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38TH ANNUAL MEETING

September 13-15, 2023 ✨ MILWAUKEE, WI

Turning Heart Failure into Heart Success

A 3 year review of improving referral, access and retention of patients with Heart Failure through a NIH Initiative

Patrick Schilling BS, ACSM-CEP, AACVPR-CCRP

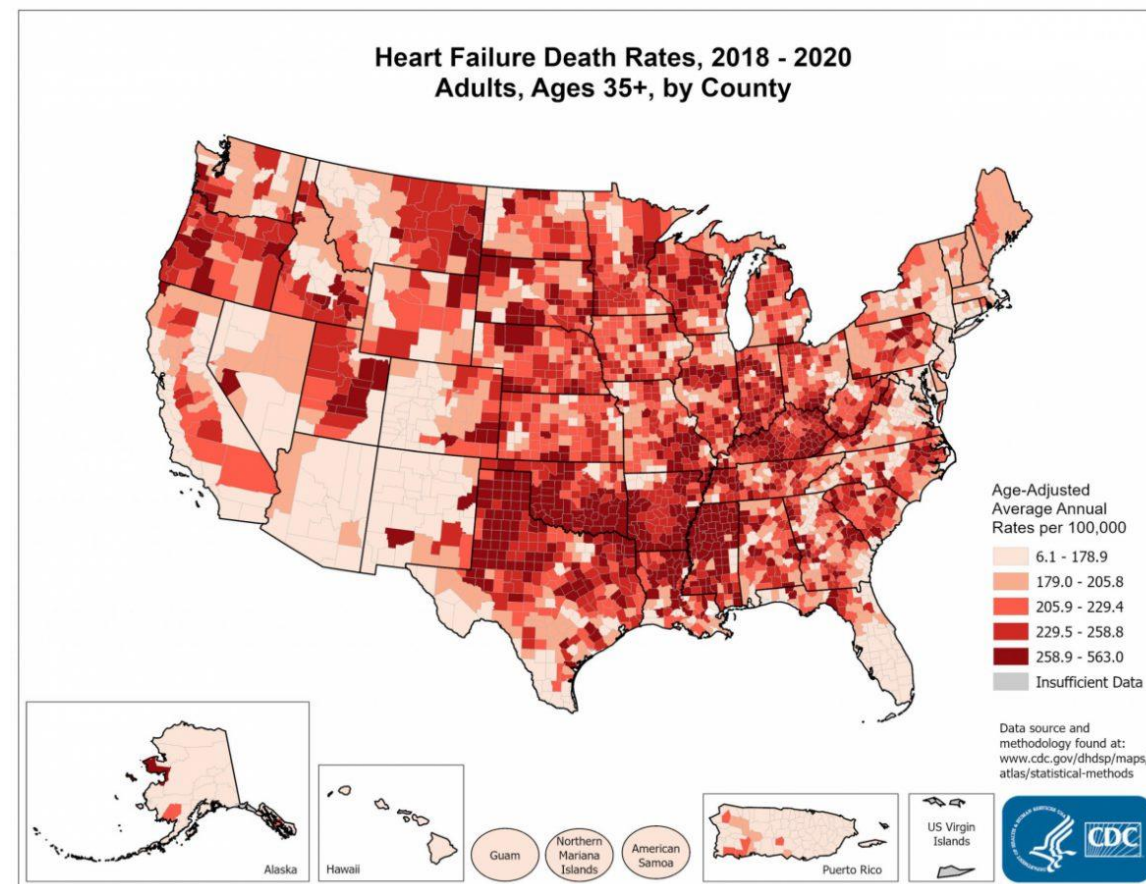
Disclosures

“No relevant disclosures.”

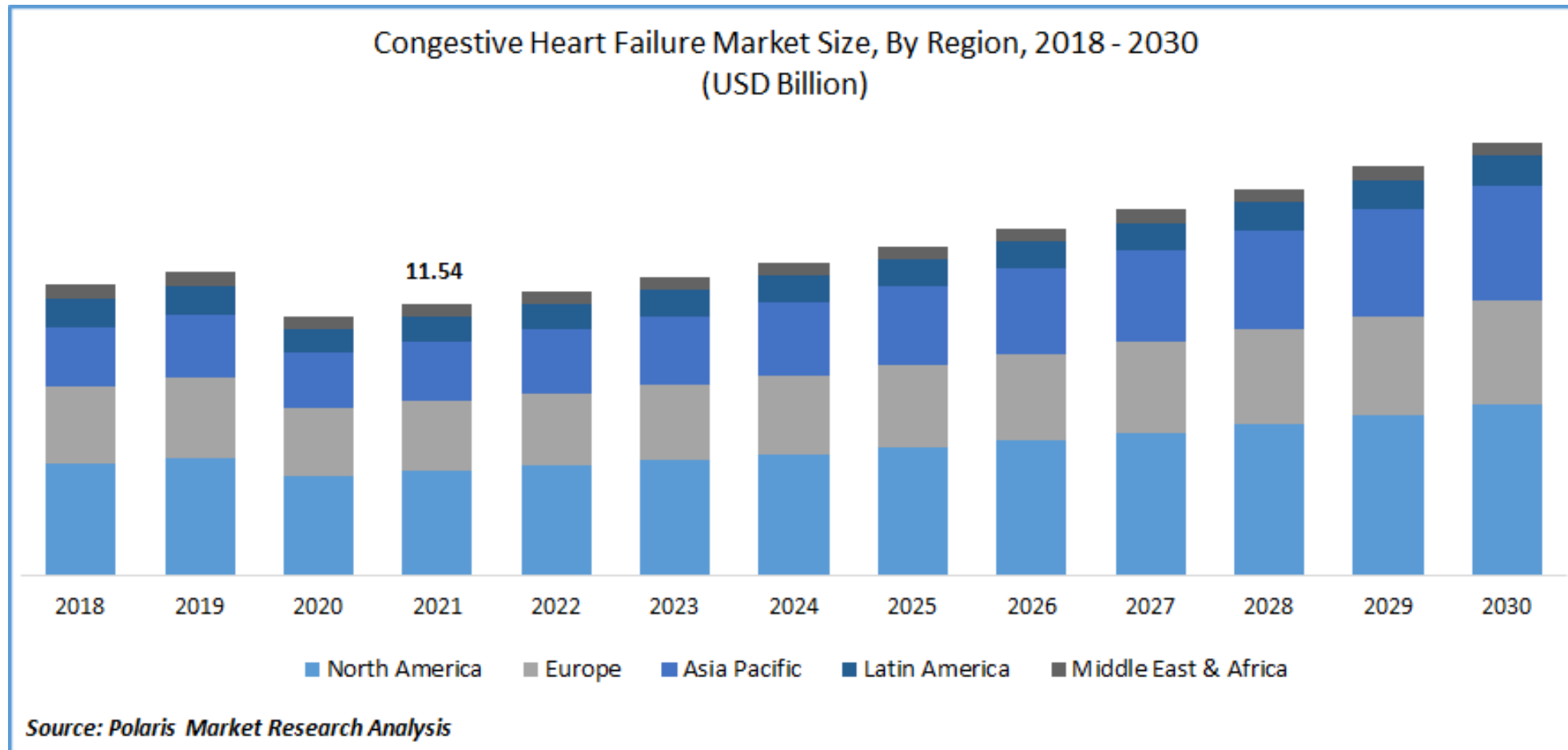


Facts about Heart Failure in the United States

- About **6.2 million** adults .¹
- In 2018, heart failure was mentioned on 379,800 death certificates (13.4%).¹
- Heart failure costs the nation an estimated **\$30.7 billion** in 2012.² This total includes the cost of health care services, medicines to treat heart failure, and missed days of work.
- Source CDC



Heart Failure will be growing! ³



Risks for Heart Failure

- Coronary artery disease (CAD) (the most common type of heart disease) and heart attacks
- Diabetes
- High blood pressure
- Obesity
- Other Conditions Related to Heart Disease
- Valvular Heart Disease



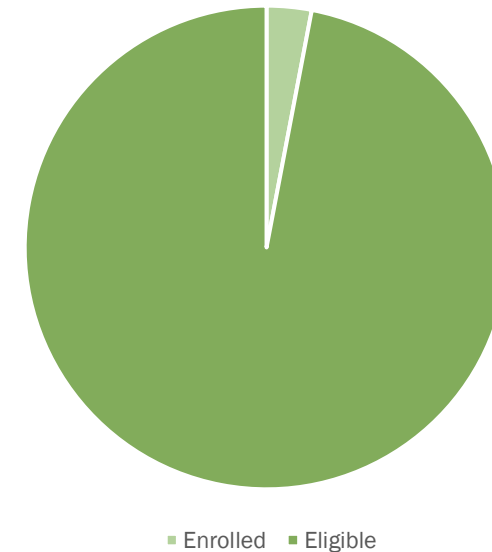
Participation Rates ⁴ Participation in Cardiac Rehabilitation Among Patients With Heart Failure

Linda G Park ¹, David W Schopfer ², Ning Zhang ³, Hui Shen ³, Mary A Whooley ⁴

- 66,710 Veterans
- 243,208 Medicare Beneficiaries

- Attend at least 1 session of CR
- 1554 (2.3%) of Veterans
- 6280 (2.6%) of Medicare Beneficiaries

Reaching only 3% of Patients



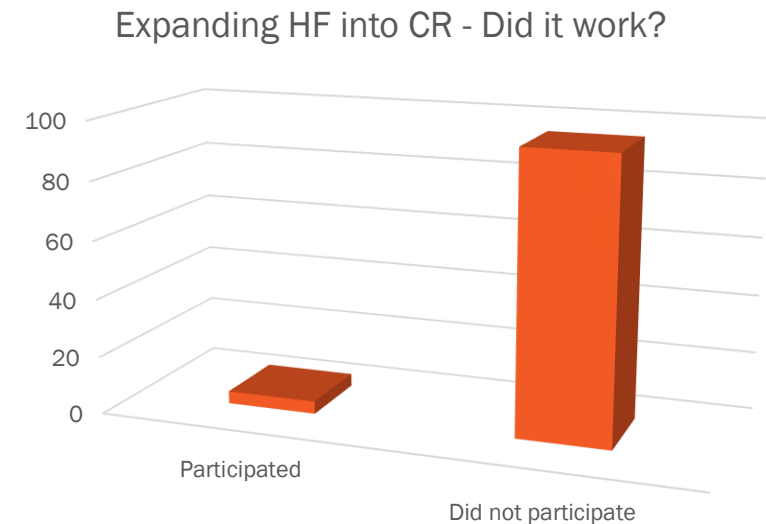
- Conclusions – Very Few HF patients participate in cardiac rehab

Did the 2014 Medicare Expansion to include HFrEF enhance participation in cardiac rehab? ⁵

Temporal Trends and Factors Associated With Cardiac Rehabilitation Participation Among Medicare Beneficiaries With Heart Failure

Ambarish Pandey ¹, Neil Keshvani ¹, Lin Zhong ¹, Robert J Mentz ², Ileana L Piña ³, Adam D DeVore ², Clyde Yancy ⁴, Dalane W Kitzman ⁵, Gregg C Fonarow ⁶

- 2014 to 2016
- 11,696 patients
- 611 (4.3%) participated in CR (within 6 months post discharge)
- Conclusion – CR participation amount eligible Medicare patients with HFrEF was low to minimal since 2014 Medicare Coverage Decisions



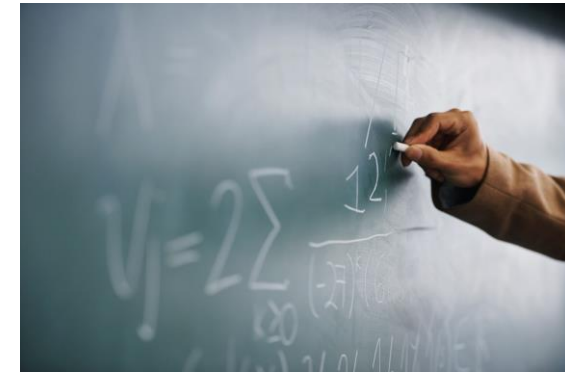


Only **10%**
of eligible patients
with heart failure
are referred.

Million Hearts Data – verifies the problem



Less than **3%**
of eligible patients with
heart failure attend
at least 1 session.



Cardiac rehabilitation for heart failure: 'Cinderella' or evidence-based pillar of care?

Rod S Taylor , Hasnain M Dalal, Ann-Dorthe Zwisler [Author Notes](#)

European Heart Journal, Volume 44, Issue 17, 1 May 2023, Pages 1511–1518,
<https://doi.org/10.1093/eurheartj/ehad118>



Cardiac rehabilitation for heart failure (HF) improves health-related quality of life and contributes to reduced hospitalization and is Class I / level A evidence by international (US & EU) Guidelines

Despite this, referral to cardiac rehabilitation for HF is suboptimal and currently ranges from 5% to 50% across countries

Cardiac rehabilitation should be the 5th pillar in HF management alongside drug and medical device provision

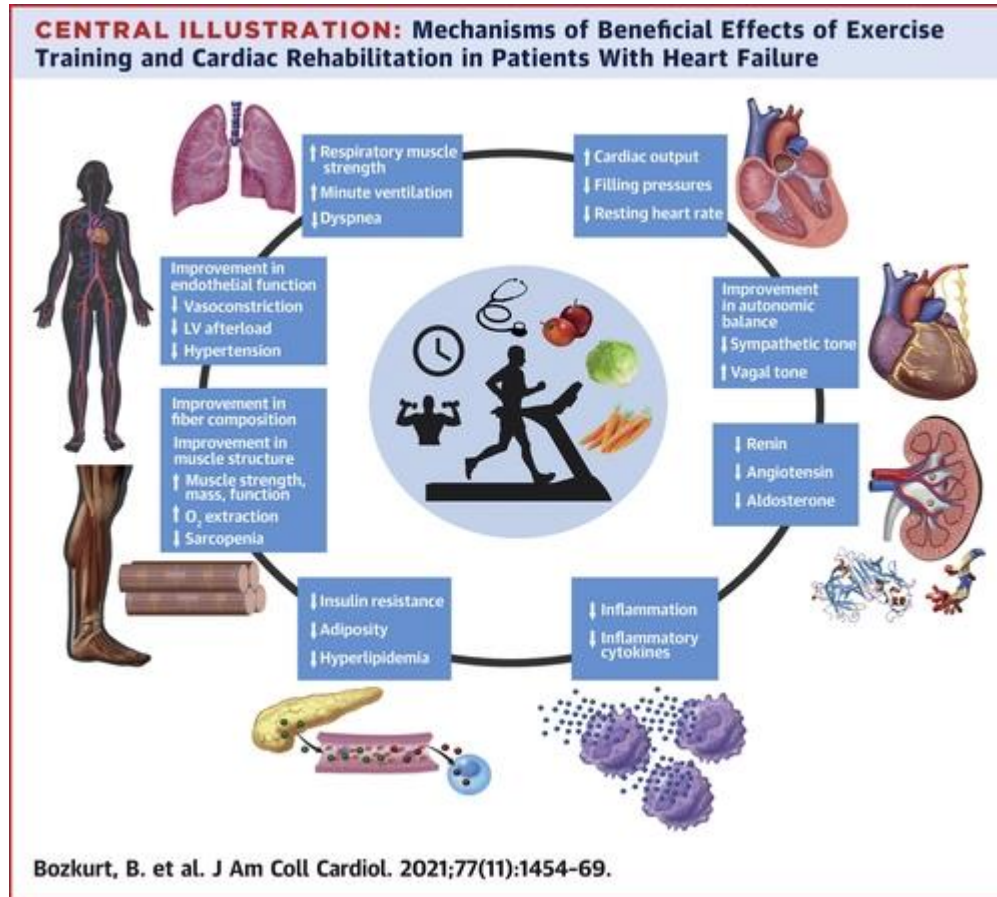


Choice of cardiac rehabilitation delivery models (centre-based/home-based \pm digitally supported) should be developed and be available to patients in the future

**Guideline
Directed
Medical
Therapy
+
CR**



Benefits - Cardiac Rehabilitation for Patients With Heart Failure: JACC Expert Panel



- Increases cardiac output
- Increases respiratory muscle strength
- Decreases dyspnea
- Decreases hypertension
- Improves muscle strength and function
- Decreases sarcopenia
- Improves QOL, contributes to reducing hospitalization

Be curious, not judgmental

Find your target, take aim, practice a lot!

- What do we know about heart failure?
- Have we ever measured referrals?
- Is there a best time to refer a patient?



2019 Pilot Study Cardiac Rehabilitation among hospitalized patients ⁶

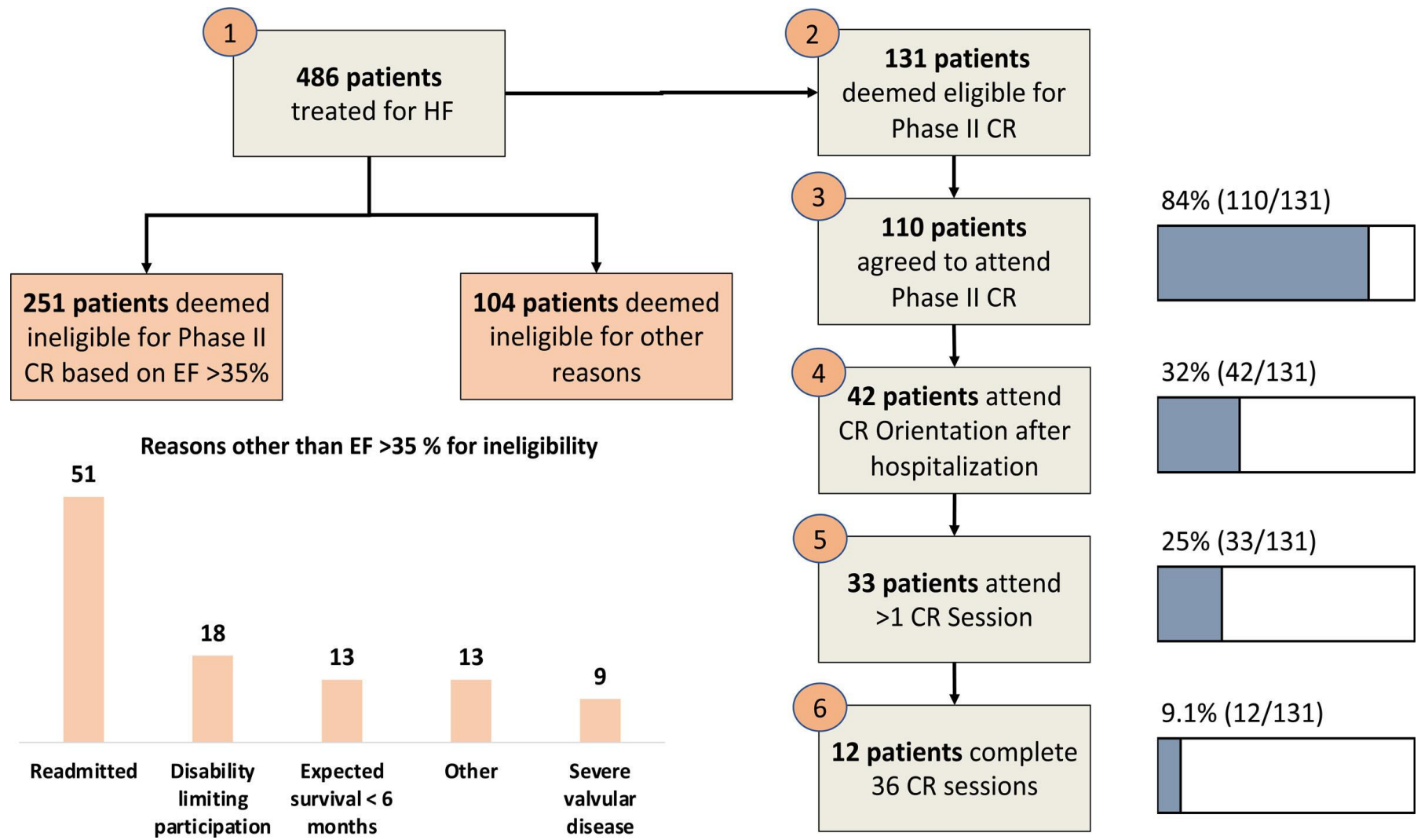
Cardiac Rehabilitation Among Hospitalized Patients With Heart Failure: Eligibility, Enrollment, and Participation

Anisha Contractor ^{1 2}, Kevin O'Sullivan ^{3 4}, Quinn R Pack ^{1 5}, Kyle McAnally ⁵, Christene DeJong ⁵, Briana Jurkowski ⁵, Peter K Lindenauer ⁵, Mihaela S Stefan ⁵, Sadiya S Khan ^{6 7}, Tara Lagu ^{6 8}



Circulation:
Heart Failure





Found attrition at 3 key stages

Could we measure these metrics ?

Eligibility and
referral to
phase II

Enrollment in
phase II
orientation

Retention in a
phase II
program



EMR integration with cardiac rehabilitation

- Tracking patients via
- Cerner
- Epic



2020 - Start tracking via a database

Outpatient referrals via scheduled appointments

Name

DOB

Diagnosis

Medical Record #

Cardiologist

PCP

Gender

CR Sessions



2020-2022 Results

	2020	2021	2022
Total Referred	93	122	112
Total Attend	78	75	78
Finished program (≥ 12 sessions)	53	47	46
Discharges/DNF	25	28	32
Referred but NS or cancel	15	47	34
% Referred did not attend intake	16	39	30
% HF of all CR patients	12	16	15
% completion (12 sessions)	67	62	59



2022 Results – How many sessions do people complete?

- Means of participation
- Those who completed intake = 16 sessions
- Those who complete program (made it to at least 12) = 25 sessions



3 Year Results – Add to total membership about 75 patients per year

- 231 additional patients helped
- 11-16% of our CR population is HF as a primary diagnosis
- High completion rate - 59-67% to at least 12 sessions
- No Show / Cancel Rate – 27% (86/327)



Additional help needed to cement program

- Pro's- What's working?
 - Helping loads of additional patients
 - Expanding care to an at risk population
 - Above average results
 - Tracking system
- Con's Barriers – What needs improvement?
 - Low visibility of program
 - Physician buy in across a big health system (referrals)
 - High No show rate
 - Operating in a silo – Advanced HF Clinic, HF Model of Care, M7 Floor – 40 beds
 - I'm by myself, it's just me



LCCR NIH Collaborative

Northwestern



- Grant Funded by NIH
- 18 month program
 - 7 week short course on leadership and health care
 - 15 month implementation program with site selected strategy
- Thomas D' Aunno, Ph.D.
- Tara Lagu MD, MPH
- Carol Haywood, Ph.D., OTR/L
- Alexis Stewart, BBA
- Carolyn Shafer, MPH



Participants



Beth Israel Lahey Health 
Beth Israel Deaconess Plymouth



LCCR Objectives

- Evaluate organizational change and readiness
- Provide program leaders with skills and training
- Address barriers to enrollment
- Form a cohort – Learn through monthly and quarterly meetings with 10-12 other sites



2021 BH Problem Statement

122 Heart Failure referrals for cardiac rehab with 75 attending.

47 of the 122 patients (38%) no showed or cancelled their cardiac rehabilitation appointment.

Increase attendance rate to 100 Heart Failure patients
Reduce the no show cancel rate by improving the awareness and ease of entering the cardiac rehabilitation program.

Improve awareness and ease of entering cardiac rehab by using a warm handoff from provider to cardiac rehab.



Build a team – hold small team meetings to identify strengths and weaknesses

- Identify and meet with key stakeholders
- Quinn Pack, MD
- Outpatient Heart Failure Medical Director and team
- Cardiology Clinic
- Inpatient Heart Failure team (hospital staff)



Change the status quo – Fishbone diagram

- Ask good questions – What’s working, what’s stopping us?
- What can everyone contribute?
- Realistic next step?

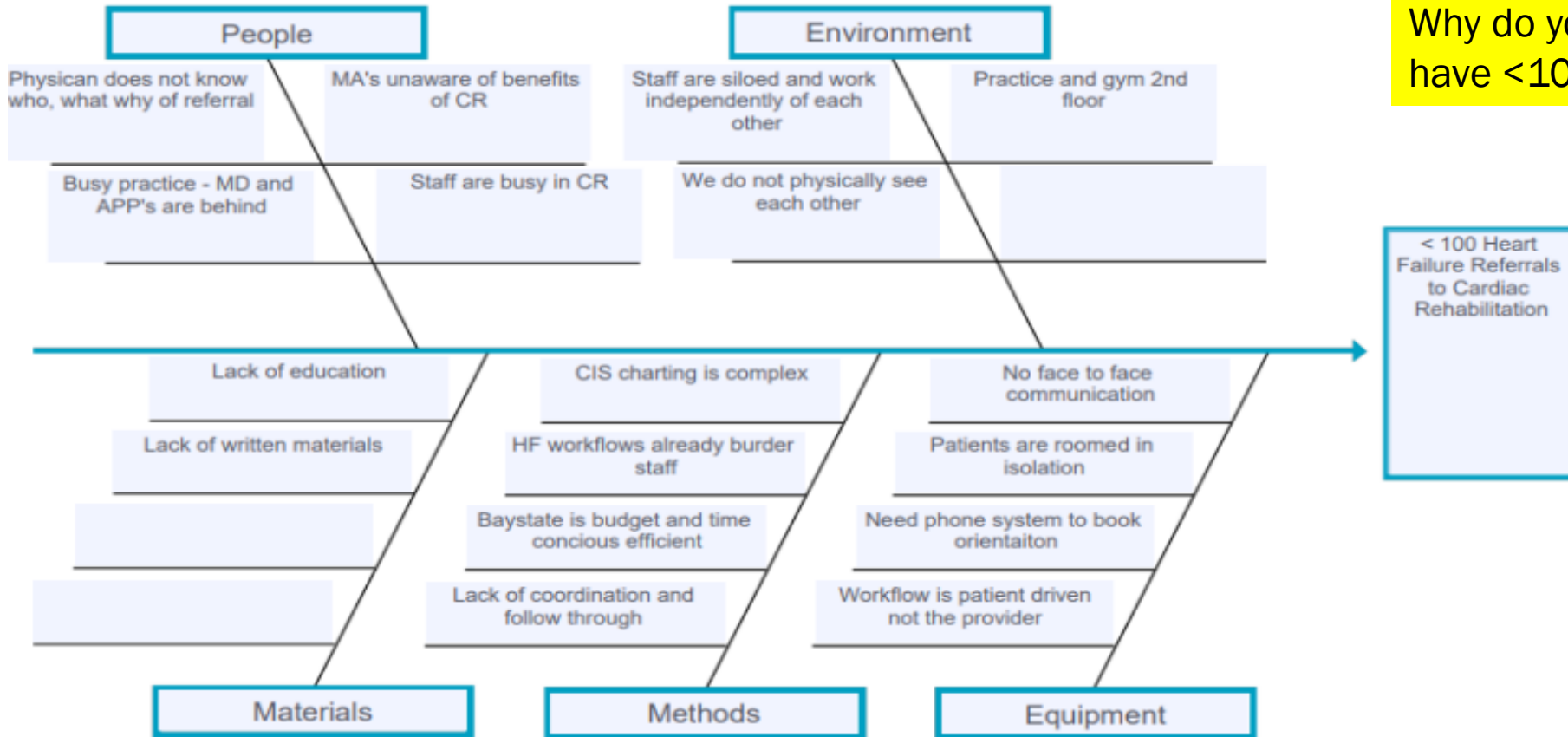


Team: Heart Failure and Cardiac Rehab

Project: [redacted] referral to cardiac rehab

- 1) Input the effect you'd like to influence.
- 2) Input categories of causes for the effect (or keep the classic five).
- 3) Input causes within each category.

Why do you have <100?



Feedback from providers and staff Insurances are confusing...No national standard



True or False?

Most private insurances only cover cardiac rehabilitation if a patient has HFrEF (<35%EF)?



Insurances

False! –
Some private
insurances
cover HFpEF!

Does your CHF patient qualify for Cardiac Rehabilitation? If so, refer today!

Authorization, if needed should be obtained prior to scheduling.

Heart Failure / Preserved EF –

HFpEF –

Always Health Partners

BCBS of Massachusetts

Commonwealth Care Alliance – **auth required**

CCA One Care – **auth required**

Cigna

Evercare / Serenity Health / Pace – **auth required**

Fallon – **auth required**

Harvard Pilgrim

Health New England

Mass Health – **needs referral**

Tufts

United Health Senior Care – **needs auth**

Wellsense

VA / Optum / Tricare – **auth needed**

Heart Failure / Reduced EF –

HFrEF (<35%)

Aetna

Aetna Medicare – **needs auth**

Medicare

Most Medicare advantage plans



Poster - How to order

- Need to improve visibility
- Remind physicians of CR
 - Have big time constraint
 - Frequently running behind schedule
- 3 simple steps to order

Goal – 100 heart failure patients attend cardiac rehabilitation

Who is the best candidate?

- ✓ Refer both HFpEF and HFrEF.
- ✓ NYHA Class II through IV – some limitation with ADL.

Reasons to order Cardiac Rehabilitation 36 sessions in 26 weeks

HFpEF – Cardiac rehabilitation (exercise and education) has been shown to be effective with reducing progression, risk of hospitalization and improves long term survival.

HFrEF - Cardiac rehabilitation is a Class IA recommendation. It improves functional capacity and quality of life (QoL) and reduces risk of readmission in patients with HF.

ORDERING AND GETTING STARTED IN THREE SIMPLE STEPS

Step 1 - Order CR in CIS – MD or DO must sign order. APP (NP/PA) can order starting 1/1/2024. Physician/APP notes should support necessity or value of CR.

Step 2 – Have Medical Assistant perform warm handoff for patient to meet CR staff and tour gym.

Step 3 - Book Orientation with Lori 4-7024 or Access Services.

Patients may requalify for cardiac rehabilitation more than 1 round time per lifetime with documentation of medical necessity. This includes following hospitalization for exacerbation, change in NYHA class or reduction of EF, or change in activities of daily living. General guideline is to [requalify](#) 1 year between subsequent rounds with physician note supporting change in patient status.

Warm handoff

- Reduce fear and anxiety associated with SOB
- Introduce cardiac rehabilitation
- Safe and effective
- Partnership with cardiology, HF, CR
- Goal = reduce no show rate



Core components of providing value based care with Heart Failure

Teach patients to self-manage their long-term conditions

- Class participation
- Pre-Post Quiz

Improve patients exercise capacity

- 6MWT
- PEAK METS in CR

Improve Health-related quality of life

- Kansas City Cardiomyopathy Questionnaire-12

Complement the impact of drugs and devices in reducing the risk of hospitalizations and mortality

- Compliance (3 or 6 month)
- Chart Review



Can you measure attrition with HF and implement a successful program?



Eligibility and referral to phase II

Enrollment in phase II orientation

Retention in a phase II program



Presentation Take Away's

Heart Failure as a diagnosis will be growing over the next 8 years

Patients with Heart Failure (HFpEF and HFrEF) should be a part of every cardiac rehabilitation program

Patients with HF may participate and do just as well as any other population in your program



Contact Info

- Patrick Schilling
- Manager, Baystate Medical Center, Cardiovascular Rehabilitation
- 413 794-7171
- Patrick.Schilling@baystatehealth.org



Citations

1. Virani SS, Alonso A, Benjamin EJ, Bittencourt MS, Callaway CW, Carson AP, et al. [Heart disease and stroke statistics—2020 update: a report from the American Heart Association](#). *Circulation*. 2020;141(9):e139-596.
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3. Polaris Market Research Analysis [Congestive Heart Failure Market Share, Size, Trends, Industry Analysis Report, By Product \(Cardiac Resynchronization Therapy, Counter Pulsation Devices, ICD, Pacemakers, Ventricular Assist Devices, Others\); By End-Use; By Region; Segment Forecast, 2022 - 2030](#) Published Date: Oct-2022 Pages: 118
4. Park L, Schopfer D, Zhang N, Shen H, Whooley M [Participation in Cardiac Rehabilitation Among Patients With Heart Failure](#) *Journal of Cardiac Failure*, 2017 May;23(5):427-431. doi:10.1016/j.cardfail.2017.02.003. Epub 2017 Feb 14.
5. Pandey A, Keshvani N, Zhong L, Mentz RJ, Piña IL, DeVore AD, Yancy C, Kitzman DW, Fonarow GC. [Temporal Trends and Factors Associated With Cardiac Rehabilitation Participation Among Medicare Beneficiaries With Heart Failure](#). *JACC Heart Fail* 2021 Jul;9(7):471-481. doi: 10.1016/j.jchf.2021.02.006. Epub 2021 May 12.
6. Anisha Contractor, DO, Kevin O'Sullivan, MD, Quinn R. Pack, MD, MSc, Kyle McAnally, BA, Christene DeJong, Briana Jurkowski,, Peter K. Lindenauer, MD, MSc, Mihaela S. Stefan, MD, PhD, Sadiya S. Khan, MD, and Tara Lagu, MD, MPH. [Cardiac Rehabilitation Among Hospitalized Patients With Heart Failure: Eligibility, Enrollment, and Participation](#) 13 Sep 2022, *Circulation: Heart Failure*. 2022;15



Thank You!