Optimizing Cardiac Rehabilitation Participation: Implementation of the Revised Million Hearts®/AACVPR Cardiac Rehabilitation Change Package

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AACVPR

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38TH ANNUAL MEETING

Million Hearts® and Cardiac Rehabilitation – Turning Evidence into Opportunity

38th AACVPR Annual Meeting

September 13, 2023

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Division for Heart Disease and Stroke Prevention

Centers for Disease Control and Prevention

Disclosures

- No disclosures.

- The opinions expressed by authors contributing to this project do not necessarily reflect the opinions of the Centers for Disease Control and Prevention. Use of trade names is for identification only and does not imply endorsement.

Million Hearts® 2027 Priorities

Building Healthy Communities
Decrease Tobacco Use
Decrease Physical Inactivity
Decrease Particle Pollution Exposure

Optimizing Care
Improve Appropriate Aspirin or Anticoagulant Use
Improve Blood Pressure Control
Improve Cholesterol Management
Improve Smoking Cessation
Increase Use of Cardiac Rehabilitation

Focusing On Health Equity

- Pregnant and Postpartum Women with Hypertension
- People from Racial/Ethnic Minority Groups
- People with Behavioral Health Issues Who Use Tobacco
- People with Lower Incomes
- People Who Live in Rural Areas or Other 'Access Deserts'

Million Hearts "Recipe" for Success

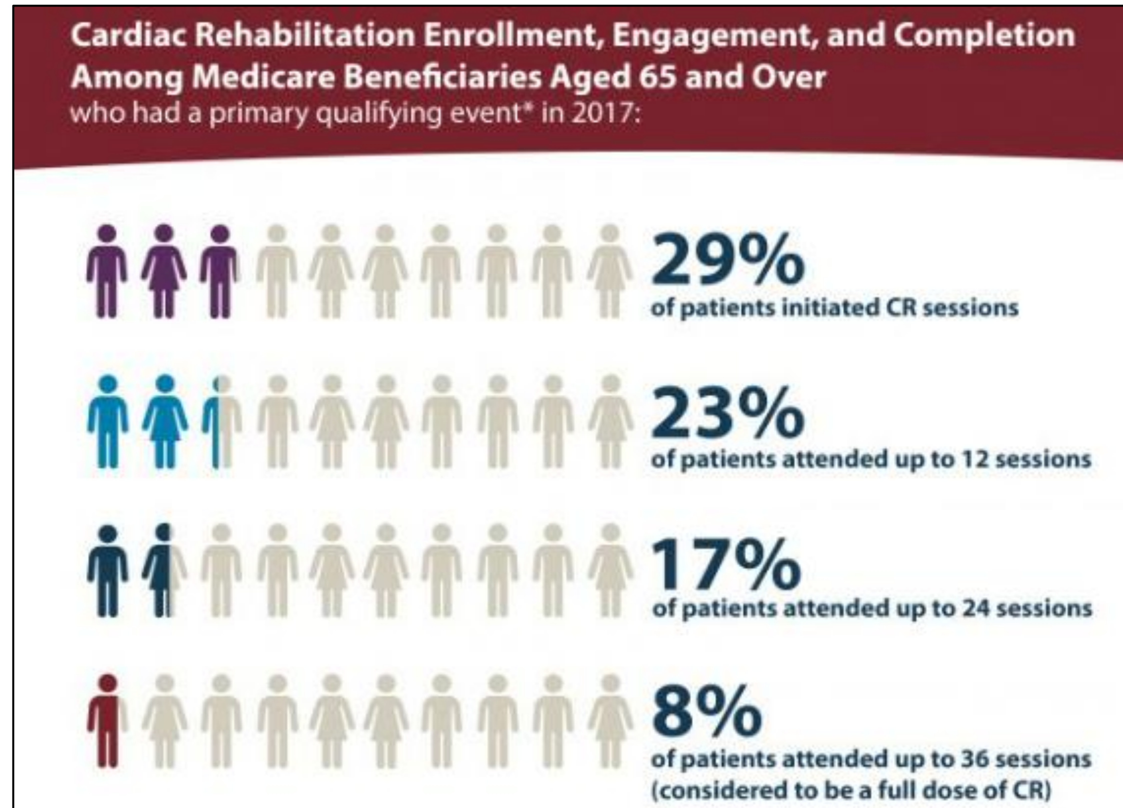
70% CR Participation

Improvement in Outcomes of Interest	=	Surveillance Data to Highlight Gaps	+	Translation of Evidence-based Strategies	+	Support Clinical Quality Improvement	+	Provide Networking and Discussion Forums	+	Advance Innovation & Recognize High Performers

Surveillance Data to Highlight Gaps

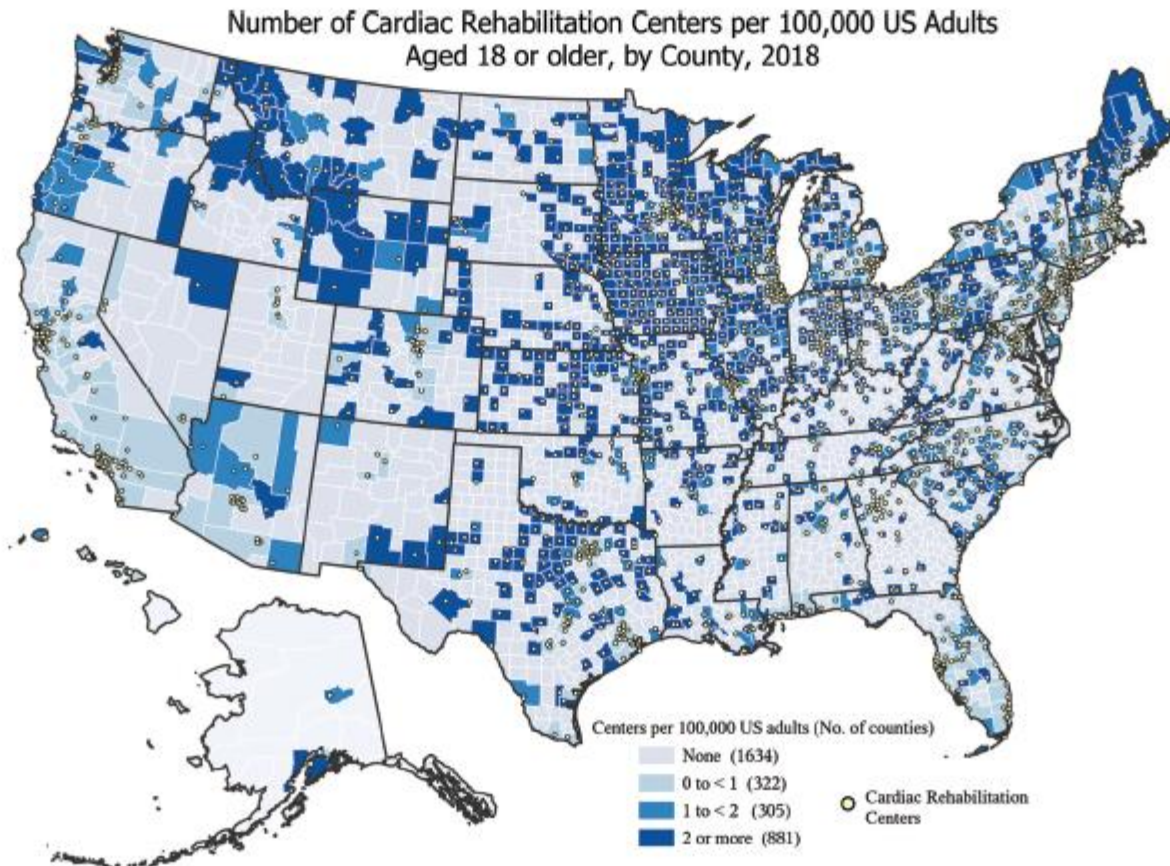
Surveillance Activities

- Ritchey MD, et al. Tracking Cardiac Rehabilitation Participation and Completion Among Medicare Beneficiaries to Inform the Efforts of a National Initiative. Circ Cardiovasc Qual Outcomes. **2020**;13(1):e005902.
- Keteyian SJ, et al. Tracking Cardiac Rehabilitation Utilization in Medicare Beneficiaries: 2017 Update. J Cardiopulm Rehabil Prev. **2022** Jul 1;42(4):235-245.
- Million Hearts Cardiac Rehabilitation Surveillance Methodology (**2019, 2023**) – https://millionhearts.hhs.gov/files/Cardiac-Rehab-Use-Surveillance-Guidance-508.pdf



Surveillance Data to Highlight Gaps

More Surveillance – CR Deserts



- Wall HK, et al. The Million Hearts Initiative: Catalyzing Utilization Of Cardiac Rehabilitation And Accelerating Implementation Of New Care Models. J Cardiopulm Rehabil Prev. **2020**;40(5):290-293.
- DeLara D, Pollack L, et al. County-level Analysis Of Cardiac Rehabilitation Facilities And Broadband Access To Support Virtual/Hybrid Models. AACVPR Beginning Investigator Award Presentation – **TODAY, 2:45 pm – 4:00 pm**

Translation of Evidence-based Strategies

Evidence Translation

SPECIAL ARTICLE

MAYO CLINIC

CrossMark

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 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 …

Road map to 70% CR participation

Cardiac rehabilitation adherence
- Set 36 CR sessions as goal
- Home-based CR option
- Flexible CR hours
- Work to minimize CR co-pays

Cardiac rehabilitation enrollment
- CR staff liaison
- Early appointment at CR
- CR enrollment as performance measure
- Work to minimize co-pays

Cardiac rehabilitation referral
- EMR-based referral
- CR staff liaison
- CR referral as performance measure

FIGURE. Conceptual framework for increasing cardiac rehabilitation (CR) participation from 20% to 70%. EMR = electronic medical record.

Mayo Clin Proc. ■ February 2017;92(2):234-242 ■ http://dx.doi.org/10.1016/j.mayocp.2016.10.014
www.mayoclinicproceedings.org ■ © 2016 Mayo Foundation for Medical Education and Research

2017

Million Hearts®

AACVPR
American Association of Cardiovascular and Pulmonary Rehabilitation
Promoting Health & Preventing Disease

Act
Plan
Study
Do

A MILLION HEARTS® ACTION GUIDE

Cardiac Rehabilitation

CHANGE PACKAGE

CDC

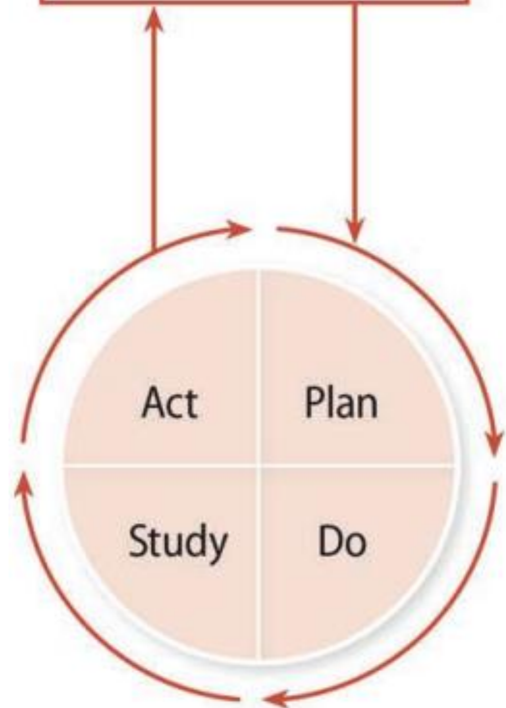
2018

The Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in improvement?



Ask three questions:

1. What are we trying to accomplish?
   → Goal(s)
2. How will we know that a change is an improvement?
   → Objective(s)
3. What changes can we make that will result in improvement?
   → Cardiac Rehabilitation Change Package

What is a Change Package?

Soup & Salads

HOMEMADE DAILY SOUPS	$2.99
CAESAR SALAD Fresh romaine, parmesan, croutons, bacon, tossed in creamy caesar dressing	$6.99
Add chicken to your caesar	$2.99
GARDEN SALAD Crisp mix of romaine and leaf lettuce, topped with seasonal veggies	$6.99
GREEK SALAD A traditional Greek salad tossed in a homemade red wine vinaigrette	$8.99

Burgers - INCLUDES SOUP OR FRIES

MIDWAY BURGER 8 oz. lean ground beef topped with cheese, mushrooms, peameal bacon and served on a fresh kaiser bun with lettuce, onion and tomato	$8.25
ORIGINAL BURGER 8 oz. lean ground beef, served on a fresh kaiser bun with lettuce, onion and tomato	$6.25
Add cheese to your burger	$0.75
BANQUET BURGER 8 oz. lean ground beef topped with cheese and bacon. Served on a fresh kaiser bun with lettuce, onion and tomato	$7.25

Sandwiches - INCLUDES SOUP OR TWO SIDES

SIDES: Fries, Mashed Potato, Baked Beans, Mac & Cheese, Coleslaw, Daily Vegetable, Homemade Apple Sauce.

CHICKEN SANDWICH Sliced chicken breast with lettuce and tomato	$8.25
CHICKEN CLUB Two layers loaded with chicken, bacon, lettuce, tomatoes and cheese	$9.25
MIDWAY RUBEN Corned beef, sauerkraut, swiss cheese and Russian dressing on rye	$9.99
PEAMEAL SANDWICH Two thick slices of peameal bacon with lettuce and tomato	$8.99
ROAST BEEF DIP Shaved lean beef served on a toasted vienna loaf "au jus" for dipping	$9.99
ROAST BEEF	$8.25
HOT ROAST BEEF	$8.25
HOT HAMBURGER	$6.99
B.L.T	$7.25
CORNED BEEF ON RYE	$8.99
CHICKEN SALAD	$7.99
EGG SALAD	$5.99
GRILLED CHEESE (Add Bacon $1.25)	$5.25
HAM AND CHEESE	$7.25
TOASTED WESTERN	$6.99
TUNA SALAD	$6.99

Entrées

BEEF LASAGNA Served with caesar salad and garlic bread	$10.99
MEAT LOAF Served with mashed potato and daily vegetables	$8.99
CHILI & TOAST	$6.99
CHICKEN FINGERS N' Fries	$8.99

Evidence-based menu of ways to change care processes

Focus areas

What is a Change Package?

Sandwiches – INCLUDES SOUP OR TWO SIDES

Potato, Baked Beans, Mac & Cheese, Coleslaw, Daily Vegetable, Homemade Apple Sauce.

CHICKEN SANDWICH
Sliced chicken breast with lettuce and tomato — $8.25

CHICKEN CLUB
Two layers loaded with chicken, bacon, lettuce, tomatoes and cheese — $9.25

MIDWAY RUBEN
Corned beef, sauerkraut, swiss cheese and Russian dressing on rye — $9.99

PEAMEAL SANDWICH
Two thick slices of peameal bacon with lettuce and tomato — $8.99

ROAST BEEF DIP
Shaved lean beef served on a toasted vienna loaf "au jus" for dipping — $9.99

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Soup & Salads

HOMEMADE DAILY SOUPS — $2.99

CAESAR SALAD
Fresh romaine, parmesan, croutons, bacon, tossed in creamy caesar dressing — $6.99
Add chicken to your caesar — $2.99

GARDEN SALAD
Crisp mix of romaine and leaf lettuce, topped with seasonal veggies — $6.99

GREEK SALAD
A traditional Greek salad tossed in a homemade red wine vinaigrette — $8.99

Burgers – INCLUDES SOUP OR FRIES

MIDWAY BURGER
8 oz. lean ground beef topped with cheese, mushrooms, peameal bacon and served on a fresh kaiser bun with lettuce, onion and tomato — $8.25

ORIGINAL BURGER
8 oz. lean ground beef, served on a fresh kaiser bun with lettuce, onion and tomato — $6.25
Add cheese to your burger — $0.75

BANQUET BURGER
8 oz. lean ground beef topped with cheese and bacon. Served on a fresh kaiser bun with lettuce, onion and tomato — $7.25

Entrées

BEEF LASAGNA
Served with caesar salad and garlic bread — $10.99

MEAT LOAF
Served with mashed potato and daily vegetables — $8.99

CHILI & TOAST — $6.99
CHICKEN FINGERS N' Fries — $8.99

Change Concepts – What type of process are you in the mood to change?

What is a Change Package?

Soup & Salads

HOMEMADE DAILY SOUPS	$2.99
CAESAR SALAD Fresh romaine, parmesan, croutons, bacon, tossed in creamy caesar dressing	$6.99
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Change Ideas – What specific strategy within your selected process type do you want to try?

Tools and Resources – The <u>recipes</u> for your selected strategy that others have followed

CRCP, 1st Ed. Feedback

- 71% of respondents were aware of the CRCP
- 70% had applied components of the CRCP to their work
  - → Most often for referrals
- “Good”, “great”, “very helpful”, “simple to follow”
- Requests for new tools:
  - → Care coordination
  - → Hybrid/virtual/home-based CR
  - → Help with administration support
  - → SET for PAD

CRCP = Cardiac Rehabilitation Change Package; CR = cardiac rehabilitation; SET = supervised exercise therapy; PAD = peripheral artery disease

Support Clinical Quality Improvement

Quality Improvement

Million Hearts®
AACVPR American Association of Cardiovascular and Pulmonary Rehabilitation
Promoting Health & Preventing Disease

Act Plan Study Do

A MILLION HEARTS® ACTION GUIDE

Cardiac Rehabilitation
CHANGE PACKAGE

2019-2022

NCQA Measuring quality. Improving health care.
Our Programs HEDIS Contract & Professional Services Report Cards Educ
Blog Topics Inside Health Care Search blog

Quality of Care

Cardiac Rehabilitation: A New HEDIS Measure for Heart Health

October 4, 2021 · NCQA Communications

2023 Star Ratings Display Measure

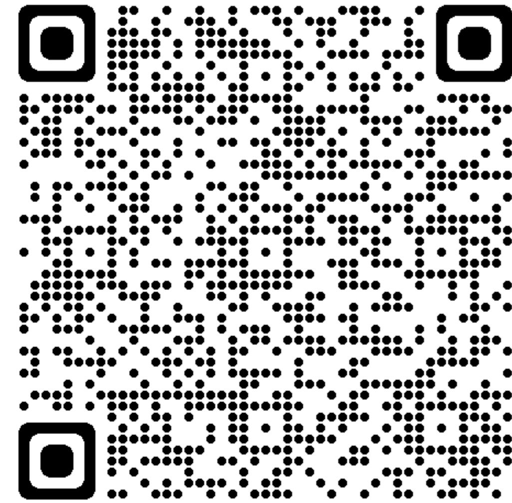
Provide Networking and Discussion Forums

Cardiac Rehabilitation Collaborative (CRC)

- Quarterly forums to share info, ask questions, assess progress
- >650 professionals and patients from >250 organizations
- Shared ‘action plan’ of objectives

Next call – November 14, 2023, 12:00-1:30pm ET

Learn more and register to join future meetings here:



Send questions or updates to MillionHeartsCRC@cdc.gov

Advance Innovation & Highlight High Performers

Innovation and Recognition

- Million Hearts Cardiac Rehabilitation Think Tank to Accelerate New Care Models (2020)
  - Beatty AL, et al. Circ Cardiovasc Qual Outcomes. 2021;14(10):e008215.
  - https://www.ahajournals.org/doi/10.1161/CIRCOUTCOMES.121.008215?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%200pubmed

- Million Hearts Hospitals & Health Systems Recognition Program
  - The Johns Hopkins Hospital, UCHealth Memorial Hospital, Eisenhower Health, and New Hanover Regional Medical Center

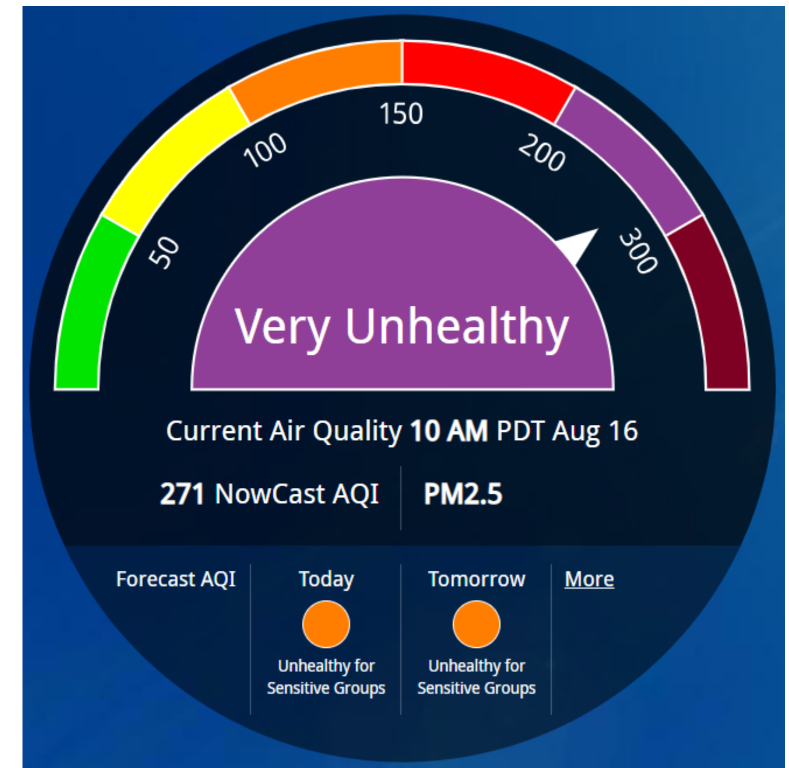
Million Hearts® Hospitals & Health Systems

Additional Opportunities

- Exposure to particulate pollution is linked to an **increased risk of heart attacks and other forms of heart disease**

Opportunities for CR program staff:

- Increase awareness about the Air Quality Index (AQI) – AirNow.gov
- Alert CR patients when the AQI may be hazardous to their health
- Include education about the hazards of particle pollution and how to limit exposure



Particle Pollution and Heart Disease: https://millionhearts.hhs.gov/about-million-hearts/building-communities/particle-pollution.html

Thank you!

Questions?

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Million Hearts®/AACVPR Cardiac Rehabilitation Change Package, 2nd Ed.

38th AACVPR Annual Meeting

September 13, 2023

Haley Stolp, MPH

Million Hearts®, Division for Heart Disease and Stroke Prevention

Centers for Disease Control and Prevention (CDC)

Disclosure and Disclaimer

- No relevant financial relationships or other conflicts of interest to disclose.

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July 2018 – Five Years Ago

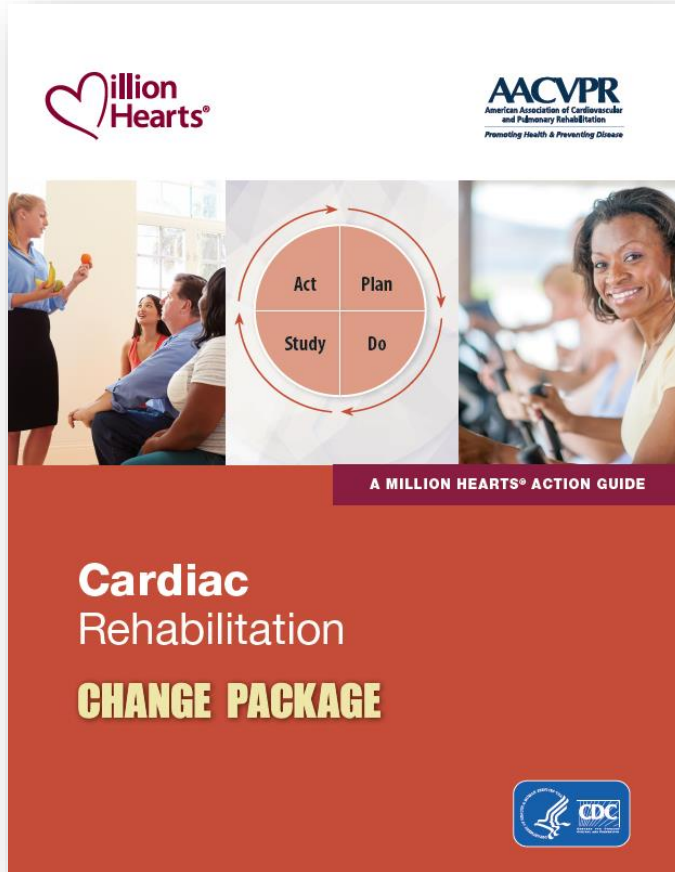
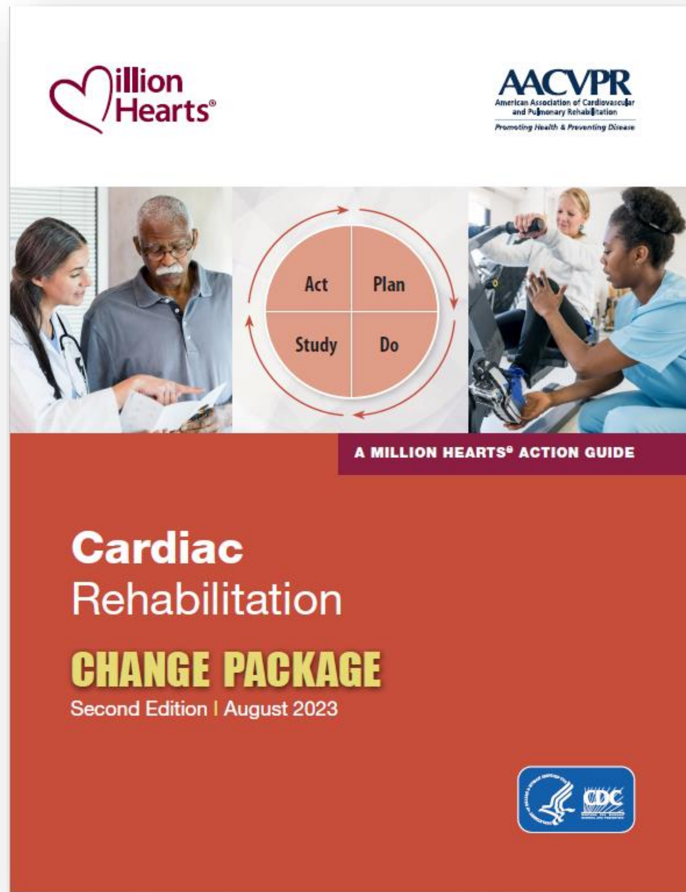


Figure 1. Cardiac Rehabilitation Change Package Focus Areas

Table 1. Cardiac Rehabilitation Change Package—Systems Change		
Change Concept	**Change Ideas**	**Tools and Resources**
Make CR a Health System Priority	Establish a hospital champion, such as a quality of care leader or a CR administrator	• **Lake Regional Health System**—Cardiopulmonary Rehabilitation: Presentation for Board of Trustees: http://bit.ly/2LJglX1 • Liverpool Hospital—Clinical Champions PowerPoint: http://bit.ly/2JkSD5a • AACVPR—Crucial Conversations with Medical Providers & Hospital Administrators About Cardiac Rehabilitation Services Delivering Value Based Care: http://bit.ly/2lWTJED • Million Hearts®—Getting to 70% Cardiac Rehabilitation Participation: Action Steps for Hospitals: http://bit.ly/2H2H1P1
	Engage the care team in CR and ensure their buy-in in CR	• AACVPR—Crucial Conversations with Medical Providers & Hospital Administrators About Cardiac Rehabilitation Services Delivering Value Based Care: http://bit.ly/2lWTJED • **Lake Regional Health System**—Cardiopulmonary Rehabilitation: Update to Department Managers: http://bit.ly/2lZCYVj • Million Hearts®—Cardiac Rehabilitation Infographic: http://bit.ly/2AO9FVt
	Use CR referral, enrollment, and participation as quality of care indicators	• 2018 ACC/AHA Clinical Performance and Quality Measure for Cardiac Rehabilitation, Thomas RJ, et al. 2018.[19]: http://bit.ly/2IYQcBO • AACVPR Cardiac Rehabilitation Systems Change Strategy—*Using Cardiac Rehabilitation Referral Performance Measures in a Quality Improvement System:* http://bit.ly/2LLuVxc • AACVPR—Sample Performance Measures Letter for Physicians and Providers: http://bit.ly/2lXFeAA

Million Hearts®/AACVPR Cardiac Rehabilitation Change Package, 2nd Edition



Includes new tools to:

- Communicate the opportunity for improvement to hospital leadership
- Access and use data to drive improvement
- Develop new CR program staffing models
- Implement automatic "opt out" referrals with care coordination
- Increase CR participation among disparate populations
- Advance hybrid CR delivery models

https://millionhearts.hhs.gov/tools-protocols/action-guides/cardiac-change-package/index.html

What's New?

- 2X tools (~100 new) from 40 organizations
- Highlights resources from the past 5 years
- Identifies tools and resources that:
  - Address disparities
  - Can be adapted to support supervised exercise training
- Includes strategies specifically for patients with heart failure (Appendix A)

CRCP, 2nd Ed. Contributors

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- **Christiana Care Health System**, Wilmington, DE
- **ECU Health Medical Center**, Greenville, NC
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- **Essentia Health**, Duluth, MN
- **Froedtert Health Community Memorial Hospital**, Menomonee Falls, WI
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- **Lifespan Cardiovascular Institute**, Providence, RI
- Liverpool Hospital, Liverpool, New South Wales
- **MacNeal Hospital**, Berwyn, IL
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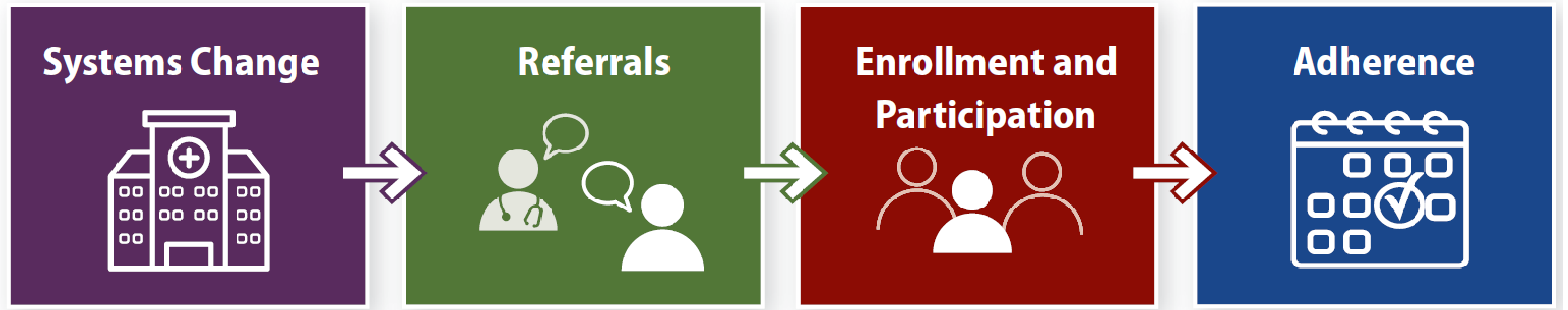
Bold font indicates CR programs in the United States that contributed content

CRCP Focus Areas



Million Hearts®

Resources in the CRCP, 2nd Ed.

1) AACVPR "Turnkey" Strategies
2) Case studies
3) Program-specific tools
   - Hospital policies
   - Form templates
   - EHR screenshots
4) Organization-specific tools
   (e.g., AHRQ, ACC, ACSM-CEPA, CDC)

AHRQ = Agency for Healthcare Research and Quality, ACC = American College of Cardiology, ACSM-CEPA = American College of Sports Medicine – Clinical Exercise Physiology Association, CDC = Centers for Disease Control and Prevention

Highlighted Tools and Resources

- New = New tools added to the CRCP 2nd edition.
- SET = Tools/resources that may be adapted to increase participation in SET.
- HE = Addresses the characteristics of equitable quality care.

Table 4. Adherence*

Change Concepts	Change Ideas	Tools and Resources
Identify Populations At Risk for Low Engagement	Know the characteristics that are predictive of attendance and dropout to identify patients at particular risk to offer extra support	• *Case Study:* **University of Alabama at Birmingham**—Increase Enrollment and Session Adherence: https://bit.ly/44lsiDT New • *Case Schedule:* **University of Alabama at Birmingham**—Cardiopulmonary Rehabilitation: https://bit.ly/44Ka7xw New • *Case Study:* **Baystate Medical Center**—Apply a Simple Clinical Tool to Predict Early Dropout in Cardiac Rehabilitation: https://bit.ly/43qQg5N New • Appendix A: Semistructured Telephone Script. La Valley G, et al., 2019: https://bit.ly/44ACeQ4[26] New SET • Centers for Disease Control and Prevention—How to Access Cardiac Rehabilitation Data Using the CDC Interactive Atlas of Heart Disease and Stroke: https://bit.ly/43xujSy New
Address Patient Barriers	Address the patient's social needs related to CR participation	• findhelp.org: https://bit.ly/3ASrWeX New SET HE • Eldercare Locator: https://bit.ly/2LfYAzs New SET HE • Working Effectively with an Interpreter: https://bit.ly/3rvQvyS New SET HE
	Offer transportation support	• Michigan Cardiac Rehab Network—Eliminating Transportation as a Barrier to Participation: https://bit.ly/44MYWV7 New SET HE • Centers for Medicare & Medicaid Services—Non-Emergency Medical Transportation: https://go.cms.gov/44nlefb New • AARP—Mobility Managers: Transportation Coordinators for Older Adults, People with Disabilities, Veterans, and Other Members of the Riding Public: https://bit.ly/3DdjeLF New
	Offer gender-tailored CR sessions	• *Case Study:* **Lifespan Cardiovascular Institute**—Impact of Women-Only Cardiac Rehabilitation on Adherence https://bit.ly/3NPEhJc New HE • Women-Focused Cardiovascular Rehabilitation: An International Council of Cardiovascular Prevention and Rehabilitation Clinical Practice Guideline. Ghisi GLM, et al., 2022: https://bit.ly/46KhS8K[27] New HE
	Assist patients with high out-of-pocket costs or economic burden	• AACVPR—Cardiac Rehab Pre-Authorization Template: https://bit.ly/3Dccei3 New SET HE • *Case Study:* **Christiana Care Health System**—Navigating Payment Options: https://bit.ly/3JVm6k2 New SET HE • *Case Study:* **University Hospital**—Applying Charity Care: https://bit.ly/3JYi8r0 New SET HE • *Case Study:* **Holland Hospital**—Using State-Based Vocational Rehabilitation Programs for Co-Pay Assistance: https://bit.ly/3pMt2Jr New SET HE
	Establish a philanthropic fund to partly underwrite CR costs for patients with high co-payments or without insurance	• AACVPR Cardiac Rehabilitation Enrollment Strategy—Establish a Philanthropic Fund: Spotlight on **Henry Ford Health System**: https://bit.ly/44AD0fW New SET HE

CRCP, 2nd Ed. Quick Reference

Systems Change
Make CR a Health System Priority
Establish a hospital champion, such as a quality-of-care leader or a CR administrator
Engage hospital administrators and senior staff in optimizing CR delivery
Secure and sustain a sufficient and multidisciplinary CR workforce
Engage the care team in CR and ensure their support for CR
Use CR referral, enrollment, and participation as quality-of-care indicators
Referrals
Incorporate Referral to CR Into Hospital Standardized Processes of Care for Eligible Patients
Support the verbal recommendation of CR to eligible patients by the referring clinician
Include referral to CR in order sets for appropriate patients; incorporate into EHR as appropriate
Include referral to CR in discharge checklists for appropriate patients; incorporate into EHR as appropriate
Include referral to CR in appropriate patient discharge forms; incorporate into EHR as appropriate
Develop a standard process for informing an external CR program of a referred patient
Develop a standard process for eligible patients to self-refer to CR

CRCP, 2nd Ed. Quick Reference (continued)

Enrollment and Participation
Optimize CR Care Coordination
Develop the infrastructure for deploying inpatient CR "liaisons"
Train inpatient "liaisons"
Identify patients' social needs for optimal CR participation
Engage patients' families and/or advocates
Educate Patients About the Benefits of Outpatient CR
Promote CR to eligible patients and their families
Use videos to describe your CR program and the impact of CR on health outcomes before hospital discharge or at the beginning of outpatient CR
Provide patient education materials that convey CR benefits
Reduce Delay From Discharge to First CR Appointment
Before hospital discharge establish an early (within 12 days of discharge) outpatient follow-up appointment
Coordinate handoffs for patients with deferred CR enrollment
Use Data to Drive Improvement in CR Enrollment or Participation
Determine CR enrollment or participation metrics
Regularly provide a dashboard with CR enrollment or participation metrics, goals, and performance
Improve Efficiency of Enrollment
Incorporate group orientations
Develop Flexible Delivery Models That Better Accommodate Patient Needs
Offer accelerated CR programs
Modify program structure and hours of operation to match patient preferences to accommodate more patients
Shift from a class structure to an open gym model
Provide case management or patient support services
Offer Hybrid CR Programs
Make the case for offering hybrid CR
Design and develop work processes to deliver hybrid CR
Identify which patients may be most appropriate for hybrid CR
Establish an approach to bill for hybrid CR
Offer self-administered educational programs to supplement CR participation

CRCP, 2nd Ed. Quick Reference (continued)

Adherence
Identify Populations At Risk for Low Engagement
Know the characteristics that are predictive of attendance and dropout to identify patients at particular risk to offer extra support
Address Patient Barriers
Address the patient's social needs related to CR participation
Offer transportation support
Offer gender-tailored CR sessions
Assist patients with high out-of-pocket costs or economic burden
Establish a philanthropic fund to partly underwrite CR costs for patients with high co-payments or without insurance
Improve Patient Engagement
Incorporate motivational and financial incentives for meeting goals for session attendance
Automate reminders and communication for CR sessions
Connect enrolled patients with a CR graduate patient ambassador or "sponsor"

Million Hearts®

Change Concept

Offer Hybrid CR Programs

Change Concept

Offer Hybrid CR Programs

Change Ideas

- Make the case for offering hybrid CR
- Design and develop work processes to deliver hybrid CR
- Identify which patients may be most appropriate for hybrid CR
- Establish an approach to bill for hybrid CR
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Change Concept

Offer Hybrid CR Programs

Change Ideas

- Make the case for offering hybrid CR
- Design and develop work processes to deliver hybrid CR
- Identify which patients may be most appropriate for hybrid CR
- Establish an approach to bill for hybrid CR
- Offer self-administered educational programs to supplement CR participation

Tools and Resources

- A Review of the Design and Implementation of a Hybrid Cardiac Rehabilitation Program: An Expanding Opportunity for Optimizing Cardiovascular Care
- AHRQ: Implementing Hybrid CR To Expand Access and Capacity
- Hybrid Cardiac Rehabilitation: A Virtual Group Exercise Session, Example and Advice (AHRQ Primary Care)
- UCSF Alexis Beatty Research: Cardiac Rehab Toolkit – Resources to help implement telehealth cardiac rehabilitation
- UCSF Cardiac Rehabilitation
- Risk assessment and eligibility

CRCP, 2nd Ed. Appendices

Appendix A: Strategies to Increase Cardiac Rehabilitation Participation Among Patients with Heart Failure

Appendix B: Additional Quality Improvement Resources

Northwestern | Baystate Health

SAMPLE ECHO REPORT:

Interventions to increase referral rates can have a large impact on increasing cardiac rehabilitation participation rates and help improve outcomes for patients with heart failure.

One approach is to revise echocardiogram (echo) reports for patients with an ejection fraction (EF) less than or equal to 35%. For any patient with an EF ≤35% a hospital can add the phrase "This patient has an EF of less than 35%. Consider whether this patient is eligible for referral to cardiac rehabilitation" to the conclusion section of their echo report.

The echo report below is an example of where this language can be added in the report.

MEASUREMENTS:

	Value	Indexed Value
Sinus of Valsalva	3.2 cm	
Left atrium diameter	2.6 cm (2D)	
Left atrial volume	40.2 ml	23.54 ml/m²
LV ID (diastole)	3.6 cm (2D)	2.1 cm/m²
LV ID (systole)	3.0 cm (2D)	1.8 cm/m²
IVS, leaflet tips	1.4 cm (2D)	
Posterior wall thickness	1.4 cm (2D)	
Global peak long strain	-9.20 %	
LVOT diam	1.9 cm	
LVOT stroke volume	33 ml	19.9 ml/m²
LVOT cardiac output	4.0 l/min	2.4 l/min/m²
LV end diastolic volume	79 ml (visual est.)	
Ejection Fraction	35 % (visual est.)	
RV basal diameter	2.6 cm	
TAPSE	15.0 mm	
S'	12.0	

Doppler:

	Value
AV Peak Velocity	1.3 m/s
AV Peak Gradient	7 mmHg
AV Mean Gradient	4 mmHg
AV Velocity Time Integral	16.8 cm
LVOT Peak Velocity	1.0 m/s
LVOT Peak Gradient	4 mmHg
LVOT Velocity Time Integral	11.2 cm
LVOT Cardiac Index	2.4 l/min/m²
AV Area Cont Eq VTI	2.0 cm²
AV Area Cont Eq peak	2.1 cm²
Mitral E Point Velocity	0.5 m/s
Mitral A Point Velocity	0.7 m/s
TR Peak Velocity	2.4 m/s
TR Peak Gradient	30.7 mmHg
PV Peak Velocity	0.9 m/s
PV Peak Gradient	3 mmHg
RVOT Peak Velocity	0.7 m/s

FINDINGS:

LEFT VENTRICLE:
The left ventricle is normal in size.

1

QI Essentials Toolkit

- Cause and Effect Dia
- Driver Diagram
- Failure Modes and Effects Analysis (FMEA)
- Flowchart
- Histogram
- Pareto Chart
- PDSA Worksheet
- Project Planning Form
- Run Chart & Control Chart
- Scatter Diagram

IHI's QI Essentials Toolkit includes the tools and templates you need to launch and manage a successful improvement project. Each of the nine tools in the toolkit includes a short description, instructions, an example, and a blank template.

Implementation Guide for Public Health Practitioners

The Grady Heart Failure Program:
A Model to Address Health Equity Barriers

National Center for Chronic Disease Prevention and Health Promotion
Division for Heart Disease and Stroke Prevention

Featured New Change Ideas and Resources

- *Case Study*: **MacNeal Hospital** — Cardiac Rehabilitation Internship Program[SET] (Table 1: Systems Change)
  Betsy Hart, MS, FAACVPR, ACSM-CEP, CCRP
  MacNeal Hospital Cardiac Rehab (Berwyn, IL)

- *Case Study*: **University of Vermont** – Case Management to Improve Cardiac Rehabilitation Participation[HE] (Table 3: Enrollment and Participation)
  Diann E. Gaalema, Ph.D.
  Vermont Center of Behavior and Health, University of Vermont (Burlington, VT)

- *Case Study:* **Holland Hospital** — Using State-Based Vocational Rehabilitation Programs for Co-Pay Assistance[HE, SET] (Table 4: Adherence)
  Megan Gross, MPH, CHES, ACSM-CEP
  Detroit Medical Center (Detroit, MI)

Benefits of Starting an Exercise Science/Physiology Internship Program

B103: *Optimizing Cardiac Rehabilitation Participation: Implementation of the Revised Million Hearts®/AACVPR Cardiac Rehabilitation Change Package.*

MacNeal Hospital

Betsy Hart, MS, FAACVPR, ACSM-CEP, CCRP

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Lead Clinical Exercise Physiologist / Internship Site Supervisor

2023 Illinois Society for Cardiopulmonary Health & Rehabilitation President-Elect

AACVPR Member Affiliation Relations Committee Member

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Conflicts

- No relevant financial relationships to disclose
- No other conflicts of interest

Why start an internship program?

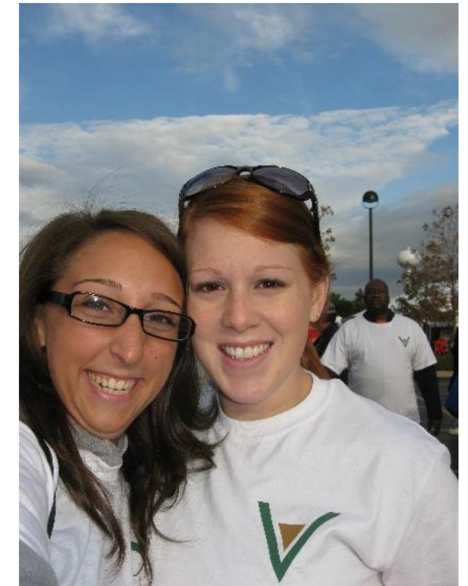
- To robustly staff your cardiac rehabilitation program
- To improve the safety and experience of your patients
- To improve efficiency (delegate time-consuming tasks, vitals, data-entry, quality improvement projects, outcomes tracking to interns)
- To recruit great candidates for future open positions
- To keep current staff on their toes - Students ask WHY?
- To bring new ideas "That's the way we have always done it"
- To maintain a high level of energy and enthusiasm in your dept.
- To give back - build the future leaders in the field of exercise physiology

How?

- Start an unpaid full and part time internship program
- Find BS & MS Exercise Science/Physiology Programs online
- Length: 1 semester/trimester
- Student Time commitment: 400-500 hrs. full time, 200-300 hrs. part-time
- Expect to take 6-12 months to get your program off the ground
- Establish a contract with several local schools
- Contracts can take 2-3 months to develop and sign with each new school
- Work with your marketing dept. to develop a web page about your internship program on your hospital website

What worked well

- Website Presence: The single most effective way to get the word out for to new students to apply
- Networking with state (ISCHR) and AACVPR to advertise your internship program
- Contact local university program directors to make connections
- Require applicants to provide resume/cover letter/CPR certification
- Require an in-person or zoom interview
- Internship Program PowerPoint: Email the applicant before the interview with slide deck about your program
- Study Guide: Send new interns a required study guide
- Pre-test/Post-test
- Student logs/Mid-terms/Final evaluations



Advice

- HR and the legal team are always changing their requirements for student interns' onboarding process
- Know that it will be an evolving process and try not to get frustrated if a change is made to the process. It may take more time or energy to onboard an intern given the ever-changing system, but it is worth it
- Universities can change their focus of study which means some years schools have more students interested in CR internships and some years there is less interest, so we have to flex where we recruit interns from
- Take more part-time students when we have less full-time applicants
- It is always changing. Never get comfortable with the process you are using because it will change tomorrow.

LOYOLA MEDICINE | MacNeal Hospital

A Member of Trinity Health

Resources needed

- Marketing Dept: draft language for your website and advertise the opportunity for students to join your internship program
- Legal team from the hospital: consulted to review the contracts and liability insurance policies with Universities
- Internship Coordinator: designee spends time communicating with the internship coordinator at the schools to review contracts
- HR representative: provide hospital employee onboarding, testing, orientation
- CR Staff: orienting the students to the CR program work processes and teaching them how to perform assigned tasks
- Liability insurance policy: University provided, covers the student during their entire internship period
- Full buy in from your staff: All staff members teach and participate in midterm and final reviews

Questions?

[Cardiac Rehabilitation Internship at MacNeal | Loyola Medicine]

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MacNeal Hospital

Case Management to Support Secondary Prevention

Diann Gaalema, PhD
University of Vermont

Disclosures

- Supported by grants from NIH, FDA
  - These views are my own and do not reflect the views of these agencies.
- No conflicts to disclose

Efficacy of Case Management

- Case managers have been used to support patients post-hospitalization in multiple studies
  - Provide recommended care for cardiac condition
  - Emphasize the importance of CR in recovery
  - Manage appointment and transportation needs
- These studies have shown case managers to be efficacious for:
  - Improving patient self-efficacy scores
  - Reducing risk factor scores (e.g., BP and cholesterol)
  - Improving psychological distress
  - Decreasing ED visits and hospitalizations
  - Reducing mortality

Berra et al., 2006, 2011; Peters-Klimm et al., 2010; Leung et al., 2004; Haskell et al., 2006; McAlister et al., 2014; Taylor et al., 1997

Potential Roles of the Case Manager

- The role of a case manager could look very different depending on the goal
- Narrow
  - Only assist with transition from hospital to attending CR
- Broader
  - Available following hospitalization for a set period of time to assist with medical needs (scheduling, transportation, reminders, communication within health system)
- Even broader
  - Assist with “secondary prevention.” What keeps patients from being able to take of themselves?
    - Help with the above, plus psychosocial issues, financial issues, etc.

Potential Roles of the Case Manager

- The timing/modality of availability can also vary
- Meet in-person in hospital
- Available by phone at certain times
  - Prescheduled meetings/can be called during certain hours
- Meet in-person at CR
  - Support through stresses/starts

On-Going Studies: Use of Case Management

- Case-Management to Support Secondary Prevention among Medicaid Patients
  - 209 patients randomized to different interventions. About half given case management
  - Case managers meet patients in hospital briefly, complete an in-depth needs assessment over the phone, have weekly calls with the patients, available as needed to respond to emergent questions/issues
- Case-Management to Support CR Attendance and Physical Activity for Women
  - 114 of women, half randomized to case management
  - Case managers meet patients in hospital briefly, complete and in-depth assessment over the phone to discuss patient home and environment safety, strengths, needs, behavioral goals and fitness goals (measured via step count), have weekly calls with patients to discuss behavioral and fitness goal progress, available as needed to respond to emergent questions/issues, available to attend CR starts or stresses if desired

Outcomes

- While studies are still in process…
- Patients report high levels of satisfaction with our case-managers
- May be particularly helpful with these populations
  - Isolation/lack of social support common in both populations
  - Lower-SES patients likely to have multiple needs, especially psychosocial

Resources Available

- The protocol for the lower-SES study has already been published
  - Yant et al., 2023. *Contemporary Clinical Trials*
- Main outcomes from both trials should be published in next 6 months
- The case management manual from the lower-SES study available as part of the change package
  - Along with the initial needs assessment

Presentation Take Away's

- Patients with a recent cardiac event are unlikely to only be dealing with health issues
- Case managers can help identify and overcome barriers
- Case management can potentially improve CR attendance as well as health outcomes

AACVPR

ignite

38TH ANNUAL MEETING

Using State-based Vocational Rehabilitation Services

B103: Optimizing Cardiac Rehabilitation Participation: Implementation of the Revised Million Hearts®/AACVPR Cardiac Rehabilitation Change Package

Megan Gross, MPH, CHES, ACSM-CEP
Detroit Medical Center (Detroit, MI)
September 13, 2023

Disclosures

No relevant disclosures.

Cost-sharing and CR Adherence

- The presence of any amount of cost-sharing was associated with 6 fewer sessions of CR
- Every $10 increase in copay was associated with 1.5 fewer sessions of CR

HHS Public Access

Author manuscript

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The Association Between Patient Cost-Sharing and Cardiac Rehabilitation Adherence

Michel Farah, MD[a], Maya Abdallah, MD[a], Heidi Szalai, MS[b], Robert Berry, MS[c], Tara Lagu, MD, MPH[a,d], Peter K. Lindenauer, MD, MSc[a,d], Quinn R. Pack, MD, MSc[a,b,d]

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Farah M, Abdallah M, Szalai H, et al. Association Between Patient Cost Sharing and Cardiac Rehabilitation Adherence. *Mayo Clin Proc*. 2019;94(12):2390-2398. doi:10.1016/j.mayocp.2019.07.018

Vocational Rehabilitation Services

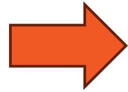
- VR programs provide services for those with disabilities to help find/maintain employment, including financial assistance for therapies that help get patients strong enough to return to work (e.g., PT, OT, CR).
- The State Vocational Rehabilitation (VR) Services Program provides grants to assist states in operating VR programs.

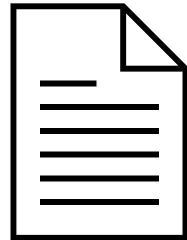
In Michigan…

- Most diagnoses that qualify for CR are considered a disability that qualifies for VR services
- The patient must be employed or looking for work
- Will typically help cover costs for up to 24 visits

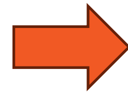
How does it work?

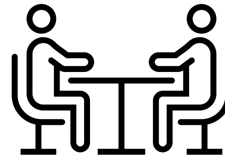
Patient initiates contact with VR office



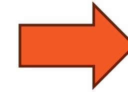


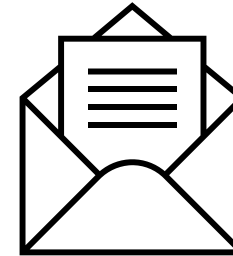
Application & Medical Records



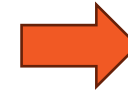


Patient meets with VR counselor





Approval letter



Patient starts CR!

Resources needed

- Relatively low lift for CR staff
  - **Billing department:** determine the best way to enter this information for patients who qualify for VR services into your current billing system.
  - **Meeting space (optional):** provide private space within CR department for patient to meeting with VR counselor.
  - **Relationship building:** a relationship between VR and CR staff makes for a smoother process overall for patients

Find your State Vocational Rehabilitation Agency

Questions?

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Let's Hear from Users of the CRCP.

Kathe Briggs, MS, ACSM-CEP, FAACVPR
Manager, Cardiac & Pulmonary Rehabilitation
East Alabama Health

Julianne DeAngelis
Program Manager, Cardiac, Pulmonary and Vascular Rehabilitation
The Miriam Hospital

Take Home Message

- <u>You can do this!</u>
- The CRCP, 2nd Ed. has the latest strategies and tools to increase CR participation.
- New additions include strategies and tools to:
  - Establish an internship program to sustainably staff your program
  - Use state-based vocational rehabilitation services
  - Employ case managers to help identify and overcome barriers to participation
- Help increase CR participation at your program by:
  - Sharing the CRCP, 2nd Ed. with your colleagues and partners
  - Establishing a CR quality improvement team at your program
  - Implementing <u>at least 1</u> new strategy in your hospital/CR program

Thank You

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Questions and Answers