Welcome and Overview

Robin Rinker, MPH
Health Communications Specialist
Division for Heart Disease and Stroke Prevention
Centers for Disease Control and Prevention

Agenda

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Priority Populations in Million Hearts®
Janet Wright, MD, FACC
Executive Director
Million Hearts®
CDC and CMS

Agenda continued

Presentation: Air Pollution and Heart Disease
Discuss the science and policy implications behind AHA's scientific statement update that focuses on the link between particulate matter and cardiovascular disease.
Aruni Bhatnagar, Ph.D., FAHA
Director of the Diabetes and Obesity Center at the University of Louisville and Director of the American Heart Association Tobacco Regulation and Addiction Center
Laurie Whitsel, Ph.D., FAHA
Director of Policy Research, American Heart Association

Agenda continued

Presentation: Addressing Tobacco Use Among Persons with Mental or Substance Use Disorders
Doug Tipperman, MSW
Tobacco Policy Liaison, SAMHSA

Q&A
All

Agenda continued

Million Hearts® Partner Share
Linda Murakami, RN, BSN, MSHA, Senior Program Manager, Quality Improvement American Medical Association
Jennifer Cooper, DNP, RN, APHN-BC
Association of Public Health Nurses

Agenda continued

Updates from CDC
Judy Hannan, RN, MPH
Senior Advisor Million Hearts® Centers for Disease Control and Prevention

Closing and Adjourn
April Wallace
Program Initiatives Manager
Million Hearts Collaboration
American Heart® Association
Priority Populations in Million Hearts

Janet S. Wright, MD, FACC
Executive Director
Million Hearts®
CDC and CMS

Keeping People Healthy
- Reduce Sodium Intake
- Decrease Tobacco Use
- Increase Physical Activity

Optimizing Care
- Improve ABCS®
- Increase Use of Cardiac Rehab
- Engage Patients in Heart-healthy Behaviors

Improving Outcomes for Priority Populations
- Blacks/African-Americans with Hypertension
- 35-64 year olds due to rising event rates
- People who have had a heart attack or stroke
- People with mental and/or substance use disorders who smoke

2022 Targets: 20% improvement in sodium, tobacco, physical activity; 80% on the ABCS; 70% participation in cardiac rehab

Priorities and Goals
- Keeping People Healthy
  - Reduce Sodium Intake
  - Decrease Tobacco Use
  - Increase Physical Activity
- Optimizing Care
  - Improve ABCS®
  - Increase Use of Cardiac Rehab
  - Engage Patients in Heart-healthy Behaviors
- Improving Outcomes for Priority Populations
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Improving Outcomes for Priority Populations

<table>
<thead>
<tr>
<th>Priority Population</th>
<th>Intervention Needs</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>People who have had a heart attack or stroke</td>
<td>Increasing cardiac rehab referral and participation</td>
<td>• Use opt-out referral and CR liaison visits at discharge; ensure timely enrollment • Increase use of Air Quality Index</td>
</tr>
<tr>
<td>People with mental and/or substance abuse disorders who smoke</td>
<td>Reducing tobacco use</td>
<td>• Integrate tobacco cessation into behavioral health treatment • Institute tobacco-free policy at treatment facilities • Tailored quitline protocols</td>
</tr>
</tbody>
</table>

Disparate outcome • Effective interventions • Well-positioned partners

Million Hearts®

PM2.5 Priority Actions

- Raise awareness of mitigation behaviors among those at-risk, their families, and the clinicians who care for them
- Encourage health professionals to take EPA's web-based course: Particle Pollution and Your Patients’ Health
- Incorporate air quality messages into cardiac rehab program curricula
- Encourage hospitals, employers, health systems, and others to adopt EPA's Air Quality Flag Program
- Disseminate particulate info via Million Hearts® channels

Particle Pollution

- PM2.5 refers to particulate matter of 2.5 micrometers or less in diameter
- Exposure is linked to an increase in risk of heart attacks, strokes, and rhythm disorders
- Particle pollution info on Million Hearts® website

Tobacco Users with Mental and/or Substance Use Disorders

- Current smoking rate among adults (cigarettes) is 17%
- People with mental and/or substance use disorders account for 40% of all cigarettes smoked in the U.S.
- Interventions for this population include:
  1. Integrate tobacco dependence treatment into behavioral health treatment
  2. Implement tobacco-free campus policies in mental health and substance use treatment facilities
  3. Specialized quitlines
Aruni Bhatnagar, Ph.D., F.A.H.A., Director of the Diabetes and Obesity Center at the University of Louisville and Director of the American Heart Association Tobacco Regulation and Addiction Center

**Particulate Matter and Cardiovascular Disease**

**AIR POLLUTION AND HEART DISEASE**

Aruni Bhatnagar, PhD, FAHA
University of Louisville

**POLLUTION**

Nearly 150,000 cardiovascular deaths in the US

Globally, air pollution kills 7 million people annually

**Global Burden of Disease**

**Ambient Air Particles**
**Ambient Air Particles**

PM is derived from many different sources.

PM sources vary by geographic location.

A Tale of Six Cities

Adjusted mortality ratio of the most polluted cities with the least polluted was 1.26.

Excessive Mortality Associated with PM Exposure

GEOGRAPHIC DISTRIBUTION OF PM
Premature mortality risk attributable to PM

Diabetes Prevalence and PM$_{2.5}$ for US Counties

Non-Linear Effects of Air Pollution

PM Exposure Accelerates Atherogenesis

PM increase insulin resistance

EXPOSURE
PULMONARY INJURY
SYSTEMIC CHANGES
SUBCLINICAL EFFECTS
CLINICAL MANIFESTATIONS

Endothelial dysfunction
Insulin resistance
Hypertension
Atherosclerosis
Acute myocardial infarction
Peripheral arterial disease
Sudden cardiac death
Arrhythmic events
Heart failure

EXPOSURE
PULMONARY INJURY
SYSTEMIC CHANGES
SUBCLINICAL EFFECTS
CLINICAL MANIFESTATIONS
Particulate Matter and Cardiovascular Disease

Laurie Whitsel, Ph.D., FAHA, Director of Policy
American Heart Association

The AHA's Strategic Policy Checklist: A rigorous process for choosing our priorities

- Evidence Assessment
- Strategic Alignment
- Health Impact
- Ability to address SDOH
- Feasibility
- Positioning
- Grassroots/Vol Engagement
- Level of Risk
- Internal Will
- Resource Commitment
- Likelihood of Success

Social Determinants of Health
And Equity First Policy Making

The conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.

Air Pollution

2010 AHA Scientific Statement Highlighted a Causal Relationship between Fine Particulate Matter and CVD

Where we have weighed in
AHA Advocacy

Federal Level (Sign-on letters with national partners)
- Support EPA Standards for:
  - Clean Air
  - Greenhouse gas emissions for cars
  - Methane and dangerous volatile organic compounds
  - Ozone
- Monitored White House Report on Climate Change
- Working with EPA on co-branded materials in English and Spanish and a briefing on the relationship between fine particulate matter and CVD

State Level
- Completed an environmental scan of policy opportunities

Potential State and Local Level Policy Opportunities

Some examples:
- Consumer Incentives
- Car/Diesel Emissions
- Reduce Consumer Energy Use
- Utility Company Mandates
- Renewable Energy Subsidies
- Building Codes for Energy Conservation
- Reducing Emissions from Power Plants
- Traffic Abatement/Public Transportation
Addressing Tobacco Use Among Persons with Mental or Substance Use Disorders

Doug Tipperman
Tobacco Policy Liaison
Substance Abuse and Mental Health Services Administration
U.S. Department of Health and Human Services

About 25% of population... is smoking nearly 40% of all cigarettes.

Impact on the Behavioral Health Population

- Persons with mental illness, on average, die several years earlier than persons without mental illness — with smoking being a major contributing factor.
- Smoking accelerates the metabolism of certain psychiatric medications resulting in the need for higher doses.
- Smoking tobacco causes more deaths among people who had been in substance abuse treatment than the alcohol or drug use that brought them to treatment.
- Other consequences:
  - Creates financial hardship
  - Interferes with employment opportunities
  - Makes it difficult to secure housing

Tobacco and Cardiovascular Disease

Smoking tobacco:
- Causes one of every three deaths from CVD
- Increases the risk of almost all major forms of CVD
- Causes an increased risk of CHD at all levels of cigarette smoking

2018 analysis of 141 studies published in the BMJ:
- Men who smoked one cigarette a day had about a 48% higher risk of developing coronary heart disease and were 25% more likely to have a stroke than those who had never smoked. For women, it was higher—57% for heart disease and 31% for stroke.
- Smoking only about one cigarette per day carries a risk of developing coronary heart disease and stroke much greater than expected: around half that for people who smoke 20 per day.

Addressing Tobacco Use Among Persons with Mental or Substance Use Disorders

Doug Tipperman, MSW,
Tobacco Policy Liaison, Office of Policy, Planning and Innovation, Substance Abuse and Mental Health Services Administration


Tobacco’s Adverse Impact on Behavioral Health

- Heavy smoking is a significant risk factor for major depression.
- Tobacco use is associated with increased suicidal ideations, suicide attempts, and completed suicides.
- People who continued smoking following treatment for a substance related disorder have greater likelihood of relapse to drugs or alcohol.
- Smoking is a strong predictor of risk for nonmedical use of prescription opioids.


Myths: Smoking and Behavioral Health

- They are not interested in quitting
  - As likely as the general population to want to quit smoking (about 70%).
- They can’t quit
  - Can quit and benefit from integrated tailored interventions.
- Tobacco is necessary self-medication
  - Industry has supported this myth. Smoking is certainly not an effective treatment. Relief from withdrawal symptoms is often misinterpreted for feeling better.
- It is a low priority problem
  - Smoking is the biggest killer for those with mental or substance use disorders.
- Quitting worsens recovery
  - Not the case. Cessation is associated with improved mental health and addiction recovery outcomes.


Cessation Improves Mental Health

- A 2014 meta-analysis of 26 studies found that smoking cessation is associated with decreased depression, anxiety, and stress and improved positive mood and quality of life compared with continuing to smoke.

“The effect size seems as large for those with psychiatric disorders as those without. The effect sizes are equal or larger than those of antidepressant treatment for mood and anxiety disorders.”

Source: Taylor et al., ARQ, 2014

Cessation Improves Addiction Recovery

- A 2017 nationally representative, prospective longitudinal study of long-term outcomes for substance use disorder (SUD) found that continued smoking and smoking initiation among nonsmokers were associated with significantly greater odds of SUD relapse.
- A 2012 study analyzing 9 years of prospective data from 1,185 adults in a SUD program at a public health care setting, found that stopping smoking during the first year after substance use treatment intake predicted better long-term substance use outcomes through 9 years after intake.
- A 2004 meta-analysis of 19 studies found that smoking cessation interventions provided during addictions treatment were associated with a 25% increased likelihood of long-term abstinence from alcohol and illicit drugs.


Effective Tobacco Cessation Practices

- Routinely screening patients for tobacco use and encouraging every smoking patient willing to make a quit attempt to use evidence-based cessation counseling treatments and medications.
- Counseling and medication are effective when used by themselves for treating tobacco dependence. The combination of counseling and medication, however, is more effective than either alone.
- Many may benefit from additional counseling and longer use of cessation medications as well as combination use of medications.
- Using peer-driven approaches such as peer specialists trained in smoking cessation.
- Adopting and implementing a tobacco-free facility/grounds policy.

Effectiveness of First Line Smoking Cessation Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>No. of Studies</th>
<th>OR</th>
<th>95% CI</th>
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<tbody>
<tr>
<td>Nic. Patch (6-14 wks)</td>
<td>32</td>
<td>1.9</td>
<td>1.7-2.2</td>
</tr>
<tr>
<td>Nic. Gum (6-14 wks)</td>
<td>15</td>
<td>1.5</td>
<td>1.2-1.7</td>
</tr>
<tr>
<td>Nic. Inhaler</td>
<td>6</td>
<td>2.1</td>
<td>1.5-2.9</td>
</tr>
<tr>
<td>Nic. Spray</td>
<td>4</td>
<td>2.3</td>
<td>1.7-3.0</td>
</tr>
<tr>
<td>Bupropion</td>
<td>15</td>
<td>3.0</td>
<td>2.0-4.2</td>
</tr>
<tr>
<td>Varenicline (1 mg/day)</td>
<td>4</td>
<td>3.5</td>
<td>2.1-5.3</td>
</tr>
<tr>
<td>Varenicline (2 mg/day)</td>
<td>5</td>
<td>2.1</td>
<td>1.5-3.8</td>
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<tr>
<td>Patch (&gt;14 wks) + ad lib NRT (gum or spray)</td>
<td>3</td>
<td>3.6</td>
<td>2.5-5.2</td>
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</tbody>
</table>

Effectiveness of First Line Smoking Cessation Medication

FDA December 2016 statement: “…As a result of our review of the large clinical trial, we are removing the Boxed Warning, FDA’s most prominent warning, for serious mental health side effects from the Chantix drug label…”

Current Smoking Among Adults (age ≥ 18) With Past Year Any Mental Illness (AMI): NSDUH, 2008-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>AMI</th>
<th>No AMI</th>
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<tbody>
<tr>
<td>2008</td>
<td>18.7</td>
<td>23.0</td>
</tr>
<tr>
<td>2009</td>
<td>20.1</td>
<td>22.4</td>
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<tr>
<td>2010</td>
<td>21.4</td>
<td>22.2</td>
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<tr>
<td>2011</td>
<td>21.4</td>
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<tr>
<td>2012</td>
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<tr>
<td>2014</td>
<td>18.7</td>
<td>22.4</td>
</tr>
<tr>
<td>2015</td>
<td>20.7</td>
<td>22.2</td>
</tr>
</tbody>
</table>

Percent

Q & A

Do you have a question for one of the panelist?

Please submit your questions in writing using the Q&A Panel located at the bottom right of your screen.

Million Hearts® Partners Share

This is an opportunity for Million Hearts® Partners to provide an update on your organization’s Million Hearts® actions.

Please submit your update in writing using the Q&A Panel located at the bottom right of your screen.

Updates from CDC

❖ Judy Hannan, RN, MPH
Senior Advisor, Million Hearts®
Centers for Disease Control and Prevention

Thank You!

Next Partner Call: July 31, 2018, 1 p.m. EST

Please submit any comments or feedback to Robin Rinker at vqb2@cdc.gov