American Hospital Association®

2017 Webinar Series

The presentation will begin shortly.

American Hospital Association®

2017 Webinar Series

Getting to 70 Percent Cardiac Rehab Participation

October 25, 2017

Speakers:

- Janet Wright, Executive Director, Million Hearts®
- Steven Keteyian, Director, Preventive Cardiology Unit, Division of Cardiovascular Medicine, Henry Ford Hospital
- Kim Newlin, President Elect, Preventive Cardiovascular Nurses Association
- Quinn Pack, Medical Director, Cardiac Rehabilitation, Baystate Medical Center
- Moderator: Haley Stolp, Public Health Analyst (IHRC Inc.), Million Hearts®, Centers for Disease Control and Prevention

Getting to 70% Cardiac Rehab Participation

American Hospital Association/
Health Research & Educational Trust
webinar

October 25, 2017

Janet Wright MD FACC
Executive Director, Million Hearts® 2022

Million Hearts®

Million Hearts® 2022

- **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

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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[1]
- More than **800,000** deaths per year from cardiovascular disease (CVD)[1]
- CVD costs the U.S. **hundreds of billions** of dollars per year[1]
- CVD is the greatest contributor to racial disparities in life expectancy[2]

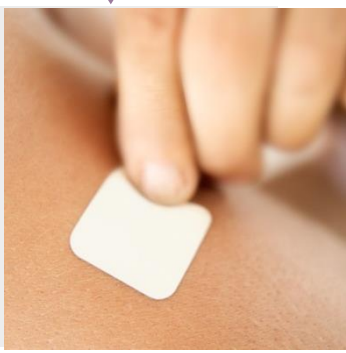
Million Hearts®

References

1. Benjamin EJ, Blaha MJ, Chiuve SE, Cushman M, Das SR, Deo R, et al. Heart Disease and Stroke Statistics-2017 Update: A Report From the American Heart Association. Circulation 2017;135(10):e146–603.
2. Kochanek KD, Arias E, Anderson RN. How did cause of death contribute to racial differences in life expectancy in the United States in 2010? NCHS data brief, no 125. Hyattsville, MD: National Center for Health Statistics. 2013

Opportunities in U.S. Adults to Prevent Cardiovascular Disease

Blood Pressure	Cholesterol	Sodium	Physical Activity	Tobacco Use
34 M	**35M/42M**	**215M**	**124 M**	**36.5 M**
Uncontrolled	**Unmanaged**	**Overconsume**	**Underexert**	**Smoke**

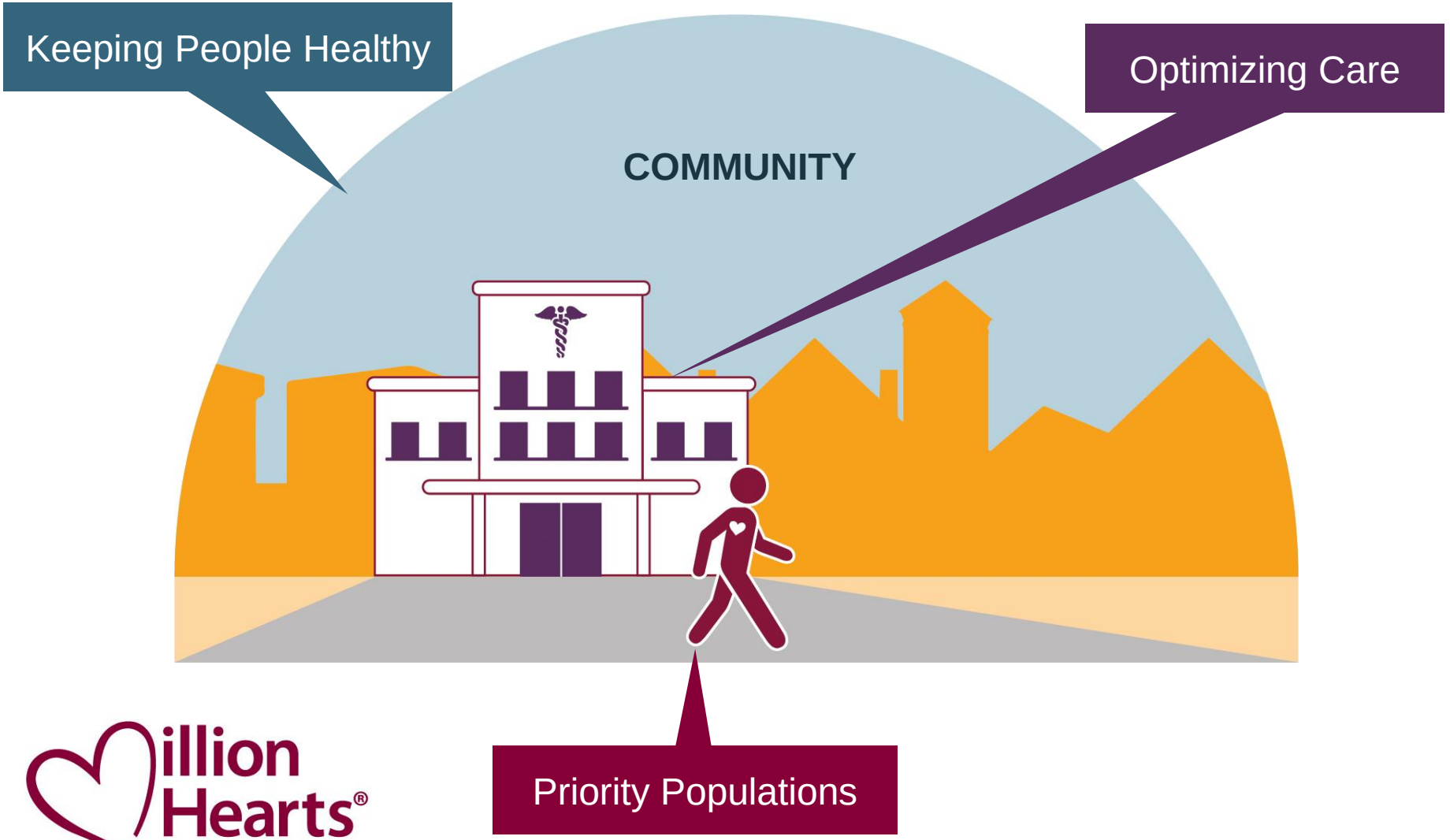


Million Hearts®

We Know What Works

Million Hearts® 2022

Aim: Prevent 1 Million Heart Attacks and Strokes in 5 Years



Million Hearts® 2022
Priorities

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
35- to 64-year-olds
People who have had a heart attack or stroke
People with mental illness or substance use disorders

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*Aspirin use when appropriate, Blood pressure control, Cholesterol management, Smoking cessation

Keeping People Healthy

Goals	Effective Public Health Strategies
Reduce Sodium Intake Target: 20%	• Enhance consumers' options for lower sodium foods • Institute healthy food procurement and nutrition policies
Decrease Tobacco Use Target: 20%	• Enact smoke-free space policies that include e-cigarettes • Use pricing approaches • Conduct mass media campaigns
Increase Physical Activity Target: 20% (Reduction of inactivity)	• Create or enhance access to places for physical activity • Design communities and streets that support physical activity • Develop and promote peer support programs

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Optimizing Care

Goals	Effective Health Care Strategies
Improve ABCS* Targets: 80%	***High Performers Excel in the Use of…*** • **Teams**—including pharmacists, nurses, community health workers, and cardiac rehab professionals • **Technology**—decision support, patient portals, e- and default referrals, registries, and algorithms to find gaps in care • **Processes**—treatment protocols; daily huddles; ABCS scorecards; proactive outreach; finding patients with undiagnosed high BP, high cholesterol, or tobacco use • **Patient and Family Supports**—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 rehab
Increase Use of Cardiac Rehab Target: 70%	
Engage Patients in Heart-healthy Behaviors Targets: TBD	

*Aspirin use when appropriate, Blood pressure control, Cholesterol management, Smoking cessation

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Improving Outcomes for Priority Populations

- ✓ Disparate outcome
- ✓ Effective interventions
- ✓ Well-positioned partners

Priority Population	Objectives	Strategies
Blacks/African Americans	• Improving hypertension control	• Implement tailored protocols • Problem-solve in med adherence
35-64 year olds	• Improving HTN control and statin use • Increasing physical activity	• Implement tailored 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 particulate matter	• Use opt-out referral and CR liaison visits at discharge; ensure timely enrollment post-discharge • Increase use of Air Quality Index tools
People with mental illness or substance abuse disorders	• Reducing tobacco use	• Integrate tobacco cessation into behavioral health treatment • Institute tobacco-free policy at mental health and substance use treatment facilities • Tailored quitline protocols

Why Cardiac Rehabilitation is So Important

Steven J. Keteyian, PhD

Director, Preventive Cardiology Unit

Henry Ford Hospital

Detroit

No conflicts to disclose

Definition: Cardiac Rehabilitation (CR)

- CR is a multidisciplinary, systematic approach to applying secondary prevention therapies of known benefit to patients with certain cardiovascular disease. Strategies include:
  - Regular exercise
  - Nutrition therapy/counseling
  - Medication management/compliance
  - Tobacco counseling
  - Counseling/therapy for emotional well-being and mood disturbance

Cardiac Rehabilitation

- 24 to 36 exercise visits
- Structured education

Who's Eligible?

- Myocardial infarction
- Heart surgery:
  - coronary artery bypass
  - valve replacement/repair
- Stable angina
- Percutaneous coronary intervention (PCI)
- Cardiac transplant
- Heart failure (CMS limited to reduced ejection fraction only)

Smith et al., AHA/ACCF Secondary Prevention and Risk Reduction Therapy for Patients with Coronary and other Atherosclerotic Vascular Disease: 2011 update: a guideline from the American Heart Association and American College of Cardiology Foundation. Circulation. 2011:29;124:2458-73.

Relevant Professional Guidelines Addressing CR

1.	2014 AHA/ACC Guideline for the Management of Patients with Non-ST-Elevation Acute Coronary Syndromes: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines
2.	2013 ACCF/AHA guideline for the management of ST-elevation myocardial infarction: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines
3.	2015 ACC/AHA/SCAI Focused Update on Primary Percutaneous Coronary Intervention for Patients With ST-Elevation Myocardial Infarction: An Update of the 2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention and the 2013 ACCF/AHA Guideline for the Management of ST-Elevation Myocardial Infarction
4.	2013 ACCF/AHA Guideline for the Management of Heart Failure
5.	2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS Guideline for the Diagnosis and Management of Patients With Stable Ischemic Heart Disease
6.	AHA/ACCF secondary prevention and risk reduction therapy for patients with coronary artery and other atherosclerotic vascular disease: 2011 update
7.	2011 ACCF/AHA Guideline for Coronary Artery Bypass Graft Surgery

Summary of the Effectiveness of CR/Exercise Training in Secondary Prevention

Improved disease-related symptoms Definite	Improved exercise capacity, 10%-30% Definite
Improved resting blood pressure – Definite	Anti-inflammatory effect – Probable
Improved blood triglyceride – Definite	Improved endothelial function – Definite
Improved high density lipoprotein – Probable (mild)	Improved skeletal muscle strength – Definite
Improved blood glucose – Definite	Improved skeletal muscle endurance – Definite
Reduction in body weight – Partially	Decreased risk all-cause mortality – Definite/Probable
Improved mood (depression/anxiety) – Definite/Probable	Decreased risk all-cause hospitalization – Definite

Henry Ford Health System

Progress in Cardiovascular Disease. 2011:53;385-386, 397-403, and 419-446

Meta-Analysis of Exercise Training in Patients with Coronary heart disease

- All-cause mortality (>12 mo follow up)
  - *N* = 16 trials; *n* = 5,790 subjects
  - ↓ 13% (RR 95% CI = 0.75, 0.99)

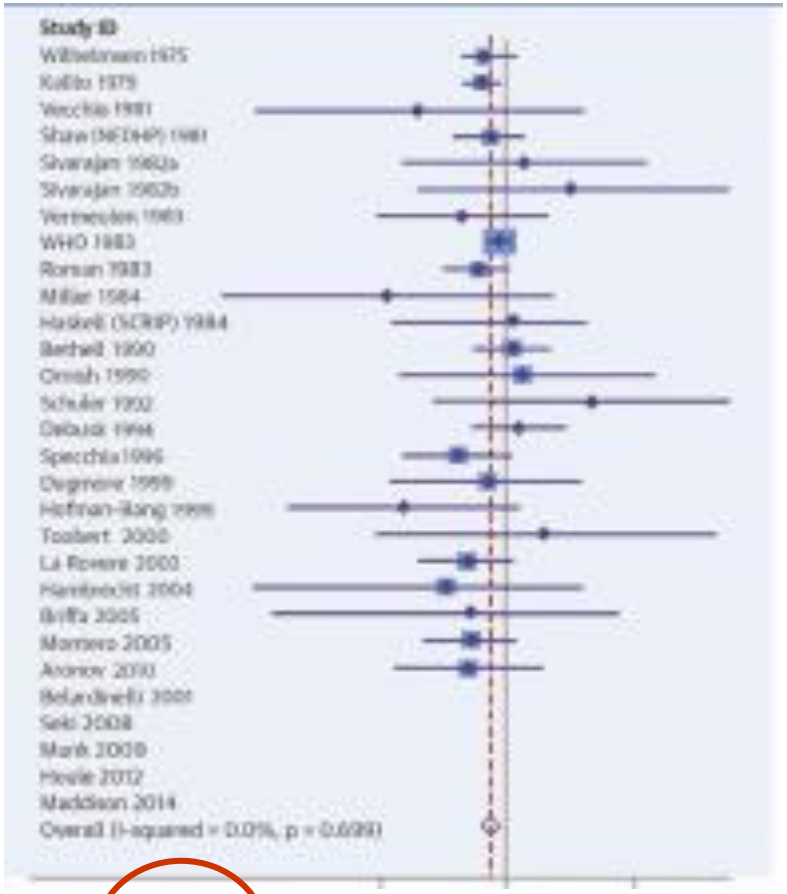
- Cardiovascular mortality (>12 mo f/up)
  - *n* = 12 trials; *n* = 4,757 subjects
  - ↓ 26% (RR 95% CI = 0.63, 0.87)

- Hospital readmission (6 - 12 mo follow up)
  - *n* = 4 trials; *n* = 463 subjects
  - ↓ 31% (RR 95% CI = 0.51, 0.93)

Heran et al. Cochrane Database Syst Rev. 2011 Jul 6;(7):CD001800.

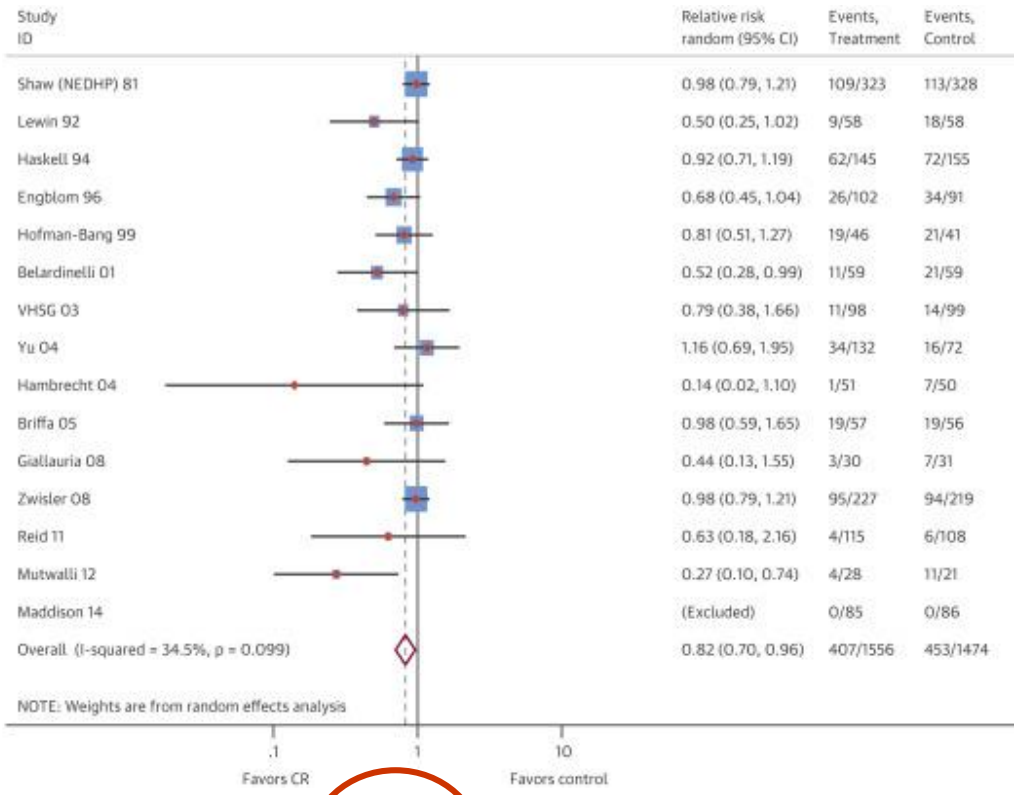
Coronary heart disease, exercise cardiac rehabilitation, and …

Cardiovascular Mortality



RR: 0.74; 95% CI: 0.64 to 0.86

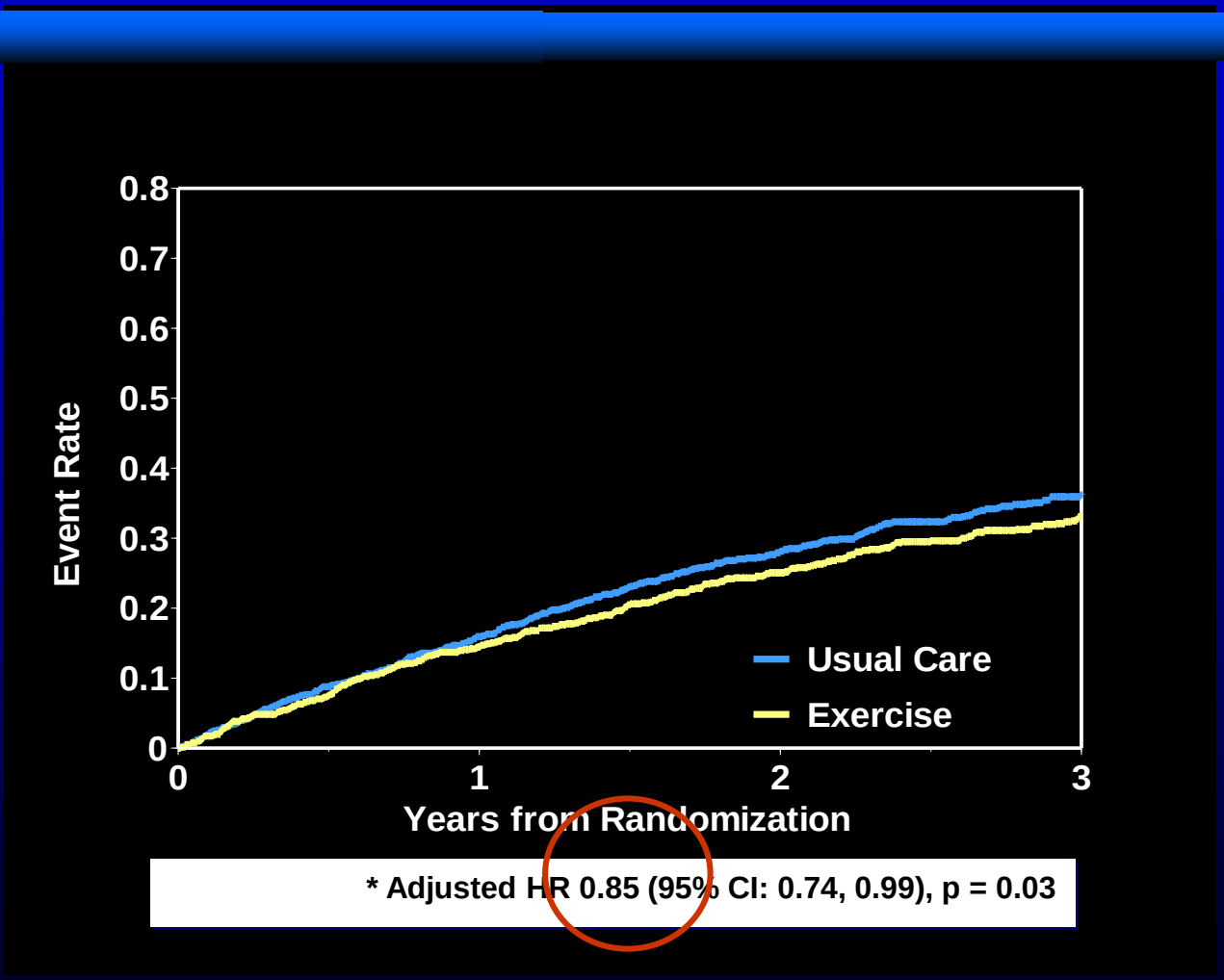
Hospitalization



RR: 0.82; 95% CI: 0.70 to 0.96

Anderson L, et al., J Am Coll Cardiol. 2016;67:1-12

HF-ACTION Trial and CV Mortality or Heart Failure Hospitalization (n=2331)



*Adjusted for key prognostic factors at baseline: etiology + atrial fibrillation, exercise duration, Beck depression score, ejection fraction.

CrossMark

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

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

….increasing CR participation from 20% to 70% would save 25,000 lives and prevent 180,000 hospitalizations annually in the U.S.

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 Ia 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 United States.

 ■ Mayo Clin Proc. 2017;92(2):234-242

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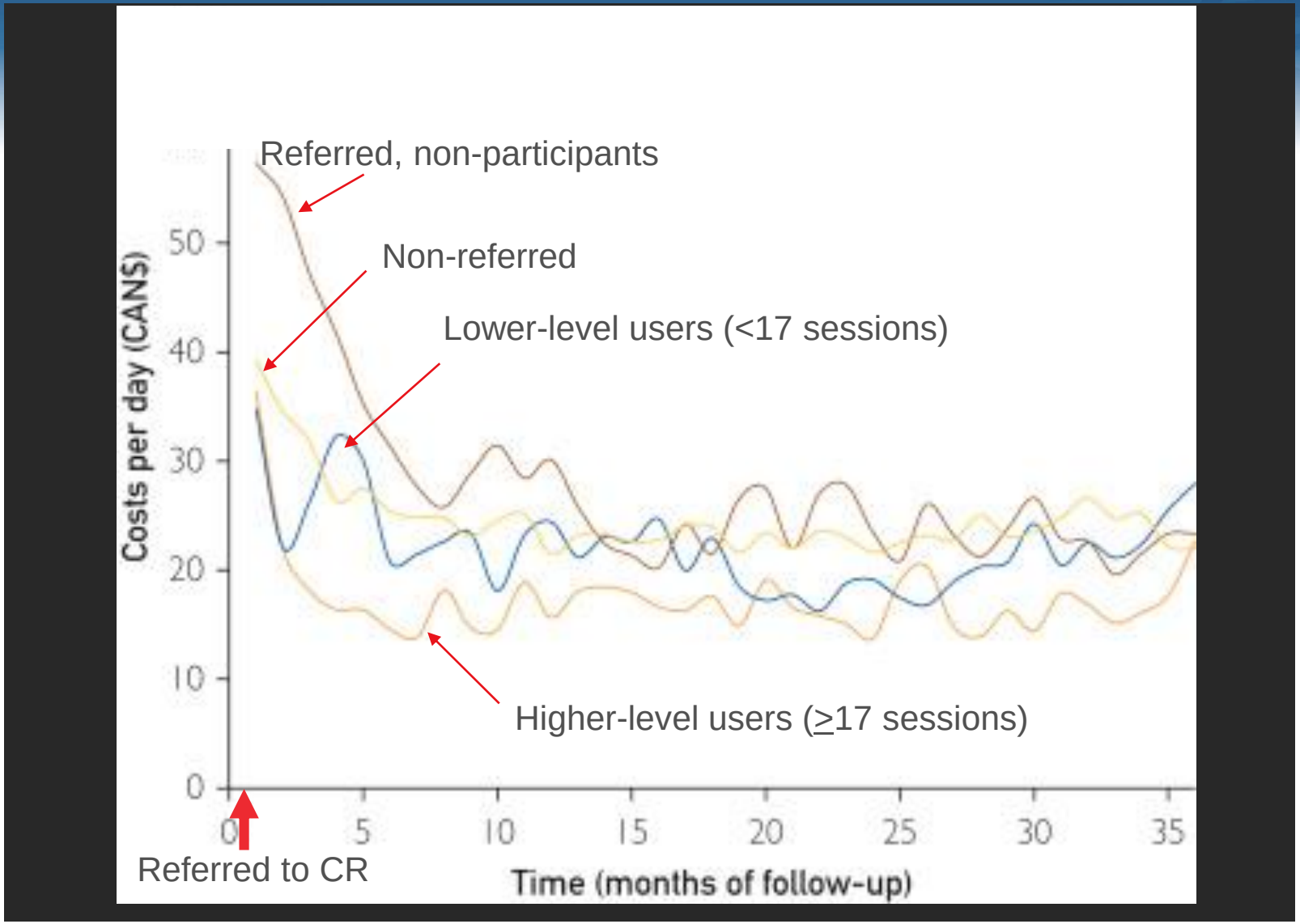
Health Care Utilization Costs per day in a Universal Health Care System



Costs per day in the 36 months after referral to cardiac rehabilitation in 4 matched groups.
Alter et al., Mayo Clinic Proc. 2017;92:500-511

Costs Analysis: HF-ACTION

Costs, $2008, mean (SD)	ET (n=1,159)	Usual Care (n=1,172)	Difference (95% CI)
Total Direct Medical Costs	$50,857 (81,488)	$56,177 (92,749)	$- 5320 (- 12,755 to 1,547)
Direct Costs, Exercise Training	$1,006 (337)	$0	$1,006 (985 to 1,024)
TOTAL excluding Pt. time	$51,863 (81,469)	$56,177 (92,749)	$- 4314 (- 11,690 to 2,631)

HF-ACTION trial. 2331 patients with chronic, stable heart failure randomized to at least 1 year of supervised then home exercise versus usual care. O'Connor et al., JAMA, 2009

Summary

1. CR is a multidisciplinary, systematic approach to applying secondary prevention therapies of known benefit to patients with certain cardiovascular disease.
2. CR represents guideline-based care
3. CR is effective, associated with:

    - improving many physiologic and behavioral outcomes

    - reducing all-cause mortality, cardiovascular mortality and re-hospitalization

Cardiac Rehab Delivery and Best Practices

Kim Newlin, MS, ANP-C, FPCNA, FAHA
PCNA Board Member
Sutter Heart and Vascular Institute

Current Participation & Capacity

- Current participation ranges from only 20-30%
  - Depends upon cardiac diagnosis
  - Surgical revascularization has higher participation rates than after MI or percutaneous revascularization
- Even with modest expansion of all existing programs operating at capacity, a maximum of 47% of qualifying patients in the United States could be serviced by existing CR programs

Pack et al. (2014). *Journal of Cardiopulmonary Rehabilitation and Prevention*, *34*(5), 318-326

No Referrals and Delays Impact Care

- Low referral rate for women, older adults and ethnic minorities, lower socioeconomic status
  - Women and minorities are significantly more likely to die within 5 years after a first MI compared with white male patients
- For every 1 day delay to start CR, ~1% less likely to improve across all fitness related measures
- Goal start date < 4 weeks from referral

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PCNA
PREVENTIVE CARDIOVASCULAR NURSES ASSOCIATION

Fell et al, 2016: Open Heart; 3:e000369.
Benjamin et al, AHA Heart Disease and Stroke Statistics – 2017 Update

Referrals: What Are We Doing and What Works?

- Referrals not always automatic and often not offered to patient at time of event
  - Automatic referral increased the referral rate to 70%
  - Automatic referral + liaison attained referral rates of 86%
- Not a mandatory quality performance measure
  - Increase in referral rate at hospitals participating in quality improvement activities
  - AHA Get With the Guidelines > 50% referral rates
- Specialists and programs associated with discharging hospital increase referral rate

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PREVENTIVE CARDIOVASCULAR NURSES ASSOCIATION

Grace et al; Arch Intern Med. 2011;171(3):235-241.
Brown et al, JACC. 2009 54(6):515–521.

Standard Model

- Often far from where patients live without good parking or public transportation access
- 2-3 times per week max for patients
- Risk stratify – don't always offer 36 visits for all
- Set class times most often 7 AM – 3 PM, weekdays
- Lack of diversity among patients and clinicians
- Physician supervision required
- Expensive to operationalize
- Many patients have copay of $20-$40 per visit
- Clinicians are handling insurance issues

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Standard Model	Think Outside the Box…..
• Far from where patients live • Lack of good parking or public transportation access	• Provide transportation • Refer to programs closer to home • Combine with texting, phone calls
• Patients attend 2 or 3 times a week • Class times throughout day, most often 7 AM – 3 PM on weekdays • Risk Stratify	• Offer 5 x/week, weekends • Open gym times, extend hours • Bigger physical space • Recommend 36 visits for all
• Expensive to operationalize • Clinicians handling insurance issues • Lack of diversity among patients and clinicians	• Use more exercise physiologists • Share staff with other programs • Clerical staff with authorization and insurance experience • Encourage diversity in staff
• High Copays • Financial barriers for patients	• Foundation scholarships • Financial incentives to participate

Alternative Ideas

- Home Based or Hybrid Programs
  - Data supports efficacy and safety of programs
  - Texting improves CR attendance
  - Reimbursement doesn't support these programs
- Kaiser MULTIFIT: Patients attend a 2 hour class and then are monitored by a nurse over the phone
- Group Based Evaluations and Open Gym format reduce wait times
- Motivational rewards increase participation

Lounsbury et al. Int J Cardiol Heart Vasculature. 2015;7:170-175.
Bachmann J Cardiopulm Rehabil Prev. 2017 Sep;37(5):322-328
Pack et al. J Cardiopulm Rehabil Prev. 2013;33(3):153-159.

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What Can Hospitals Do?

- Dedicate process improvement team member for VSM or lean project to optimize efficiency
  - Identify gaps and opportunities
  - Include patient advisors
  - Financial analysis
- Help automate referrals: embed in hospital orders
- Add referrals to quality dashboard
  - Reduces readmissions
  - Patient experience
  - Patient retention

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What Can Hospitals Do?

- Support the following:
  - Phase I and increasing hours of program
  - Physical space remodel or expansion (5S)
  - Piloting new models of care
- Encourage and support staff to attend meetings to learn best practices
- Encourage staff to practice to their full capacity
- Continue to fund your Cardiac Rehab program or explore ways to develop one!!

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The Future of Cardiac Rehabilitation

American Hospital Association Conference Call

October 25th, 2017

Quinn Pack, MD, MSc, FACC, FAHA
Preventive Cardiologist
Medical Director, Cardiac Rehabilitation
Baystate Medical Center
Springfield, MA

No Disclosures or Conflicts of Interest

Funded by NIH grant 1K23HL135440

Baystate Heart & Vascular Program

Polling Question #1

- Does your hospital care for patients with acute cardiac disease?
  - Yes
  - No
  - Unsure
  - Not applicable

Polling Question #2

- Does your hospital have an inpatient cardiac rehabilitation program or in some other way encourage patients to attend cardiac rehab, prior to hospital discharge?
  - Yes
  - No
  - Unsure
  - Not applicable

Polling Question #3

- Does your hospital have an outpatient cardiac rehabilitation program?
  - Yes
  - No
  - Unsure
  - Not applicable

Polling Question #4

- Does your hospital participate in an accountable care organization?
  - Yes
  - No
  - Unsure
  - Not applicable

Problems for cardiac rehab:

- Inpatient cardiac rehab does not impact the DRG and thus does not impact reimbursement
- Outpatient cardiac rehab has low reimbursement (~$80 session for Medicare) so that many programs struggle to just break even
- Often neglected by cardiologists in favor of fancier, more expensive gadgets/toys
- Cost-savings and quality of life benefits are usually unmeasurable by accountants and financial personnel
- Easy target for cuts if you forget your mission and purpose

High Value Service

- Cardiac Rehabilitation:
  - Is safe
  - Improves quality of life
  - Improves morbidity and mortality
  - Is cost-effective in US studies
  - Produces cost-savings in single-payer systems
- We wouldn’t think of sending a patient home without needed medications and f/u appointments, so why would we ever send someone home without cardiac rehab?!?!

Cardiac Rehabilitation is not a Commercial Gymnasium

Cardiac Rehab

- Staffed by physicians, nurses, dieticians, and exercise physiologists
- Telemetry
- Medications
- Education sessions
- Group interactions
- Behavior change support

Local Gym

- Membership fee
- No medical expertise
- No accountability
- No follow-up
- No clinical services or coordination

Choices to Make

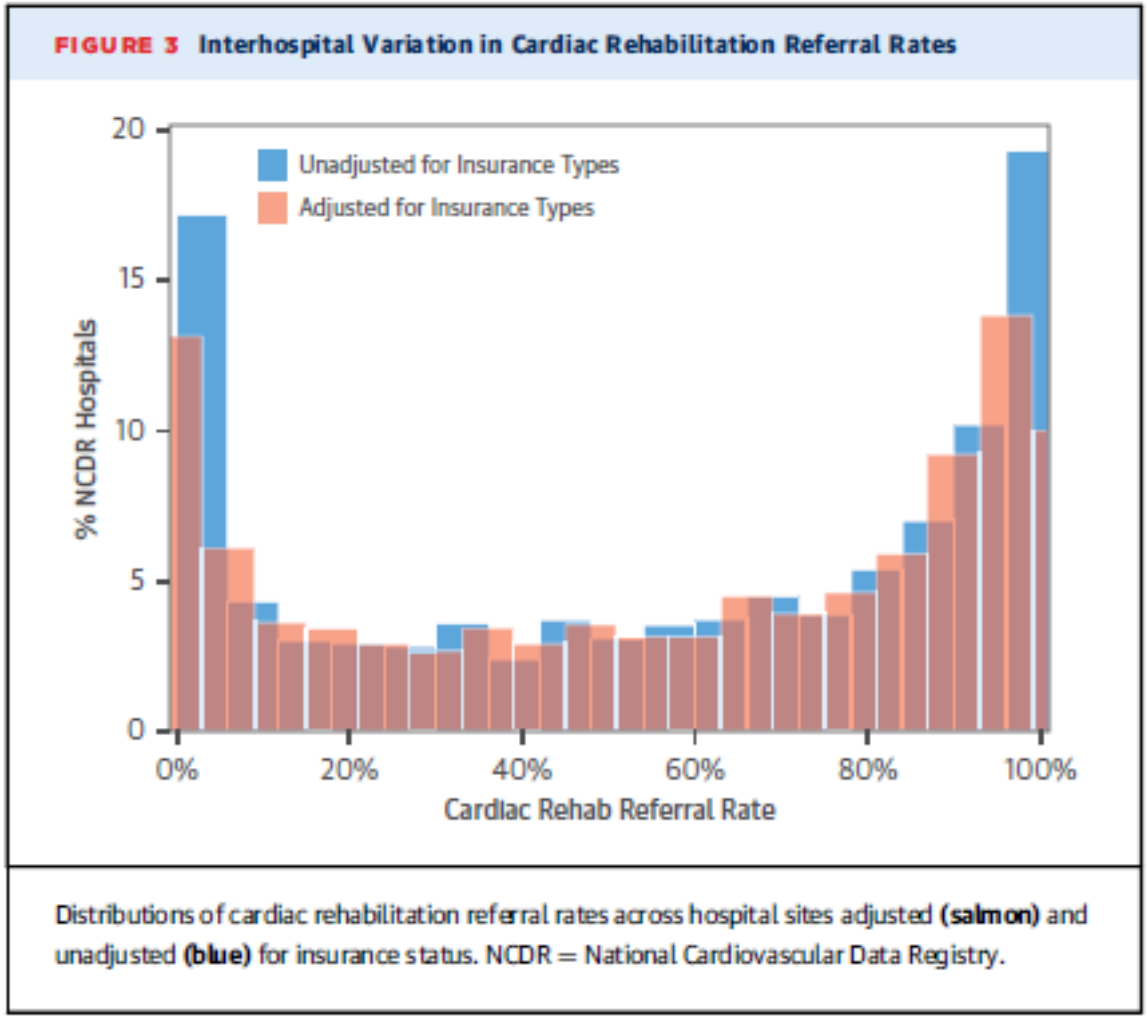
- Assure automatic referral
  - Build in redundancy with multiple triggers
- Choose to hire and maintain inpatient staff
  - They have greater value than can be easily measured
- Train/hire a physician champion and given them admin time and an audience
- Work with local CR programs to hasten enrollment

Role of the Hospital

- Present Fact: >95% of patients who qualify for cardiac rehabilitation had the diagnosis or procedure during a preceding hospitalization
- The moment to act is in the hospital!
- Goal: 100% referral
- Goal: 100% liaison-facilitated transition
  - Navigator, Inpatient CR, Nursing protocols, etc.

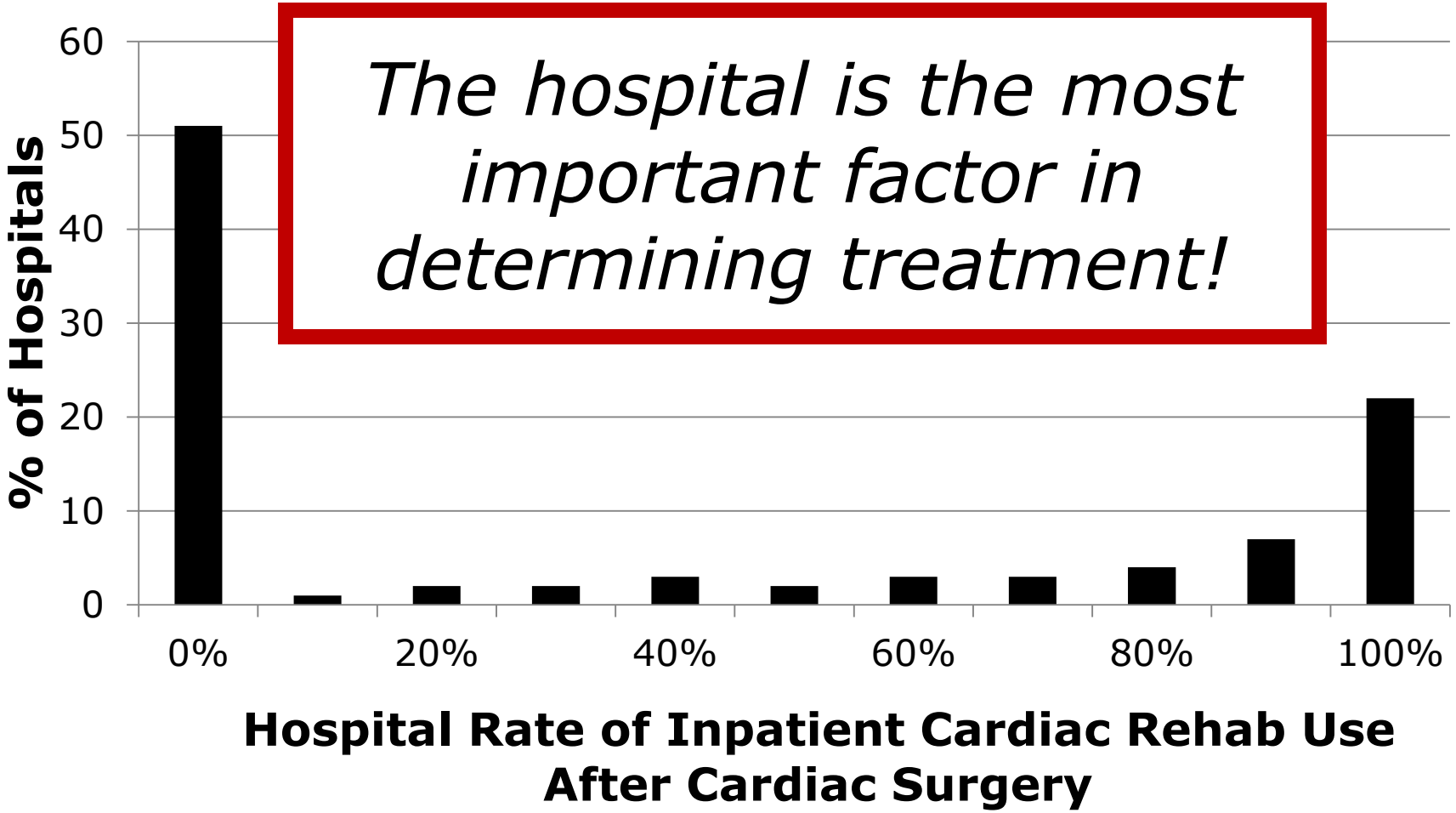
Referral after Cardiac Stent

- 60% referral rate
- The **HOSPITAL** was the most important factor for predicting referral rate
- Rates ranged from 0 to 100%



Aragam et al, J Am Coll Cardiol 2015 May 19; 65 (19): 2079

Inter-hospital Variation in Use of Inpatient Cardiac Rehab



Pack et al, unpublished

The Future

- I strongly believe that actions taken by hospitals are central to improving cardiac rehabilitation participation and reaching the 70% goal by 2022
- The NIH believed me enough to give me $700K grant to study the role of the hospital in improving cardiac rehab
- Your hospital may be surveyed by me in the coming year… please respond!

"Those who think they have not time for bodily exercise will sooner or later have to find time for illness."

~Edward Stanley

15th Earl of Derby
British Statesman
1826 - 1893

"The superior doctor prevents sickness; The mediocre doctor attends to impending sickness; The inferior doctor treats actual sickness."

~Chinese Proverb

North Manchurian Plague Prevention Service Reports (1925-1926)

Thank you!

Quinn.PackMD@baystatehealth.org

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Q & A

huddle™ for care

We are seeking success stories related to cardiac rehab care transitions.

Share a policy or procedural improvement you have implemented to improve cardiac rehab referral, participation, and/or completion.

You can pitch the idea (big or small) and we'll help you write the story.

Submit your idea at https://www.surveymonkey.com/r/huddlestory.

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November 1, 2017

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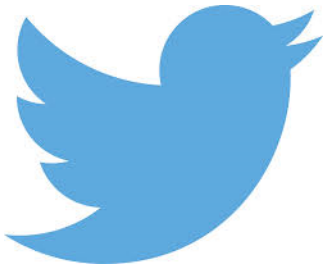

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