Population Health: Chronic Disease Prevention and Quality Improvement

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Presented by
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Learning Objectives

► Why it is important to transform clinical practice
► What is population based care
► Why prevention and management of chronic disease is the key to success
► Using quality improvement tools to manage populations
Hierarchy of Needs in the 15-minute Visit

1. The Urgent
   - Acute illness or injury, paperwork, psychosocial crisis, getting the meds straight

2. Chronic Disease Management

3. Preventive Care

4. Self-Management Support
<table>
<thead>
<tr>
<th>Current State</th>
<th>Future State</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Reactive”</td>
<td>“Proactive”</td>
</tr>
<tr>
<td>Limited access</td>
<td>Expanded access</td>
</tr>
<tr>
<td>Provider-delivered care</td>
<td>Team-delivered care</td>
</tr>
<tr>
<td>Paper-driven</td>
<td>Data-driven</td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>Quality Improvement</td>
</tr>
<tr>
<td>“Siloed” care</td>
<td>Coordinated &amp; Integrated care</td>
</tr>
<tr>
<td>Health plan-directed Disease Management</td>
<td>Provider/Team-directed Disease Management</td>
</tr>
<tr>
<td>Fee-for-service</td>
<td>Global payment &amp; shared savings</td>
</tr>
</tbody>
</table>
CMS support of health care Delivery System Reform will result in better care, smarter spending, and healthier people.

**Historical state**
- **Key characteristics**
  - Producer-centered
  - Incentives for volume
  - Unsustainable
  - Fragmented Care
- **Systems and Policies**
  - Fee-For-Service Payment Systems

**Evolving future state**
- **Key characteristics**
  - Patient-centered
  - Incentives for outcomes
  - Sustainable
  - Coordinated care
- **Systems and Policies**
  - Value-based purchasing
  - Accountable Care Organizations
  - Episode-based payments
  - Medical Homes
  - Quality/cost transparency

**Public and Private sectors**
CMS has adopted a framework that categorizes payments to providers:

**Category 1:**
- **Fee for Service**
- **No Link to Value**
- Payments are based on volume of services and not linked to quality or efficiency

**Category 2:**
- **Fee for Service**
- **Link to Quality**
- At least a portion of payments vary based on the quality or efficiency of healthcare delivery

**Category 3:**
- **Alternative Payment Models**
- **Built on Fee-for-Service Architecture**
- Some payment is linked to the effective management of a population or an episode of care
- Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk

**Category 4:**
- **Population-Based Payment**
- Payment is not directly triggered by service delivery so volume is not linked to payment
- Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g., ≥1 year)

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### Medicare Fee-for-Service Examples

- Limited in Medicare fee-for-service
- Majority of Medicare payments now are linked to quality

### Additional Examples

- Hospital value-based purchasing
- Physician Value Modifier
- Readmissions / Hospital Acquired Condition Reduction Program
- Accountable Care Organizations
- Medical homes
- Bundled payments
- Comprehensive Primary Care initiative
- Comprehensive ESRD
- Medicare-Medicaid Financial Alignment Initiative Fee-For-Service Model
- Eligible Pioneer Accountable Care Organizations in years 3-5
- Maryland hospitals

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Target percentage of payments in ‘FFS linked to quality’ and ‘alternative payment models’ by 2016 and 2018

- **Alternative payment models (Categories 3-4)**
- **FFS linked to quality (Categories 2-4)**
- **All Medicare FFS (Categories 1-4)**

**Historical Performance**
- 2011: 0% (Alternative payment models), 68% (FFS linked to quality), 32% (All Medicare FFS)
- 2014: ~20% (Alternative payment models), >80% (FFS linked to quality), 10% (All Medicare FFS)

**Goals**
- 2016: 30% (Alternative payment models), 85% (FFS linked to quality), 5% (All Medicare FFS)
- 2018: 50% (Alternative payment models), 90% (FFS linked to quality), 0% (All Medicare FFS)
Accountable Care Organizations

Essential Characteristics:

► Complete and timely information about patients and services received
► Technology and skills for population management and care coordination
► Resources for patient education and self-management
► Culture of teamwork
► Relationships with specialists and hospitals
► Ability to measure and report on quality
► Infrastructure and skills for managing risk
► Operational accountability and commitment to improve value

Adapted from “How to Create Accountable Care Organizations”, Miller, HD, CHQPR.org 2009
The Chronic Care Model

Community
- Resources and Policies
- Self-Management Support

Health Systems
- Organization of Health Care
  - Delivery System Design
  - Decision Support
  - Clinical Information Systems

Improved Outcomes
- Informed, Activated Patient
- Productive Interactions
- Prepared, Proactive Practice Team

Developed by The MacColl Institute
© ACP-ASIM Journals and Books

http://www.improvingchroniccare.org/index.php?p=Chronic+Care+Model&s=124
Refinements to CCM

► Patient safety (in Health System);
► Cultural competency (in Delivery System Design)
► Care coordination (in Health System and Clinical Information Systems)
► Community policies (in Community Resources and Policies)
► Case management (in Delivery System Design)

(accessed November 6, 2013)
Population-based Approach

- Identify patients in priority populations and then offer a variety of services to meet their needs.
- Each population-based program has measurable goals and plans for improvement which include:
  - Defining eligibility criteria for the identified population.
  - Defining evidence-based guidelines to guide care.
  - Defining measures to track performance.
  - Developing tools to assist practitioners in caring for these members, such as registries, panel reports, pamphlets, and other self-management tools.
An Improvement Story: Mammography rates -

- The multispecialty group had:
  - approx. 250,000 patients
  - 125 physicians
  - 10 offices
  - Wanted to be known for high quality of care (HEDIS)

- Already adopted evidence based guidelines

- Group performance measured below national average

- Wide variation around the geographical region, within facilities, among practitioners
Population of Focus

- All plan patients
- Women
- Over 50
- Mammogram
- Unscreened

Population of Focus
Outcome Measure Denominator
Outcome Measure Numerator
Road to Improvement: Over 3 years

- **Step 1** – assembled a quality improvement team
- **Step 2** – determined baseline performance (73.8%)
- **Step 3** – ensured that all practitioners knew the evidence based guidelines (CME)
- **Step 4** – provided education to patients about the recommendations, covered benefit, location of services (posters, mailings, newsletters)
- **Step 5** – analyzed data - geo maps
► **Step 6** – increased access – van transportation
► **Step 7** – increased access - Saturday hours
► **Step 8** – increased access – satellite facilities
► **Step 9** – patient surveys of unscreened
► **Step 10** – created a fact sheet to address reasons for not being screened *

<table>
<thead>
<tr>
<th>Too painful</th>
<th>Fear of finding a lump</th>
<th>Controversy over frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have a pacemaker</td>
<td>Not interested</td>
<td>Bad experience</td>
</tr>
<tr>
<td>Breasts too small</td>
<td>Not recommended by PCP</td>
<td>Don’t believe in them</td>
</tr>
</tbody>
</table>

► **Step 10** – tracked improvement rate – 84.3%
► **Step 11** – *Celebrated Success*

*The Permanente Journal/ Winter 2005/ Volume 9 No. 1*
Ideal Distribution of Healthcare Services

- Health Maintenance
- Multiple Chronic Conditions
- Single Chronic Condition
- Complex Cases

Intense case management services
Disease management services
Focus on disease prevention, wellness
200,000 Preventable Deaths from Heart Disease and Stroke

► Many of the deaths caused by heart disease and stroke are preventable

► Preventable deaths are those attributed to lack of preventive health care or timely and effective medical care
Health Disparities

► African-Americans develop high blood pressure more often, and at an earlier age, than whites and Hispanics do.
► African-Americans are nearly twice as likely as whites to die early from heart disease and stroke.
► American Indians and Alaska Natives die from heart diseases at younger ages than other racial and ethnic groups in the United States. 36% of those who die of heart disease die before age 65.

Source:
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.
Heart Age: Is Your Heart Older Than You?

For most US adults ages 30-74, their heart age is much older than their actual age, especially for men (average of 8 years older, compared to an average of 5 years among women) and African Americans (average of 11 years older for both men and women). These groups also are more likely to have risk factors that increase heart age.*

<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>AFRICAN AMERICAN</th>
<th>HISPANIC</th>
<th>NON-HISPANIC WHITE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEN</td>
<td>WOMEN</td>
<td>MEN</td>
</tr>
<tr>
<td>Are current smokers</td>
<td>26%</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td>Have high blood pressure</td>
<td>42%</td>
<td>44%</td>
<td>31%</td>
</tr>
<tr>
<td>Have diabetes</td>
<td>13%</td>
<td>15%</td>
<td>13%</td>
</tr>
<tr>
<td>Are overweight or obese</td>
<td>78%</td>
<td>79%</td>
<td>80%</td>
</tr>
</tbody>
</table>


*:Percent of adults with risk factors included in the Framingham Heart Age calculator that increase their heart age.

http://www.cdc.gov/vitalsigns/heartage/
Screening for Hypertension

The U.S. Preventive Services Task Force (USPSTF) recommends screening for high blood pressure in adults aged 18 and older. (This is a grade "A" recommendation)

Screen:
- Every 2 years - blood pressure less than 120/80 mm Hg
- Yearly - systolic 120 - 139 mm Hg or diastolic 80 - 89 mm Hg

Screening for Hypertension (cont’d)

► Hypertension diagnosed - 2 or more elevated readings on at least 2 visits over a period of 1 to several weeks

► Use code R03.0 (ICD-10) - Elevated blood-pressure reading, without diagnosis of hypertension

► Hypertension definition - adults with:
  – Systolic - of 140 mmHg or higher or
  – Diastolic - of 90 mmHg or higher

Only Half of Americans with Hypertension Have It Under Control

72 MILLION
ADULTS WITH HYPERTENSION (31%)

Awareness and Treatment among Adults with Uncontrolled Hypertension

35 MILLION
ADULTS WITH UNCONTROLLED HYPERTENSION

Prevalence of Uncontrolled Hypertension by Selected Characteristics

Million Hearts®

Goal: Prevent 1 million heart attacks and strokes by 2017

- National initiative co-led by CDC and CMS
- In partnership with federal, state, and private organizations
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
Million Hearts Progress to Date

- Engagement and activation
- Clinical Quality Measure alignment
- Understand what works, where, and why
- Resources that help
- Focus on what makes a difference

125 partners, 50 states, coalitions, >58K subscribers, 135 Congregations

Champions

Guides, Healthy Eating Center, CQM Dashboard, Protocols, Funding

6.3M smokers quit
10M people with hypertension achieve control
20% less sodium each day

Focus on those with the greatest burden and at the greatest risk
Million Hearts® Clinical Quality Dashboard Performance on the “S”

Performance Targets
Million Hearts® Clinical Target = 70%
Red = 0%-49%
Yellow = 50%-69%
Green = 70%+

Smoking Assessment and Treatment 2011

Smoking Assessment and Treatment 2012

Smoking Assessment and Treatment 2013

Smoking Assessment and Treatment 2014

http://millionhearts.hhs.gov/aboutmh/cqm_dashboard.html
# Hypertension Control – 2013 Georgia

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Performance Rate</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRSA UDS</td>
<td>61%</td>
<td>70%</td>
</tr>
<tr>
<td>HEDIS Commercial</td>
<td>61%</td>
<td>70%</td>
</tr>
<tr>
<td>HEDIS Medicaid</td>
<td>47%</td>
<td>70%</td>
</tr>
<tr>
<td>PQRS GPRO</td>
<td>67%</td>
<td>70%</td>
</tr>
<tr>
<td>PQRS ACO</td>
<td>60%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Standardized HTN Treatment Protocols

► [http://millionhearts.hhs.gov/resources/protocols.html](http://millionhearts.hhs.gov/resources/protocols.html)

► Evidence-based protocols examples:
  – U.S. Department of Veterans Affairs
  – Kaiser Permanente
  – Institute for Clinical Systems Improvement
  – NYC Health and Hospitals Corporation

► Customizable template

► Key protocol components

► Implementation guidance
Recommended Elements of Effective Hypertension Protocols

► Clarity and simplicity
► Lifestyle modification
► Treatment by stage of hypertension
► Time interval to titration and reassessment
► Use of low-cost 1st-line treatment
► Exclusions and suggestions for medications based on concurrent medical conditions
Recommended Elements (continued)

► Recommended lab tests
► Reminder of the underlying causes of non-essential or secondary hypertension
► Adherence-enhancing approaches such as fixed dose and/or combination drugs
► Indications for referral to hypertensive specialist
► Number needed to treat to avoid a clinical event
► Supporting references
► Congruent with current guidelines
Implementing a Hypertension Protocol

► Make hypertension control a priority
► Fully use the expertise and scope of practice of every member of the health care team
► Include the patient and family as key team members
► Conduct pre-visit planning care
► Learn about community resources and Recommend them to patients
► Look for opportunities to check in with patients and adjust medication dose as needed
“To help ensure homogeneity of practice delivered, the hypertension treatment had to be standardized as well. This meant that an internal treatment guideline was needed.”
“Across all ages, races, and sexes, hypertension control has exceeded 80%.”

Protocol Implementation:
How Can A Practice Get Started?

► Make decisions about roles, content, meds, more
  – Workflow of BP measurement and recording
  – What lifestyle advice will you give? By whom? When? How?
  – Which medications will you use and at what dosages?
  – What are your target goals and for what ages?
  – How often to re-check and titrate? Who does this? How?
  – How will you define and manage resistance?

► Track implementation weekly; share monthly control rates

► Celebrate your success along the way
Self-Measured Blood Pressure Monitoring: Action Steps for Clinicians

- Guidance for clinicians on SMBP
- Teach patients to use monitors
- Check home machines for accuracy
- Suggested protocol for home monitoring
- Guidance on establishing a patient-clinician feedback loop

What's the big deal about controlling my blood pressure?

Small changes can make a huge difference:
- A 30-minute walk every day can drop your blood pressure 10 points.
- Losing 5-10 pounds can drop your blood pressure 5 or more points.
- Quitting smoking can drop your blood pressure 5-10 points.
- Every 5 points decrease in blood pressure reduces:
  - Risk of stroke by 34%
  - Risk of heart attack by 21%

Name ____________________________
ID ________________________________

My blood pressure goal __________________ / ________________

Using Quality Improvement Tools To Manage Populations
Defining the Population of Focus

All Clinic Patients
- Adult Patients
- Diagnosis of HTN
- BP Measured
- Blood Pressure Controlled

Outcome Measure Denominator:
Population of Focus
Outcome Measure Numerator
Model for Improvement

What are we trying to accomplish?

How will we know a change is an improvement?

What change can we make that will result in improvement?

Aim

Measures

Ideas

ACT

PLAN

STUDY

DO
Project Flow Over Time

1. Define population and measures
2. Develop Aim
3. Obtain baseline measures
4. Set measurable goals

RCA

Re-measure

PDCA

PDCA

PDCA
Aim Statement

**S**pecific

**M**easureable

**A**ttainable

**R**elevant/realistic

**T**imely
Aim Statement Examples

A. We will increase the amount of patients with blood pressure under control among our clinic patients. (weak)

B. In three months, patients who have uncontrolled blood pressure will be requested to perform self monitoring of blood pressures. (better)

C. By December 2015, we will increase the number of people with hypertension who have a normal blood pressure from 50% to 55% by utilizing a nurse visit protocol (strong)
Diagnosis of Hypertension

Blood Pressure Measured

Quantifiable Data Segment: used to monitor change in improvement

Blood Pressure Under Control

Clinic Visit

On Medications

Measure in 6 Months

Track When Next Due

NO

YES
## Root Cause Analysis Example

<table>
<thead>
<tr>
<th>Aim Statement – BP monitored</th>
<th>Aim Statement – On medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% of Population of Focus will have an clinic visit within the next 6 months</td>
<td>By the end of December, 2015, the 55% of patients with blood pressure under control</td>
</tr>
<tr>
<td><strong>Baseline – 61%</strong></td>
<td><strong>Baseline – 50% under control</strong></td>
</tr>
<tr>
<td><strong>Root Cause Analysis – BP monitored</strong></td>
<td><strong>Root Cause Analysis – On a medication</strong></td>
</tr>
<tr>
<td>Short Staff</td>
<td>Failure to keep appointments/take meds/follow diet</td>
</tr>
<tr>
<td>Availability of equipment</td>
<td>Transportation</td>
</tr>
<tr>
<td>Lack of standing orders</td>
<td>Provider inertia</td>
</tr>
<tr>
<td>Provider inconsistency</td>
<td>Family support – patient stubbornness</td>
</tr>
<tr>
<td>Not maximizing the use of pt. alerts/notifications</td>
<td>Adherence</td>
</tr>
<tr>
<td><strong>Lack of training (MAs)</strong></td>
<td>Lack of home monitoring</td>
</tr>
<tr>
<td></td>
<td><strong>Lack of exercise</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Psychological – depression, anxiety</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Environmental</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Financial limitations</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Patient denial</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Personal habits – smoking/illicit drug use</strong></td>
</tr>
</tbody>
</table>
PDSA Cycle for Process Improvement

**ACT**
- What changes are to be made?
- Next cycle?

**PLAN**
- Objective
- Questions and predictions
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection

**STUDY**
- Complete the analysis of the data
- Compare data to predictions
- Summarize what is learned

**DO**
- Carry out the plan
- Document the problems and unexpected observations
- Begin analysis of the data
<table>
<thead>
<tr>
<th>Role</th>
<th>Check In</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receptionist</td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>Vitals taken</td>
</tr>
<tr>
<td></td>
<td>rooms patient</td>
</tr>
<tr>
<td>Physician</td>
<td>performs exam</td>
</tr>
<tr>
<td></td>
<td>reviews labs, writes orders</td>
</tr>
<tr>
<td>Lab</td>
<td>performs UA, A1C</td>
</tr>
<tr>
<td>Health Education</td>
<td>education provided</td>
</tr>
<tr>
<td>Referrals</td>
<td>process referral</td>
</tr>
<tr>
<td>Billing Desk</td>
<td>pays bill books next appt</td>
</tr>
</tbody>
</table>
Final Advice

- Team is Critical
- Use QI tools for structure and documentation
- Go for Low Hanging Fruit
- Celebrate and Recognize
- Remind everyone why we are here... for Patients!
Making Health Care Better
Evaluation

- Please take < 90 seconds to evaluate this session.
- Time permitting, speaker will take questions following evaluation.
- Responses are not displayed and are important in maintaining high quality education.
The overall performance of the speaker:

1. Poor
2. Fair
3. Average
4. Good
5. Excellent

According to the bar chart, 63% of respondents rated the speaker as Excellent, 29% as Good, 8% as Average, 0% as Fair, and 0% as Poor.
How well were the learning objectives met?

1. Poor
2. Fair
3. Average
4. Good
5. Excellent

70% Excellent
22% Good
5% Average
0% Fair
3% Poor
Did speaker present a balanced view of therapeutic options?

1. Yes
2. No
3. N/A
How useful will this session be in your practice?

1. Poor
2. Fair
3. Average
4. Good
5. Excellent

![Graph showing percentages for each rating: 6% Poor, 2% Fair, 16% Average, 29% Good, 47% Excellent]
As a result of this program, do you intend to change your patient care?

1. Yes
2. No

75%
25%
Thank you!