Preventing A Million Heart Attacks and Strokes: A Turning Point for Impact
Million Hearts®: Where We Are and Where We Need to Go

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Executive Director, Million Hearts®
Division for Heart Disease and Stroke Prevention, CDC
Center for Medicare and Medicaid Innovation
Heart Disease and Stroke: Deadly, Costly, Unequal

- More than 1.5 million heart attacks and strokes each year

- Cause of 1 of every 3 deaths
  - 800,000 cardiovascular disease deaths
  - $315.4 billion in healthcare costs and lost productivity

- Leading contributor to racial disparities in life expectancy
...and Preventable

Each year, 200,000 preventable deaths from heart disease and stroke occur in people under 75 years old.
Million Hearts®

Goal: Prevent 1 million heart attacks and strokes by 2017

- US Department of Health and Human Services 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
Keeping Us Healthy

Changing the environment

AbcS:
- Aspirin when appropriate
- Blood pressure control
- Cholesterol management
- Smoking cessation

Excelling in the ABCS

Optimizing care

Focus on the ABCS

Health information technology

Innovations in care delivery

Health Disparities
### Preventing a Million: Targets for Our Environment

<table>
<thead>
<tr>
<th>Intervention</th>
<th>2009 - 2010 Pre-Initiative Estimate</th>
<th>2017 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking prevalence</td>
<td>26%</td>
<td>10% reduction (~24%)</td>
</tr>
<tr>
<td>Sodium reduction</td>
<td>3580 mg/day</td>
<td>20% reduction (~2900 mg/day)</td>
</tr>
<tr>
<td>Trans fat reduction</td>
<td>0.6% of calories</td>
<td>100% reduction (0% of calories)</td>
</tr>
</tbody>
</table>

National Survey on Drug Use and Health 2009-2010
National Health and Nutrition Examination Survey 2009-2010
## Preventing a Million: Targets for Optimizing Care

<table>
<thead>
<tr>
<th>Intervention</th>
<th>2009 - 2010 Pre-Initiative Estimate</th>
<th>2017 Population-wide Target</th>
<th>2017 Clinical Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin when appropriate</td>
<td>54%</td>
<td>65%</td>
<td>70%</td>
</tr>
<tr>
<td>Blood pressure control</td>
<td>53%</td>
<td>65%</td>
<td>70%</td>
</tr>
<tr>
<td>Cholesterol management</td>
<td>33%</td>
<td>65%</td>
<td>70%</td>
</tr>
<tr>
<td>Smoking cessation</td>
<td>22%</td>
<td>65%</td>
<td>70%</td>
</tr>
</tbody>
</table>

National Ambulatory Medical Care Survey, National Health and Nutrition Examination Survey
### Million Hearts® Lessons Learned: Getting to Goal

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>◼ Perception that heart attack and stroke are inevitable</td>
<td>◼ Clear, consistent, compelling action steps; real-life high-performers</td>
</tr>
<tr>
<td>◼ Competing priorities</td>
<td>◼ Making cardiovascular health a national priority</td>
</tr>
<tr>
<td>◼ Incomplete adoption of evidence-based approaches</td>
<td>◼ Practical, ready-to-use tools and resources; value-based models of care</td>
</tr>
<tr>
<td>◼ Isolated efforts</td>
<td>◼ Collaboration is key</td>
</tr>
</tbody>
</table>
Million Hearts® Progress

- **Goal of Million Hearts® resonates**
  - 1.3 million hits to website, 48,000 e-newsletter subscribers

- **Strong teamwork across HHS and beyond**
  - Measure alignment (comparing apples to apples)
  - Data-sharing and analysis
  - Tool development and sharing

- **Successes in the field**
  - Champions are teaching what works
  - Programs are aligning for reach and impact
# Monitoring Progress
## Short-term Outcomes

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Data Source</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient EHR adoption</td>
<td>NAMCS EHR supplement</td>
<td>34%</td>
<td>40%</td>
<td>48%</td>
</tr>
<tr>
<td>Clinical Quality Measure Reporting</td>
<td>PQRS GPRO (ABCS)</td>
<td>n=46</td>
<td>n=58</td>
<td>n=147*</td>
</tr>
<tr>
<td>Sodium procurement policies</td>
<td>Chronic disease state policy tracking system</td>
<td>2</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>100% smoke-free coverage in US</td>
<td>Americans for non-smoker’s rights; CDC</td>
<td>48.1%</td>
<td>48.9%</td>
<td>49.1%</td>
</tr>
<tr>
<td>E-update subscribers</td>
<td>Gov’t subscription service</td>
<td>34,071</td>
<td>38,344</td>
<td>43,726</td>
</tr>
</tbody>
</table>

Results as of August 2014 except *PQRS GPRO 2013 data preliminary, 09/16/14

EHR: Electronic health record
NAMCS: National Ambulatory Medical Care Survey
PQRS GPRO: Physician Quality Reporting System Group Practice Reporting Option
ABCS: Aspirin when appropriate, Blood pressure control, Cholesterol management, Smoking cessation
# Monitoring Progress

## Intermediate Outcomes

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Data Source</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspirin use</td>
<td>NAMCS</td>
<td>54%</td>
<td>Summer 2014</td>
<td>UNK</td>
</tr>
<tr>
<td></td>
<td>PQRS GPRO</td>
<td>N/A</td>
<td>83%</td>
<td>78%*</td>
</tr>
<tr>
<td>Blood pressure control</td>
<td>NHANES</td>
<td>53%</td>
<td>52%</td>
<td>2015</td>
</tr>
<tr>
<td></td>
<td>PQRS GPRO</td>
<td>68%</td>
<td>69%</td>
<td>62%*</td>
</tr>
<tr>
<td>Cholesterol management</td>
<td>NHANES</td>
<td>33%</td>
<td>43%</td>
<td>2015</td>
</tr>
<tr>
<td></td>
<td>PQRS GPRO</td>
<td>53%</td>
<td>56%</td>
<td>54%*</td>
</tr>
<tr>
<td>Smoking assessment and treatment</td>
<td>NAMCS</td>
<td>22%</td>
<td>Summer 2014</td>
<td>UNK</td>
</tr>
<tr>
<td></td>
<td>PQRS GPRO</td>
<td>N/A</td>
<td>87%</td>
<td>83%*</td>
</tr>
<tr>
<td>Current smoking prevalence</td>
<td>NSDUH (combustible tobacco)</td>
<td>26%</td>
<td>25%</td>
<td>Winter 2014</td>
</tr>
<tr>
<td></td>
<td>NHIS (cigarettes)</td>
<td>19%</td>
<td>18%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Sodium intake (mg/day)</td>
<td>NHANES</td>
<td>3594</td>
<td>Fall 2014</td>
<td>2016</td>
</tr>
</tbody>
</table>

Results as of August 2014 except *PQRS GPRO 2013 data preliminary, 09/16/14.
PQRS GPRO: Physician Quality Reporting System, Group Practice Reporting Option.
NHANES: National Health and Nutrition Examination Survey.
NHIS: National Health Interview Survey.

NAMCS: National Ambulatory Medical Care Survey.
UNK: Unknown.
N/A: Not available.
NSDUH: National Survey on Drug Use and Health.
Monitoring Progress
Long-term Outcomes

<table>
<thead>
<tr>
<th>Performance Indicators</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare Fee for Service - AMI and stroke hospitalization rates</td>
<td>CMS Dashboard (per 1,000 beneficiaries)</td>
</tr>
</tbody>
</table>

Results as of August 2014. CMS: Centers for Medicare & Medicaid Services. Rates are among those beneficiaries aged ≥65 years with Medicare Part A and B coverage and were adjusted to appropriately represent the number of full-time equivalent beneficiaries enrolled during the period and the 2010 Medicare population age distribution.
More smoke-free space means fewer heart attacks

- More than 125 communities have chosen to go smoke free

“Tips from Former Smokers”

- Boosts quit attempts

CVS Health® stops selling tobacco products

FDA’s artificial trans fat determination is pending

Power of procurement to increase availability of foods lower in sodium

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50 Years of Progress: A Report of the Surgeon General, 2014

MMWR 2012; 61: 667–70.

[www.no-smoke.org/pdf/current_smokefree_ordinances_by_year.pdf](http://www.no-smoke.org/pdf/current_smokefree_ordinances_by_year.pdf)
### Million Hearts® Progress

**Optimizing Care – Performance on ABCS**

“Dashboard” approach shows status of progress in ABCS by geographic area

<table>
<thead>
<tr>
<th>ABCS Million Hearts® Clinical Quality Measures</th>
<th>Delaware</th>
<th>HHS Region 3 Philadelphia</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Aspirin Use</td>
<td>78%</td>
<td>76%</td>
<td>75%</td>
</tr>
<tr>
<td>B. Blood Pressure Control</td>
<td>61%</td>
<td>63%</td>
<td>63%</td>
</tr>
<tr>
<td>Blood Pressure Screening</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>C. Cholesterol Management - Population</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Cholesterol Management - Diabetes</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Cholesterol Management - IVD</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>S. Smoking Assessment and Treatment</td>
<td>49%</td>
<td>63%</td>
<td>63%</td>
</tr>
</tbody>
</table>

**Red** = 0% - 49%; **Yellow** = 50% - 69%; **Green** = 70%+; **Grey** = no data available


HHS: Department of Health and Human Services

HRSA: Health Resources and Services Administration
Smoking Assessment and Treatment Performance Rates
Reported by HRSA Healthcare Sites

Performance Rate
- 0-49%
- 50%-69%
- 70%+
- No data available

State-level data available from Healthcare Effectiveness Data and Information Set, Uniform Data System, and Physician Quality Reporting System
Million Hearts® Progress
Addressing Health Disparities

- CDC-Association of State and Territorial Health Officials (ASTHO) Million Hearts® Hypertension Control Project
  - Ohio improved hypertension control among African American males
    - From 70% to 73% in 6 months in 11 healthcare sites

- CMS’ Quality Improvement Organizations (QIO)
  - Special projects in 3 states
    - Reaching over 1.9 million patients
    - Through 400+ practices and partners

- Community and faith-based organizations
  - NAACP
  - “100 Congregations” for Million Hearts®
What Must Happen to Prevent a Million Heart Attacks and Strokes by 2017?

- 6.3 million smokers must quit
- 10 million people must control their hypertension
- There must be a 20% reduction in sodium intake

Focus on populations with the greatest burden and at greatest risk
Success in Blood Pressure Control: 2013 Hypertension Champions

Andrew Tremblay, MD
Chair, Department of Primary Care
Cheshire Medical Center/Dartmouth-Hitchcock Keene
Our Three-part Aim

- Improve Health of All Residents
- Create a Culture of Health
- Decrease Medical Costs Allow Investment in Prevention
Integration of Public Health System and Medical Care System as a Strategic Concept

A TRANSFORMED HEALTH SYSTEM: PRODUCING HEALTHY PEOPLE IN HEALTHY COMMUNITIES

Public Health System (Healthy Community)

Medical Care System

Integration

Protective Factors and Resources

Protection of Vulnerable People

Patient Centered Primary Care

Complex Medical Care

Promotion, Prevention, Preparedness

Disease Care

Community Partners and Individuals

© Adapted by Y. Goldsberry, R. Fedrizzi, D. Bazos, L. Ayers LaFave and, J. Schlegelmilch from Centers for Disease Control and Prevention
38,000 active adult patients

Over 125 providers
  - Several multi-specialty groups

32% with hypertension
  - Over 12,000 individuals

8.5% Medicaid-eligible

3.7% racial or ethnic minority
Barriers to Optimal BP Control Observed at CMC/DHK

- Inconsistencies included
  - Work flow between primary care teams (medical homes) and providers
  - Engagement of specialty care departments
  - Documentation, especially of second BP readings (dictation and vital flow sheet) by providers into EMR
  - Inconsistent BP technique and multiple brands of equipment
  - Lack of timely maintenance and calibration of equipment

EMR: Electronic Medical Record
Additional Barriers Observed at CMC/DHK

- Cost barrier of blood pressure rechecks and lack of consistent, centralized process
- Lack of resources to effectively manage registries
- No agreement on universal triage and treatment algorithms
- Varied process for flow staff to notify provider of elevated blood pressure
- Lack of engagement and alignment of patients and the community
Strategies deployed to improve HTN control

- Multidisciplinary Quality Improvement Team
  - Hypertension Champions

- Free nurse clinics
  - Eliminated cost barriers
  - Implemented protocol based modifications

- Electronic Health Record Use
  - Provider-specific registry coordination

- Behavioral health strategies used to engage patients in convenient locations (e.g., YMCA, work, home)

HTN: Hypertension
10 Strategies for Success

1. **Convened a multi-disciplinary team**
   - Grounded in our quality improvement framework and Clinical-Community Integration Model
   - Won the 2014 CMC/DHK Chairman’s Award

2. **Surveyed primary care providers and nursing staff about their barriers to adequate blood pressure control**

3. **Calibrated all cuffs and standardized future purchasing**

4. **Created a core competency for nursing staff in all departments and community partners**
   - YMCA, nursing homes and visiting registered nurses

5. **Distributed a single blood pressure brochure throughout the community**
   - Consistent message and care plan prompt

QI: Quality improvement
CMC/DHK: Cheshire Medical Center/Dartmouth-Hitchcock Keene
6. Created a nurse clinic
   - No-cost blood pressure rechecks and triaging

7. Created single evidence-supported triage and treatment algorithms
   - For primary care, specialty care, and community

8. Provided individual provider registries
   - Monthly data feedback
   - Increased the number of registry managers

9. Incentivized providers for meeting blood pressure control targets

10. Widely distributed “Know Your Numbers” wallet cards
    - More than 12,000 issued
### Provider-specific Registry Management

#### Example of Provider-specific Registry with personal identifiers removed

<table>
<thead>
<tr>
<th>PCP</th>
<th>MRN</th>
<th>PATIENT NAME</th>
<th>FSC</th>
<th>VALUI</th>
<th>BP Date</th>
<th>PCP Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>140/80</td>
<td>8/13/2012</td>
<td>F/UP PCP 10/23/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>140/58</td>
<td>4/26/2012</td>
<td>F/UP PCP 10/25/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>142/80</td>
<td>4/3/2012</td>
<td>F/UP PCP 10/26/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>140/90</td>
<td>6/14/2012</td>
<td>F/UP PCP 11/16/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>142/70</td>
<td>7/23/2012</td>
<td>F/UP PCP 11/20/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>142/80</td>
<td>8/21/2012</td>
<td>F/UP PCP 12/11/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>158/68</td>
<td>8/2/2012</td>
<td>Going to FL for winter 10/18/12 cannot come in. 10/16/12</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>158/76</td>
<td>9/9/2011</td>
<td>in rehab in FLORIDA</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>148/70</td>
<td>3/14/2012</td>
<td>I/m 6/27 + 7/24 Needs to schedule bp ck in NUC.</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>140/90</td>
<td>12/12/2011</td>
<td>LMTCB needs pcp f/up</td>
</tr>
<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>150/98</td>
<td>8/2/2012</td>
<td>NUC BP ck 10/15/12</td>
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<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>144/78</td>
<td>6/18/2012</td>
<td>Updated BP 9/18/12 = 122/80</td>
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<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>148/88</td>
<td>6/26/2012</td>
<td>Updated BP 10/15/12 = 161/93,NUC</td>
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<tr>
<td>TREMBLAY, ANDREW</td>
<td></td>
<td>TREMBLAY, ANDREW</td>
<td>MEDICARE</td>
<td>142/78</td>
<td>8/16/2012</td>
<td>Updated BP 10/5/12 = 120/70</td>
</tr>
</tbody>
</table>
Tracking Progress Through Provider-specific Registry Management

Dr. Tremblay's HTN Registry #’s 2012

<table>
<thead>
<tr>
<th>Month</th>
<th>Total # pt's with elevated HTN</th>
<th>Total # Medicare pt's with elevated HTN</th>
<th>Total # Non-Medicare pt's with elevated HTN</th>
</tr>
</thead>
<tbody>
<tr>
<td>June</td>
<td>162</td>
<td>49</td>
<td>113</td>
</tr>
<tr>
<td>July</td>
<td>155</td>
<td>53</td>
<td>102</td>
</tr>
<tr>
<td>Aug</td>
<td>144</td>
<td>45</td>
<td>99</td>
</tr>
<tr>
<td>Sept</td>
<td>110</td>
<td>25</td>
<td>85</td>
</tr>
</tbody>
</table>

- **Total # pts with evaluated HTN**
- **Total # Medicare pts with elevated HTN**
- **Total # Non-Medicare pts with elevated HTN**

Provider specific feedback provided both as charts and graphs

HTN: hypertension
Integration Applied to Million Hearts® Initiative

Public Health System (Healthy Community)

Integration

Medical Care System

Tobacco control advocacy, HeartSafe designation

Know Your Numbers card, healthy eating and active living initiatives

Improved blood pressure control, cholesterol screening

Optimal CVD medication compliance and treatment

Disease Care

Promotion, Prevention, and Preparedness

Community Partners and Individuals

© Adapted by Y. Goldsberry, R. Fedrizzi, D. Bazos, L. Ayers LaFave and, J. Schlegelmilch from Centers for Disease Control and Prevention

CVD: Cardiovascular disease
CMC/DHK Results: Control of Hypertension

BP <140/90 in patients with hypertension at Cheshire Medical Center/Dartmouth-Hitchcock Keene

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 2012</td>
<td>70%</td>
</tr>
<tr>
<td>Feb 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Mar 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Apr 2012</td>
<td>75%</td>
</tr>
<tr>
<td>May 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Jun 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Jul 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Aug 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Sep 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Oct 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Nov 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Dec 2012</td>
<td>75%</td>
</tr>
<tr>
<td>Jan 2013</td>
<td>80%</td>
</tr>
<tr>
<td>Feb 2013</td>
<td>85%</td>
</tr>
<tr>
<td>Mar 2013</td>
<td>90%</td>
</tr>
<tr>
<td>Apr 2013</td>
<td>90%</td>
</tr>
<tr>
<td>May 2013</td>
<td>90%</td>
</tr>
<tr>
<td>Jun 2013</td>
<td>90%</td>
</tr>
<tr>
<td>Jul 2013</td>
<td>90%</td>
</tr>
</tbody>
</table>
The Reward for a Job Well Done
Is the Ability to Do More

- New Hampshire awarded an ASTHO/Million Hearts® Grant

- CMC/DHK funded to:
  - Provide technical assistance to Federally-qualified Health Centers in 2 counties
  - Replicate strategies and success in more diverse, urban settings
Examples of New Community Partnerships

YMCA will now offer reduced and no cost memberships to patients at Manchester Community Health Center

The Organization for Refugee and Immigrant Success will provide a summer farm stand in the parking lot of Manchester Community Health Center to increase access to fresh fruits and vegetables

Strengthened relationship and collaboration with the Manchester Health Department
More to Do…..

- Expanding registry coordination to provide comprehensive chronic disease management
- Explore the use of blood pressure kiosks
- “Activity is Good Medicine”
- Integrate nutrition counseling and therapy
- Pharmacist integration
- Spreading improvement
- A plan for maintaining gains
Tobacco Use Prevention in Massachusetts

Patricia P. Henley, M.Ed.
Director, Office of Community Health and Tobacco Use Prevention
Massachusetts Tobacco Cessation and Prevention Program
Massachusetts Department of Public Health
The State of Massachusetts

- **Massachusetts is**
  - 44th in the nation for land area
  - 13th in the nation for population
  - 1st in the nation for the number of local public health departments

- **351 municipalities with limited county government**
Adult Smoking Prevalence Among Subgroups in Massachusetts, 2013

<table>
<thead>
<tr>
<th>Group</th>
<th>More Likely to Smoke</th>
<th>Less Likely to Smoke</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA Adults</td>
<td>16.6%</td>
<td>9.1%</td>
</tr>
<tr>
<td>People with poor mental health</td>
<td>33.5%</td>
<td>13.3%</td>
</tr>
<tr>
<td>MassHealth*</td>
<td>31.8%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Disabled</td>
<td>28.6%</td>
<td></td>
</tr>
<tr>
<td>LGBT*</td>
<td>27.7%</td>
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</tr>
<tr>
<td>&lt;$25K household income</td>
<td>26.5%</td>
<td></td>
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<tr>
<td>High school or less**</td>
<td>23.9%</td>
<td></td>
</tr>
<tr>
<td>Private health insurance*</td>
<td></td>
<td>9.1%</td>
</tr>
<tr>
<td>$75K + household income</td>
<td></td>
<td>6.0%</td>
</tr>
<tr>
<td>College degree**</td>
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</tbody>
</table>

77% of MA smokers

LGBT: Lesbian, Gay, Bisexual and Transgender
Massachusetts Behavioral Risk Factor Surveillance System

*Adults, age 18 - 64
**Adults, age 25+
Massachusetts Tobacco Control Program (MTCP) Budget

MTCP Funding by Fiscal Year
FY 1994-FY 2015

State Fiscal Crisis
New Administration

in millions

FY96 FY97 FY98 FY99 FY00 FY01 FY02 FY03 FY04 FY05 FY06 FY07 FY08 FY09 FY10 FY11 FY12 FY13 FY14 FY15

$35.9 $31.6 $31.6 $31.3 $54.3 $44.3 $33.3 $5.8 $2.5 $3.7 $4.3 $8.3 $12.8 $12.2 $4.5 $4.5 $4.2 $4.2 $4.0 $3.9

$0.0 $10.0 $20.0 $30.0 $40.0 $50.0 $60.0
Massachusetts Tobacco Prevention Infrastructure at State and Local Levels

- Despite budget cuts, maintained core infrastructure
  - Local programs
  - Cessation services
  - Surveillance and evaluation
  - Legal and policy experts
  - Communications
    - Earned media, publicity gained through editorial influence*  
      - Paid media
  - Youth engagement
  - Quitline and QuitWorks

- All of the above contribute to promoting sustainable policy change

* Earned media may include newspaper, television, radio, and the Internet, and may include formats such as news articles or shows, letters to the editor, editorials, and polls
Local Boards of Health Programs

- 14 Board of Health tobacco control programs
  - Cover 184 municipalities and 65% of MA population
  - Provide local enforcement of tobacco regulations
  - Retail store monitoring, inspections and compliance checks
  - Local policy education and promotion
Community Partnership Programs

- **8 Community Partnership programs**
  - Cover entire state in 8 regions
  - Coordinate communications
    - Earned media
    - Local media outreach
  - Build local partnerships
  - Promote policy, systems and environmental strategies
The 84 chapters

- Named after the 84% of youth who choose not to smoke
- 75+ chapters statewide
- Policy-focused youth groups
- Provide youth perspective to tobacco industry influence in their communities
- School-based chapters promote social norms and local policy
MTCP Prevention Model

Technical Assistance includes
- Model regulation language
- Statewide TA providers

MTCP: Massachusetts Tobacco Control Program
TA: Technical assistance
Five Priorities for Tobacco Control in Massachusetts

1. Access to comprehensive cessation benefits for all state residents
   
   *Goal: Increase smokers making quit attempts*

2. Protect youth from tobacco industry tactics
   
   *Goal: Reduce number of youth who begin using tobacco*

3. Increase the price of tobacco
   
   *Goal: Reduce all tobacco use*

4. Ensure all smokers receive intervention by healthcare providers
   
   *Goal: Provide smokers with motivation to quit*

5. Protect everyone from secondhand smoke
   
   *Goal: Protect the health of nonsmokers and smokers*
Priority One: Access to Cessation Benefits through Quitline Programs

- **Quitline or The Massachusetts Smokers' Helpline**
  - Discusses MA state health benefits for tobacco cessation with callers

- **QuitWorks**
  - Educates healthcare providers about benefits available to patients who want or need to quit

- **Community programs promote cessation-related benefits and resources, including the Quitline**

- **Key characteristic of callers to the Quitline**
  - 44% have Medicaid

[quitworks.makesmokinghistory.org](http://quitworks.makesmokinghistory.org)
[makehistory.org/1-800-quitnow.html](http://makehistory.org/1-800-quitnow.html)
Priority Two: Protect Youth from Industry Tactics by Focusing on Local Policy Initiatives

- **Reducing tobacco retailer density**
  - Prohibiting the sale of tobacco in healthcare institutions
  - Limiting number of local tobacco retail permits

- **Pricing**
  - No single cigar packaging

- **Flavoring**
  - Restricting flavored tobacco products

- **Age restriction, including e-cigarettes**
Protect Youth from Industry Tactics: Cigar Packaging Regulation

- Regulation prohibits sale of cheap single cigars
- Single cigars cannot be sold for under $2.50
- By 2014, 31.8% of the population covered by regulation

[Bar chart showing the number of municipalities with cigar packaging regulation from 2012 to 2014.]

Number of municipalities with cigar packaging regulation

- 2012: 4
- 2013: 33
- 2014: 65

Massachusetts Tobacco Control Program Municipal Policy Tracking System
Current Cigarette Use Among Massachusetts High School Students, 1993-2013

Current cigarette use: Smoked cigarettes one or more days during the past 30 days.

www.doe.mass.edu/cnp/hprograms/yrbs/
Priority Three: Increase the Price of a Pack of Cigarettes

Projection for FY 2014 based on 10 months of data
Regulations were issued in 1989 to enforce a 1945 law prohibiting retailers from selling cigarettes below cost

Regulation provides a formula to calculate the minimum price

The minimum price for Marlboro cigarettes in Massachusetts is $9.54 per pack

Not a public health law, but has public health benefits
Number of Cigarette Packs Sold
Massachusetts, FY 1991 to FY 2014

www.mass.gov/dor/

* Projected for FY 2014 based on 10 months of data
Priority Four: Ensure All Smokers Receive Intervention by their Healthcare Provider

Provider Interventions Among Massachusetts Smokers

- **2011**: 79% advised to quit smoking by a health professional, 68% saw a health professional in the last 12 months
- **2012**: 85% advised to quit smoking by a health professional, 72% saw a health professional in the last 12 months
- **2013**: 82% advised to quit smoking by a health professional, 73% saw a health professional in the last 12 months

Massachusetts Behavioral Risk Factor Surveillance System (BRFSS), 2013
Priority Five: Protect All Massachusetts Residents from Secondhand Smoke

As of June 2014, 38 public housing authorities with 28,361 units are smoke-free

<table>
<thead>
<tr>
<th>Fiscal Years</th>
<th>Number of Housing Authorities</th>
<th>Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior</td>
<td>5</td>
<td>568</td>
</tr>
<tr>
<td>FY 2012</td>
<td>9</td>
<td>3,353</td>
</tr>
<tr>
<td>FY 2013</td>
<td>17</td>
<td>18,371</td>
</tr>
<tr>
<td>FY 2014</td>
<td>38</td>
<td>28,361</td>
</tr>
</tbody>
</table>

Massachusetts Tobacco Control Program Smoke-free Public Housing Database
Make Smoking History: the Role of Strong Public Policy

- We focus on sustainable policies
- We focus on maintaining a core infrastructure to support strong policy strategies
- We base our strategies on both practice-based evidence and evidence-based practice
- We evaluate strategies and their impact
The work continues!
Partnerships to Improve Cardiovascular Health through Sodium Reduction in Los Angeles County

Patricia L. Cummings, MPH, PhD
Program Manager, Sodium Reduction Initiative
Epidemiologist, Division of Chronic Disease and Injury Prevention
Los Angeles County Department of Public Health
Improving Cardiovascular Health in Los Angeles County (LAC)

- **Million Hearts® efforts in LAC**
  - ABCS
  - Sodium reduction
  - Clinical preventive services
  - Clinical community linkages

- **Sodium reduction initiative**
  - Case study: 100% Healthy Vending Machine Policy

- **Lessons learned**

- **Next steps**

ABCS: Aspirin when appropriate, Blood pressure control, Cholesterol management, Smoking cessation
Cardiovascular Disease Risk Factors and Burden of Disease in Los Angeles County

24% of adults in Los Angeles County (LAC) have been diagnosed with hypertension

Heart attacks and stroke are leading causes of death in LAC

2011 Los Angeles County Health Survey data, Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health

CVD: Cardiovascular disease
Current levels of sodium ingestion are not safe

- Average sodium intake 3,400 - 3,500 mg/day in U.S.
  - Reduce to <2,300 mg/day for general population
  - Reduce to 1,500 mg/day for specific populations
    - Persons 51 years of age or older, African Americans, and persons with high blood pressure, diabetes, or chronic kidney disease

Difficult for consumers to reduce sodium intake

- 74% of adults are unaware of the recommended daily sodium intake limit
- Most sodium added before food preparation or serving

Gunn JP, Kuklina EV, Keenan NL, Labarthe DR. MMWR. 2010;59(24):746-49
81% (5.6 million) LAC adults (18+ years) agree there should be restrictions placed on how much sodium is added to packaged and restaurant foods

70% of LAC adults favor reduced access to unhealthy snacks and beverages in vending machines in public buildings and work sites

68% agree there should be policies or requirements to lower sodium content of foods in workplace cafeterias
Los Angeles County Sodium Reduction Initiative

- Supported by CDC’s Sodium Reduction in Communities Program (SRCP)
  - 2010-2013 and 2013-2016: County of Los Angeles government, City of Los Angeles government, school districts, and hospitals

- Goal — to reduce population sodium intake in Los Angeles County

- Implementing strategies to improve food service venues
  - Lower-sodium products, reduced portion sizes, menu labeling, pricing, placement, and promotion/media

- National partners: Million Hearts® and NSRI

NSRI: National Salt Reduction Initiative
Local, State, and Federal Partnerships

2010: HFP initiative launched by LA County DPH

2011*: County of Los Angeles Board Motion requires DPH to make nutrition recommendations for all new or renewing food service contracts in the county
  - Vending Machine Nutrition Policy (adopted in 2006; revised in 2010)

2010 - present: worked with 6 of 12 departments
  - e.g., Chief Executive Office, Beaches & Harbors, Health Services, Public Works, Parks and Recreation, Probations

DPH: Department of Public Health
HFP initiative is supported by CDC’s Communities Putting Prevention to Work, Sodium Reduction in Communities Program, and Community Transformation Grant.

*Contextual fact
Food Service Environments in Los Angeles County (LAC)

- **37 departments with 100,000+ staff**
  - 12 departments purchase, sell, and/or distribute food

- **2 main categories of food service in LAC**
  1. **Meals and snacks served to dependent community members**
     - Distributive meals (senior meals, after-school snacks), meals served to hospitals, institutionalized populations (probations)
  2. **Food sold on government property**
     - Concession operations (cafés, snack shops), food trucks, work-site cafeterias, vending machines

- **Estimated 37 million meals and snacks served each year**
Operationalizing Healthy Nutrition Standards

DPH’s 5-Phase Process Framework

- Needs Assessment
- Stakeholder Education & Strategy Development
- Adoption
- Implementation
- Adherence & Quality Improvement

Food Service Contracting Process: What’s Nutrition Got to Do With It?

- Contracting process is similar to applying for a grant
  - Letter of Intent and Proposal

- DPH recommended standards and purchasing practices are incorporated into RFP and IFB

- Bidders conferences are a requirement for the contract solicitation process
  - Allows prospective bidders to ask questions
  - DPH presents nutrition standards and answers questions

- Once vendor is selected and contract is executed, DPH recommendations become requirements

DPH: Department of Public Health
RFP: Request for proposal
IFB: Invitation for bid
Example of Recommendations for Placement and Promotion in Vending Machines

- **Advertise a Healthy Beverage Choice** such as water in promotional space
- **Place Bottled Water at Eye Level** provide at least 2 or more slots for water
- **Place Signage** on vending machine to highlight healthy options
- **Place Diet Soda and Sweetened Beverages** with a higher calorie count on the bottom shelf
Vending Machine Nutrition Policy

ALL SNACKS SOLD IN COUNTY-CONTRACTED VENDING MACHINES MUST ADHERE TO THE FOLLOWING NUTRITION GUIDELINES:

AN INDIVIDUALLY SOLD SNACK THAT HAS NO MORE THAN:

1. 35% of its calories from fat (excluding legumes, nuts, nut butters, seeds, eggs, non-fried vegetables and cheese packaged for individual sale).

2. 10% of its calories from saturated fat (excluding eggs and cheese packaged for individual sale).

3. 35% sugar by weight (excluding fruits and vegetables).

4. 250 calories per individual food item or package if a pre-packaged item.

5. 360 milligrams of sodium per individual food item or package if a pre-packaged item.

EXAMPLES OF SNACKS THAT COMPLY WITH THE NUTRITION POLICY:

- Baked chips
- Pretzels
- Unsalted nuts
- Granola and Energy bars
- Dried fruit (no sugar added)
Case-Study: Chief Executive Office Vending Contract

500+ machines across 200+ locations
46,471 employees; 15,840 visitors per day across all locations

<table>
<thead>
<tr>
<th>Adherence to Policy</th>
<th>Average Sodium per packaged product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline (old vendor)</td>
</tr>
<tr>
<td>Snacks</td>
<td>27% Healthy snacks</td>
</tr>
<tr>
<td>Beverages</td>
<td>57% Healthy beverages</td>
</tr>
</tbody>
</table>

Average 57% reduction of sodium in snacks

*Preliminary Data. Total weighted average for beverage and snack machines = 137.3 mg of sodium per package (weighted by sales)
Stratified weighted average by vending type: snacks = 118 mg of sodium per package; beverages = 18.9 mg of sodium per beverage
NEMS-V: Nutrition Environment Measures Vending Survey
Impact of Sodium Reduction in Los Angeles County (LAC)

- Average sodium per packaged product adheres to County Vending Machine Policy nutrition standards
- FEM-LA population model for 2004 - 2050
  - Preliminary estimate: \(3,207 - 5,155\) deaths averted from reductions in incidence of heart disease and stroke due to a 400 mg sodium reduction in dietary intake in LAC
  - Up to 2 lives saved every week
  - Savings in total medical spending $2.2 - 3.6 billion in LAC from 2004 to 2050

Unpublished data. Estimates using the Future Elderly Model – Los Angeles County (FEM-LA). The FEM is an economic-demographic micro-simulation developed over the past decade by researchers with funding from the Centers for Medicare and Medicaid Services, the National Institute on Aging, the Department of Labor, and the MacArthur Foundation.

Contributing to Million Hearts
One County and One Policy at a Time

- For the 5-year period covered by Million Hearts® 2012 - 2017
  - Up to 560 lives saved
  - Up to $778 million in medical costs averted

- Does not take other LA County Million Hearts® Programs into account

Unpublished data. Estimates using the Future Elderly Model – Los Angeles County (FEM-LA). The FEM is an economic-demographic micro-simulation developed over the past decade by researchers with funding from the Centers for Medicare and Medicaid Services, the National Institute on Aging, the Department of Labor, and the MacArthur Foundation.

Partnerships to Improve Cardiovascular Health in Los Angeles County

- **Limitations**
  - Vendor product list cannot be assumed to be what is in the machine

- **Lessons Learned**
  - Partnership with department and vendor is valuable for adherence
  - Evaluation is essential

- **Next Steps**
  - Continue to refine the sodium reduction framework
    - Update sodium limits for vending policy to 230 mg per package
  - Designate intervention data collection points to monitor sodium intake
  - Share evaluation results
Educational Materials from Los Angeles County

Food Procurement resources
http://publichealth.lacounty.gov/chronic

Public education resources
www.choosehealthla.com

Salt shocker videos
http://www.youtube.com/user/ChooseHealthLA

Special thanks to:
Dr. Paul Simon, Dr. Tony Kuo
Michelle Wood, Brenda Robles, Dr. Irene Vidyanti
Amelia Rose, Ranjana Wickramasekaran, Katrina Vo
Million Hearts®, 2015
Accelerating Progress, Achieving Results

- Send a clear signal
- Measure and report progress in preventing heart attacks and strokes: every person counts
  - Millionhearts.gov
  - Mid-Course Review:
    millionhearts.hhs.gov/Docs/MH_Mid-Course_Review.pdf
- Remember the ABCS
  - Aspirin when appropriate, blood pressure control, cholesterol management, and smoking cessation