Participation in Cardiac Rehabilitation: 
Getting to 70% with Million Hearts®

33rd AACVPR Annual Meeting
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Director, Division for Heart Disease and Stroke Prevention
Centers for Disease Control and Prevention (CDC)
Heart Disease and Stroke in the U.S.

- More than **1.5 million** people in the U.S. suffer from heart attacks and strokes per year
- More than **800,000** deaths per year from cardiovascular disease (CVD)
- CVD costs the U.S. **hundreds of billions** of dollars per year
- CVD is the greatest contributor to racial disparities in life expectancy
Heart Disease and Stroke Trends 1950-2015

Over 50% of counties had increases in heart disease mortality from 2010-2015.

• **Aim:** Prevent 1 million—or more—heart attacks and strokes in the next 5 years

• National 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
# Million Hearts® 2022

**Objectives 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
- **Black/African Americans** with hypertension
- 35- to 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

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*Aspirin use when appropriate, Blood pressure control, Cholesterol management, Smoking cessation*
## Improving Outcomes for Priority Populations

<table>
<thead>
<tr>
<th>Priority Population</th>
<th>Objectives</th>
<th>Strategies</th>
</tr>
</thead>
</table>
| Blacks/African Americans | • Improving hypertension control | • Deliver guideline-congruent treatment  
• Problem-solve in med adherence  
• Advance practice of out-of-readings  
• Increase access to and participation in community-based activity programs |
| 35-64 year olds | • Improving BP control & statin use  
• Decreasing physical inactivity | • Implement treatment protocols  
• Increase access to and participation in community-based activity programs |
| People who have had a heart attack or stroke | • Increasing cardiac rehab referral and participation  
• Avoiding exposure to particulates | • Use opt-out referral and CR liaison visits at discharge; ensure timely enrollment  
• Increase use of Air Quality Index |
| People with mental and/or substance abuse disorders who smoke | • Reducing tobacco use | • Integrate tobacco cessation into behavioral health treatment  
• Institute tobacco-free policy at treatment facilities  
• Tailored quitline protocols |
# Optimizing Care

<table>
<thead>
<tr>
<th>Goals</th>
<th>Effective Health Care Strategies</th>
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</thead>
<tbody>
<tr>
<td><strong>Improve ABCS</strong>&lt;br&gt;Targets: 80%</td>
<td>High Performers Excel in the Use of...&lt;br&gt;• <strong>Teams</strong>—including pharmacists, nurses, community health workers, and cardiac rehab professionals&lt;br&gt;• <strong>Technology</strong>—decision support, patient portals, e- and default referrals, registries, and algorithms to find gaps in care&lt;br&gt;• <strong>Processes</strong>—treatment protocols; daily huddles; ABCS scorecards; proactive outreach; finding patients with undiagnosed high BP, high cholesterol, tobacco use, or a qualifying diagnosis for cardiac rehabilitation&lt;br&gt;• <strong>Patient and Family Supports</strong>—training in home blood pressure monitoring; problem-solving in medication adherence; counseling on nutrition, physical activity, tobacco use, risks of particulate matter; referral to community-based physical activity programs and cardiac rehabilitation</td>
</tr>
<tr>
<td><strong>Increase Use of Cardiac Rehab</strong>&lt;br&gt;Target: 70%</td>
<td></td>
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<tr>
<td><strong>Engage Patients in Heart-healthy Behaviors</strong>&lt;br&gt;Targets: TBD</td>
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</table>
Powerful Contributors to “The Million”

1 Reflects preliminary findings from simulation modeling conducted using the CVD Policy Model, ModelHealth: CVD, and PRISM (unpublished). Baseline risk factor data were determined for: aspirin when appropriate using 2013-14 NHANES; BP control and cholesterol management using 2011-14 NHANES; smoking cessation and physical inactivity using 2015 NHIS; and sodium reduction using 2011-12 NHANES.
Only 10% to 34% of eligible people in the U.S. are participating in cardiac rehabilitation.\textsuperscript{19,20,22}
• ~450,000 beneficiaries were eligible in 2013

• 20% of those eligible initiated within 12 months

• 57% of CR users completed ≥ 25 sessions
CR Initiation Rates among Eligible Medicare FFS Beneficiaries by Age, Gender, and Race/Ethnicity, 2013

Low Initiation among the Eligible
Lowest among Younger, Female, People of Color

*Completed 25 or more CR sessions

CR Utilization Rates
among Eligible Medicare FFS Beneficiaries by Age, Gender, and Race/Ethnicity, 2013

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Gender</th>
<th>Race/Ethnicity</th>
<th>% Initiated CR and completed *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>&lt;65</td>
<td>Male</td>
<td>Non-Hispanic White</td>
</tr>
<tr>
<td></td>
<td>65+</td>
<td>Female</td>
<td>59.3</td>
</tr>
</tbody>
</table>

*Completed 25 or more CR sessions

CR Utilization Rates among Eligible Medicare FFS Beneficiaries by Census Division, 201324

Cardiac Rehabilitation: Is Referral the Problem?

Referral to CR varies by qualifying condition

- ~80% for patients with a heart attack\textsuperscript{15}
- ~60% for patients who undergo angioplasty\textsuperscript{16}
- ~10% for patients with heart failure\textsuperscript{17}

Studies have shown that the strength of a physician’s endorsement can greatly influence patient enrollment in CR.\textsuperscript{18}


CR Referral After Cardiac Stent
Striking Variation across Hospitals

• 60% overall average referral rate
• Referral ranges from 0% to 100%
• The HOSPITAL was the most important factor for predicting referral rate

Barriers to Cardiac Rehab

System-level barriers include

- Lack of awareness of the value of CR
- No clear, consistent signal to patients and families
- CR program not integrated into CV services
- Eligible patients not systematically identified
- No automated electronic referral process

Patient-level barriers include

- Logistics (e.g., transportation, scheduling)
- Cost-sharing
- Competing responsibilities
- Cultural and language issues


Increasing Cardiac Rehabilitation Participation From 20% to 70%: A Road Map From the Million Hearts Cardiac Rehabilitation Collaborative

Philip A. Ades, MD; Steven J. Keteyian, PhD; Janet S. Wright, MD; Larry F. Hamm, PhD; Karen Lui, RN, MS; Kimberly Newlin, ANP; Donald S. Shepard, PhD; and Randal J. Thomas, MD, MS

Abstract

The primary aim of the Million Hearts initiative is to prevent 1 million cardiovascular events over 5 years. Concordant with the Million Hearts’ focus on achieving more than 70% performance in the “ABCS” of aspirin for those at risk, blood pressure control, cholesterol management, and smoking cessation, we outline the cardiovascular events that would be prevented and a road map to achieve more than 70% participation in cardiac rehabilitation (CR)/secondary prevention programs by the year 2022. Cardiac rehabilitation is a class 1a recommendation of the American Heart Association and the American College of Cardiology after myocardial infarction or coronary revascularization, promotes the ABCS along with lifestyle counseling and exercise, and is associated with decreased total mortality, cardiac mortality, and rehospitalizations. However, current participation rates for CR in the United States generally range from only 20% to 30%. This road map focuses on interventions, such as electronic medical record–based prompts and staffing liaisons that increase referrals of appropriate patients to CR, increase enrollment of appropriate individuals into CR, and increase adherence to longer-term CR. We also calculate that increasing CR participation from 20% to 70% would save 25,000 lives and prevent 180,000 hospitalizations annually in the U.S.
Million Hearts CR Collaborative
2018-2021 Action Plan Objectives

• *Increase awareness of the value* of CR among health systems, clinicians, patients and families, employers, payers

• *Increase use of best practices* for referral, enrollment, and participation

• *Build equity* in CR referral, participation, and program staffing

• *Increase sustainability, affordability, and accessibility* through innovations in program design, delivery, and payment

• *Measure, monitor, and report progress* toward the CRC aim
Million Hearts®/AACVPR
Cardiac Rehabilitation Change Package

https://millionhearts.hhs.gov/tools-protocols/tools/cardiac-rehabilitation.html
Cardiac Rehabilitation Change Package

**Change Concepts**

- Make CR a Health System Priority
- Incorporate Referral to CR into Hospital Standardized Processes of Care for Eligible Patients
- Standardize the CR Referral Process
- Use Data to Drive improvement in Referrals to CR
Cardiac Rehabilitation Change Package

Change Concepts

- Educate Patients About the Benefits of Outpatient CR
- Reduce Delay from Discharge to First CR Appointment
- Use Data to Drive Improvement in Enrollment or Participation
- Reduce Cost-Sharing Barriers for CR Services
- Improve Efficiency of Enrollment
- Develop Flexible Models That Better Accommodate Patient Needs
- Modify Some Program Procedures Based on Clinical Need
- Use Clinician Follow-up to Bolster Enrollment or Participation

- Identify Populations at Risk for Low Engagement
- Improve Patient Engagement
CR resources available on Million Hearts® website:

• CR Change Package
• CR Communications Toolkit
• CR infographic and factsheet
• Videos of CR patient stories
Call to Action

Thank you!

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