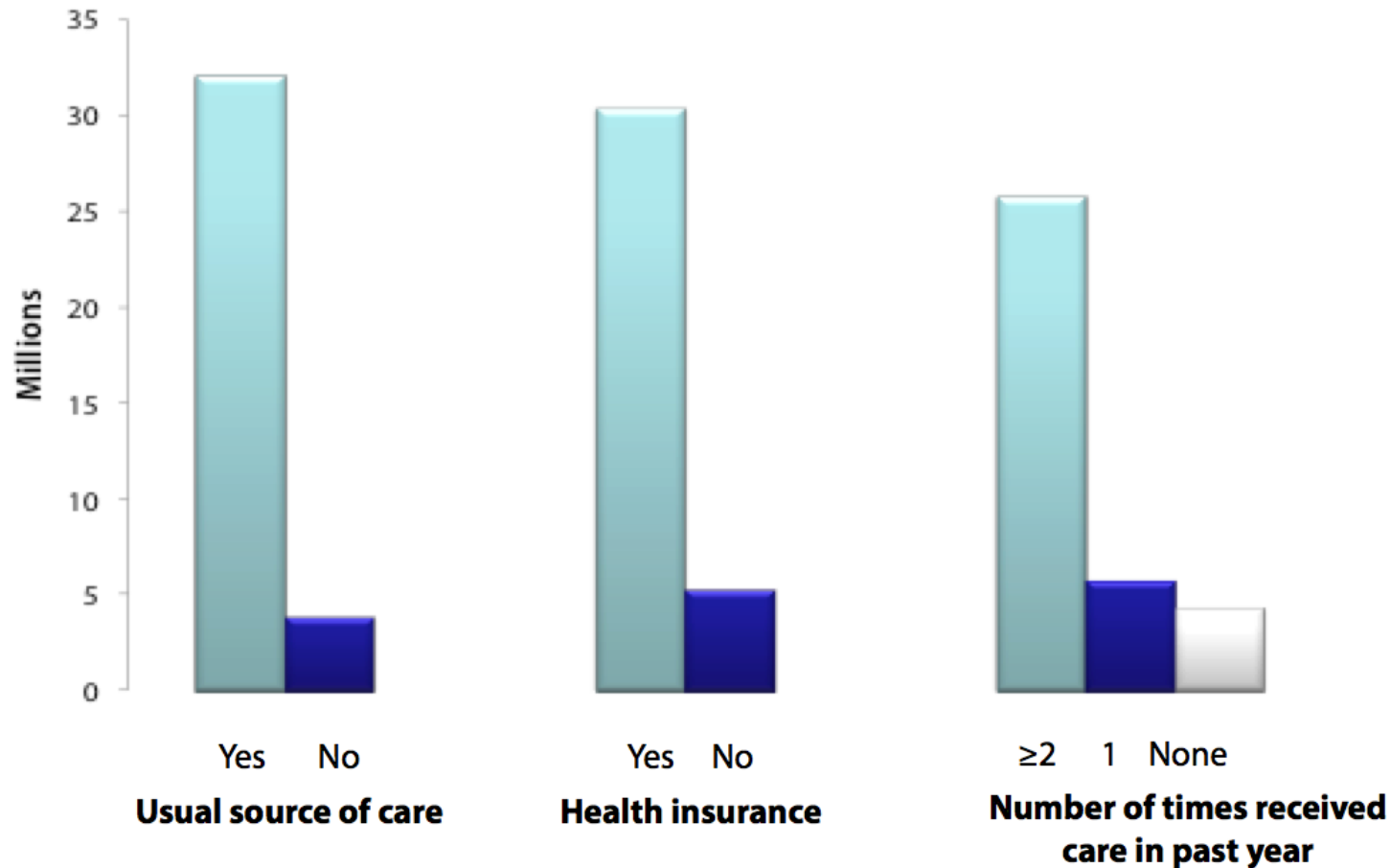
Most People with Uncontrolled Hypertension Were Aware of their Condition

Awareness and treatment among adults with uncontrolled hypertension (millions)



CDC. MWR. 2012;61(35):703-9

Most People with Uncontrolled Hypertension Are Insured and Are Receiving Regular Care



CDC. MMR. 2012;61(35):703-9

MedStar Health Baseline: Screening and Goal Setting

Our Endorsed Guidelines	Performance
<p>USPSTF blood pressure screening protocol</p> <ul style="list-style-type: none">➤ Blood pressure taken at least once every 2 years	<p>Exceeded guidelines</p> <p>Blood pressure measured for most adult patients at every visit</p>
<p>Individualized blood pressure goals per JNC-7 / 8</p>	<p>No blood pressure goals in EHR</p> <ul style="list-style-type: none">➤ Providers not aware➤ Patients not aware➤ Absence of default or individualized blood pressure goal = lack of awareness and focus

Making the EHR a Virtual Member of the Care Team

**Automate BP Goal Setting and Increase Awareness
of Provider and Patient when Blood Pressure Is not at Goal**

- ❑ **Embed screening guidelines and endorsed blood pressure goals into EHR as actionable and patient-specific guidance**
- ❑ **Prompting providers**
 - **ONLY** when necessary
 - If blood pressure not measured
 - Automate goal setting
 - **ALWAYS** when blood pressure is not at goal
 - Engage providers / patients in decision making
 - Enable easier action / documentation when blood pressure is not at goal
- ❑ **ALWAYS make patients aware of their blood pressure goal and whether or not they are at goal**

Our Approach to Avoid “Alert Fatigue” – Embedded Protocols Targeted to PCP Providers – ONLY Prompts When Necessary Information is Missing, Out of Date, or When a Goal is Unmet

This approach used for all protocols – but for Million Hearts® we lead with a “global” prompt, and we pre-check it – such that it auto-cascades if goals are unmet

The screenshot displays the HPI-ROS-CCC interface. At the top, there are tabs for 'General HPI', 'Specialty-Specific', and four 'Extra Hx' tabs. The 'General HPI' tab is active, showing fields for 'History of Present Illness', 'PCP' (Peter Basch MD), 'Ref Provider', 'Visit Type', and 'CC'. A red arrow points to a yellow button labeled '(View All Protocols)'. Below this, a 'Protocols Due' section contains a message: 'The following protocols are now due. Check the protocols you wish to view/execute, then click the 'Close' button:'. A checkbox labeled 'MedStar Million Hearts: Cardiovascular Risk Reduction Goals NOT Met' is checked. At the bottom of this section are buttons for 'Check All', 'Clear All', and 'Close'. To the right, a list of protocols is visible, including 'Diabetes Management Form', 'Diabetes-OLD Form', 'Diabetes Education', 'Dyspepsia Form', 'Headache Form', 'Lipid-NCEP III Form', 'Minor Procedures Form', 'Preventive Care Screening', and 'AUA Scoring'. At the bottom of the interface, there are buttons for 'Problems', 'Medications', 'Allergies', and 'Orders', along with a row of navigation buttons: 'HPI', 'Entry', 'Review', 'P-M-A', 'PMH', 'FH-SH', 'ROS', 'VS', 'PE', 'Probs', 'Test Mgmt', 'A/P', 'Pt. Instr', 'Defer', and '©'. At the very bottom, there are buttons for 'Prev Form (Ctrl+PgUp)', 'Next Form (Ctrl+PgDn)', and 'Close'.

What Nobody Sees: In the Background “Smart” Form with Embedded Algorithms

Cardiovascular Management-CCC:

Outcomes HTN/Lipids CAD/CHF FS/Reference

Current Medications (by Class) for Hypertension and Hyperlipidemia

ACE-I
LOTREL CAP 5-10MG ... ONE tablet by mouth EVERY DAY
Calcium Channel Blockers
LOTREL CAP 5-10MG ... ONE tablet by mouth EVERY DAY
Statins
LIPITOR 20 MG TABS ... One (1) tablet by mouth once a day

BP Goals ? JNC Recommended BP Goal 140 / 90 Current BP Goals 140 / 90

Stage of Hypertension at Time of Diagnosis:
Stage 1: SBP 140-159; DBP 90-99 Edit
BP today / Prior: 130/92 (12/03/2013)

CHD or CHD Equivalents ?
CHD CABG PVD CVA/TIA AAA Carotid Stenosis Diabetes

CHD Risk Factors ?
Age 45 + (male) yes
Cigarette Smoking former smoker
Hypertension yes
HDL < 40 yes
HDL 60 + (neg RF) no
FH CHD Female < 65 no
FH CHD Male < 55 no

10 Yr Risk CAD Calculation Modified CHD Risk Calculator 10 Yr CHD Risk: 9 %

Criteria points: Age: 3 LDL: -3 HDL: 2 BP: 2
Smoking: 0 Diabetes: 0 HTN: 1 Total: 5

Calculated Risk Category: Moderate Risk Alternate Assessment

Reason for Alternate Assessment

Insert optional LDL goal Insert calc. LDL goal LDL 130 Insert other goals=> HDL 40 Chol 200 Trig 150

Edit Med List

ASA/Antiplatelet Open

ACE-Inhibitors Open

ARB's Open

Beta Blockers Open

HTN Meds Open

Ca Chan Blockers Open

Diuretics Open

Lipid Meds Open

Glucophage Open

Insulin Open

Our Approach to Make Doing the Right Thing Easier AND Reduce Documentation Burden

- 'ABCs' prompts show protocol AND relevant prior information in the EHR
- The prompts also contain most all reasonable actions – adding / changing meds, creating referrals, etc. Checkbox choices also create documentation in the note AND structured data for future analysis and reporting.

MedStar Million Hearts: Aspirin for Primary Prevention of CHD in Men

Primary Prevention of CHD with Aspirin in Men may be indicated based on the most current evidence-based guidelines of the USPSTF. Consider ordering aspirin or antiplatelet medication now or else document contraindication, benefit does not outweigh risk, or patient declined.

USPSTF: Age 45-59 years and 10-year CHD risk \geq 4%
USPSTF: Age 60-69 years and 10-year CHD risk \geq 9%
USPSTF: Age 70-79 years and 10-year CHD risk \geq 11%

Patient 10 Year Risk CHD: 27 %
Aspirin Contra: N/A Aspirin Declined: N/A

☐ Aspirin May Be Indicated based on age and 10 Yr CHD risk \geq 9% (USPSTF): Order Now
☐ Aspirin CONTRAINDICATED for medical reasons
☐ Aspirin benefit NOT felt to outweigh risk at this time - not indicated
☐ Aspirin DECLINED by patient

(C) 2010

Check All Clear All Close

What Our Primary Care Providers See

HPI-ROS-CCC: [Redacted]

General HPI | Specialty-Specific | Extra Hx-1 | Extra Hx-2 | Extra Hx-3 | Extra Hx-4

History of Present Illness | Select Specialty: Internal Medicine | **View All Protocols**

PCP: Peter Basch MD | Ref Provider: [Redacted]

MedStar Million Hearts: Blood Pressure Management and Treatment to Goal

MedStar Million Hearts: Cardiovascular Risk Reduction Goals NOT Met

Based on this patient's current risk factors, blood pressure goals, and lipid goals, one or more items do not meet guidelines or treatment goals. Please address any unmet goals or document any exemptions.
NOTE: N/A means that no data is currently available for this item.

10 Year Risk CHD: 9 % | Cardiac Risk Category: Moderate Risk
FH CHD/MI in Male < 55 Years: no | FH CHD/MI in Female < 65 Years: no

Aspirin Contra: N/A | Aspirin Declined: N/A

Last BP: 145/98 (02/20/2014) | BP Goal < 140/90

Last LDL: 53 (08/14/2013) | LDL Goal < 130
Last HDL: 29 (08/14/2013) | HDL Goal > 40
Statin Contra: N/A | Statin Declined: N/A

Smoking Status: former smoker (11/15/2013)

☐ Permanently Shut-Off Prompt: Not indicated based on patient condition
☒ Blood Pressure Control / Goals NOT MET: Act Now

(C) 2013 | Check All | Clear All | Close

☐ Review of home BP monitoring shows BPs at goal. Enter value in working BP field of VS-4 Form

(C) 2013 | Check All | Clear All | Close

HPI | Entry | Review | P-M-A | PMH | FH-SH | ROS | VS | PE | Probs | Test Mgmt | A/P | Pt. Instr | Defer | ©

Prev Form (Ctrl+PgUp) | Next Form (Ctrl+PgDn) | Close

What Patients See



You have the power.

When it comes to your health, there's no one more powerful than you.

Join MedStar Health, the largest healthcare provider in Maryland and the Washington, D.C., region, as we partner with Million Hearts™, a nationwide campaign to prevent one million heart attacks and strokes in five years.

You pledge to take control of your heart health, and we pledge to educate and motivate you by providing the latest information on heart disease prevention and care—for **FREE**. We will also offer low-cost screenings to help keep your blood pressure and cholesterol levels under control.

Visit medstarhealth.org/millionhearts to join the fight.

 **MedStar Health**

Knowledge and Compassion
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Washington Primary Care Physicians

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September 30, 2012

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Patient Information - MedStar Million Hearts

For:



MedStar Million Hearts™ – What You Can Do to Reduce Your Risk of Heart Attack and Stroke

Heart disease and stroke are unfortunately all too common in the United States, with over a 1.5 million people suffering a heart attack or stroke each year. It is widely believed that more consistent attention to 4 items, known as the “ABCs” can reduce the number of new heart attacks and strokes by 1 million over 5 years. Here is your personal “ABCs” report.

ABCs Report – prepared for

on September 30, 2012

Aspirin may reduce the risk of heart attack and stroke. If your provider has recommended you take Aspirin, please take the Aspirin as directed (see your current medication list for the exact dose and directions). Please let your provider know if you develop any abnormal bleeding or stomach pain, or if you think you are having side effects to aspirin.

Blood Pressure

Having a normal blood pressure may reduce your risk of heart attack and stroke. Your most recent blood pressure was 122/78 on 09/30/2012. Your blood pressure goal is LESS than 140/90. Your blood pressure is where it should be. To keep it that way, please continue a healthy diet, regular exercise, and if on medication, medication as directed.

Cholesterol

Having normal cholesterol may reduce your risk of heart attack and stroke. Your most recent HDL or good cholesterol was 60 on 09/30/2012, and your most recent LDL or bad cholesterol was 80 on 09/30/2012. Your cholesterol goals are: HDL (good cholesterol) GREATER than 40 and LDL (bad cholesterol) LESS than 160. Your cholesterol is where it should be.

Smoking

Not smoking is one of the most important ways to reduce your risk of heart attack and stroke, as well as reduce your risk for many other conditions, such as cancer. Our records show your smoking status as: never smoker on 09/30/2012. Thank you for not smoking.

MedStar Million Hearts – Year 1

All 2017 Targets Exceeded!

Intervention	National Baseline 2012	National Goal 2017	MedStar Health December 2013
Aspirin for those at high risk	47%	70%	86%
Blood Pressure – screening and control	46%	70%	71%
Cholesterol – screening and control	33%	70%	77%
Smoking Cessation	21%	70%	87%



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Expectations Have Increased / Performance May Be Slipping



- With new reporting tool - @ at control per NQF 0018 = 67%
- We have not yet modified reports to accommodate JNC 8

Challenges to Improving Performance

Relatively Easy

- Goal setting
- Consistent presentation to provider / patient of BP not at goal
- Achieving consensus on new blood pressure guidelines
- Retooling our EHR algorithms, forms and rules engine to JNC 8
- Patient engagement
- PCP engagement

It's Complicated

- Getting accurate reports
- Avoiding “whatever” even when reports are accurate
 - Which BP should count?
 - Whose BP should count?
 - Should any single BP count (even our own)?
 - Which patients are attributed to me?
 - NQF 0018
 - Based on JNC 7
 - Last BP of the measure period

Reporting

- Attribution to provider – 1 visit during the measure period
- BP done during measure period
- BP goal set ANYTIME
- BP can be recorded in any of ~ 10 fields
- Last recorded BP by anyone counts

Which BP should count?

Serial Assessments Time of Assessment Record

Select Working BP

Select ONE BP to insert into the 'BP Decision' field, then click 'CLOSE':

- ☐ 145/98 (BP Sitting)
- ☐ 138/88 (BP Lying)
- ☐ 140/92 (BP Standing)
- ☐ 136/94 (BP 2nd reading)
- ☐ 132/88 (BP 3rd reading)

(C) 2013

Check All Clear All Close

Whose BP Should Count?

Putting aside decisions about attention to one's own readings and appropriate management...in a multi-specialty environment...

- Patients with last BP elevated
 - Provider less likely to have repeated BP where first BP done by MA was NOT at goal
 - Provider less likely to have selected a Decision Point BP where multiple BPs entered
 - BPs done by providers or staff (outside of PCP, renal, cardiology setting) – more likely to be ignored if not at goal, not repeat, not flagged to patient or PCP

Do We Dismiss Single BP Readings (Even Our Own)?



- 1st reading elevated – was going to take it again – never got around to it
- Patient forget meds, having a bad day, was rushing, in pain, etc.
 - Remember diabetes management before A1C became generally available?

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Taking Action on Other's Patients

- Unpublished research - PCPs read / respond to preventive / chronic care alerts more – when the is identified as “my patient”
- Still as sense of surprise / lack of fairness when docs are held responsible for long-term care for patients seen once / under the care of others

NQF 0018

- Singular goal (<140/<90) – not in keeping with current guidelines
- Where we know that
 - Blood pressure is intrinsically labile...
 - We require multiple readings to establish a diagnosis of hypertension...
 - Blood pressure control is affected by many temporal variables (pain, anxiety, lack of a dose of medicine, etc.)...
 - Except where automated cuffs used by appropriately trained people, BP readings are highly variable...
 - **Does it make sense to have a single reading (last one of the measure period) determine control status for the year?**

Moving Beyond “It’s Complicated”

- At best, EHRs and reports are excellent vehicles for displaying information, trends, at-goal status
 - More often – doing an inadequate job due to technology immaturity, competing development requirements, etc.
- EHRs and reports can serve as infrastructure for improving consistency in diagnosis of HBP, and moving patients with HBP closer to 100% at goal
- As with most QI projects using health IT – the above will not happen with addressing the complexities discussed on the previous slides

Questions???

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