FACTS

Cardiac Rehabilitation

Putting More Patients on the Road to Recovery

OVERVIEW

Each year, over 800,000 Americans die from a coronary event, accounting for 1 of every 3 deaths in the US.[1] However, there is hope. Cardiac rehabilitation (CR) reduces the risk of a future cardiac event by stabilizing, slowing, or even reversing the progression of cardiovascular disease (CVD).[2] As a result, CR reduces hospital readmissions, as well as all-cause and CVD mortality.[3,4] Patients with other cardiovascular diseases, such as heart failure can also benefit from CR programs.[5,6]

Despite its clear and tangible benefits, CR remains underutilized, particularly among women and minorities.[7,8] A recent report estimated that only 19-34% of patients subsequently participate in a CR program.[9] A 2015 study reported that just over 20% of eligible Medicare patients with acute myocardial infarction used CR services.[10] So, why aren't more patients and their physicians taking greater advantage of cardiac rehabilitation? Unfortunately, there are many barriers that contribute to low participation rates (Table 1).

Table 1. BARRIERS TO UTILIZATION[1,2]

- Lack of referral to participate from the patient's physician
- Lack of perceived need for rehabilitation/awareness of CR
- Limited, or no health care coverage (cost)
- Limited follow-up or facilitation of enrollment after referral
- Work or home responsibilities
- Hours of operation conflicting with work demands
- Scarcity of programs in rural areas and/or low-income communities
- Distance to CR facility from patient's home
- Access to public transportation or parking issues
- Male gender-dominated programs and little racial staff diversity
- Language problems and cultural beliefs

Nevertheless, new delivery models, such as automatic in-patient CR referral systems, offer opportunities to address patient barriers and to lower treatment costs[11,12]. This referral system is one component of the Million Hearts® initiative,[10] as well as the Centers for Medicare & Medicaid Services (CMS) CR Incentive Payment Model. It is predicted that the Million Hearts® initiative will save 25,000 lives and prevent 180,000 hospitalizations annually in the US.[9]

WHAT IS CARDIAC REHABILITATION?

Cardiac rehabilitation is a medically-supervised program consisting of exercise training, education on heart-healthy living, counseling to reduce stress, and helping patients return to an active lifestyle and recover sooner. CR offers a multifaceted and highly tailored approach to boost the overall physical, mental, and social functioning of people with heart-related problems. It is recommended for both inpatient and outpatient settings for the following conditions:[13]

- Recent myocardial infarction (heart attack)
- Percutaneous coronary intervention (PCI)
- Coronary artery bypass grafting (CABG)
- Chronic stable angina
- Stable, chronic heart failure
- Cardiac transplantation
- Valvular heart disease

Medicare reimbursement guidelines limit CR to a maximum of two one-hour sessions per-day, up to 36 sessions provided over a period of up to 36 weeks with the option for an additional 36 sessions.[14] Programs must include five basic components:[14]:

- Physician-prescribed exercise
- Cardiac risk factor modification (education, counseling, and behavioral intervention)
- Psychosocial assessment
- Outcomes assessment
- Individual treatment plans

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Medicare provides reimbursement for all the recommended conditions, although coverage for heart failure (HF) is limited to patients with compromised ejection fraction – the ability of the heart to pump out blood – (about half of the HF patient population).[14]

HEALTH BENEFITS

Studies have shown that cardiac rehabilitation can improve the health and recovery of those who suffer from CVD. The benefits of CR include:

- Reduction of all-cause mortality of 15% at 1-year follow-up, and of 45% at a 15-year follow-up. [3]
- Roughly 30% lower CVD mortality.[3]
- Improved adherence with preventive medication.[15]
- Increased exercise performance.[16]
- Improved health factors, such as lipids and blood pressure.[17]
- Enhanced ability to perform daily activities.[18]
- Improved psychosocial symptoms and health-related quality of life.[19]

FINANCIAL BENEFITS

Better health outcomes translate into reduced hospitalizations and use of medical resources.[3] A study presented at the Canadian Cardiovascular Congress found that CR resulted in a 31% reduction in hospital readmissions and a 26% drop in cardiovascular mortality – for a 7% return on investment.[20] Another study found that CR can save patients $640 per quality-adjusted year of life.[21]

ENROLLMENT IS LIMITED

The elderly, women, minority populations, and patients with lower socioeconomic status are less likely to be referred to CR and unfortunately, are less likely to take that first critical step to enroll after referral.[2] This is of great concern because women and minorities are far more likely to die within five years after a first heart attack as compared to their white male patient counterparts.[2]

THE ASSOCIATION ADVOCATES

The American Heart Association is committed to public policies that will reduce the CR treatment gap with a specific focus on the most underserved populations: women, minorities, and low-income individuals. These policies include:

- Support legislation that would allow physician assistants, nurse practitioners and clinical nurse specialists to directly supervise patients in cardiac and pulmonary rehabilitation programs on a day-to-day basis under Medicare.
- Support for the Million Hearts® initiative which aims to prevent 1 million CVD events.[9] One component is to ensure that those who need CR are properly referred and increase CR enrollment and adherence.[9]
- Support CMS' CR Incentive Payment Model which encourages improved participation among hospitals, physicians, and post-acute care providers.
- Support alternative models to traditional CR that address transportation barriers and responsibilities at home or work.
- Encourage the creation and dissemination of information on the benefits of CR to physicians and health plans to enhance referral, follow-up, and reduce costs.

[1] Blaha B, et al. 2017. Heart Disease and Stroke Statistics 2017 Update: A Report From the American Heart Association. Circulation. 2017; e205. 135:00–00. DOI: 10.1161/CIR.0000000000000485

[2] Balady G.J, et al.2011. Referral, enrollment, and delivery of cardiac rehabilitation/secondary prevention programs at clinical centers and beyond: a presidential advisory from the American Heart Association. Circulation; 124:2951-2960.

[3] Goel, K., et al. 2011. Impact of cardiac rehabilitation on mortality and cardiovascular events after percutaneous coronary intervention in the community. Circulation 123(21): 2344-2352.

[4] Dunlay, SM et al. 2014. Participation in cardiac rehabilitation, readmissions, and death after acute myocardial infarction. The American journal of medicine. 127.6: 538-546

[5] O'Connor, CM, et al. 2015. Efficacy and safety of exercise training in patients with chronic heart failure: HF-ACTION randomized controlled trial. JAMA.2009.301.14: 1439-1450.

[6] Centers for Disease Control and Prevention (CDC). 2008. Receipt of outpatient cardiac rehabilitation among heart attack survivors—United States, 2003. MMWR Morb Mortal Wkly Rep.;57:89 –94.

[7] Colbert, JD., et al. 2015. Cardiac rehabilitation referral, attendance and mortality in women. Eur J Prev Cardiol 22(8): 979-986.

[8] Menezes, AR., et al. 2014. Gender, race and cardiac rehabilitation in the United States: Is there a difference in care?. The American journal of the medical sciences .348.2: 146-152.

[9] Ades, PA (2017). Increasing cardiac rehabilitation participation from 20% to 70%: a road map from the Million Hearts Cardiac Rehabilitation Collaborative. In Mayo Clinic Proceedings (Vol. 92, No. 2, pp. 234-242). Elsevier.

[10] Doll, JA., et al. 2015. Participation in Cardiac Rehabilitation Programs Among Older Patients After Acute Myocardial Infarction. JAMA Intern Med 175(10): 1700-1702.

[11] Sanderson BK, et al. 2003. Factors associated with the failure of patients to complete cardiac rehabilitation for medical and nonmedical reasons. J Cardiopulm Rehabil;23:281–289.

[12] Arena, R., et al. 2012. Increasing referral and participation rates to outpatient cardiac rehabilitation: the valuable role of healthcare professionals in the inpatient and home health settings: a science advisory from the American Heart Association. Circulation **125**(10): 1321-1329.

[13] Thomas, RJ., et al. 2010. AACVPR/ACCF/AHA 2010 Update: performance measures on cardiac rehabilitation for referral to cardiac rehabilitation/secondary prevention services: endorsed by the American College of Chest Physicians, the American College of Sports Medicine, the American Physical Therapy Association, the Canadian Association of Cardiac Rehabilitation, the Clinical Exercise Physiology Association, the European Association for Cardiovascular Prevention and Rehabilitation, the Inter-American Heart Foundation, the National Association of Clinical Nurse Specialists, the Preventive Cardiovascular Nurses Association, and the Society of Thoracic Surgeons. J Am Coll Cardiol 56(14): 1159-1167.

[14] Centers for Medicare and Medicare Services. "Decision Memo for Cardiac Rehabilitation (CR) Programs - Chronic Heart Failure." Accessed on January 27, 2016.

[15] Doll, JA., et al.2015. Effectiveness of cardiac rehabilitation among older patients after acute myocardial infarction. American heart journal, 170(5), 855-864.

[16] Franklin, BA.,et al. 2013. Exercise-based cardiac rehabilitation and improvements in cardiorespiratory fitness: implications regarding patient benefit. Mayo Clinic Proceedings. Vol. 88. No. 5. Elsevir.

[17] Kotseva, K et al. 2012. Use and effects of cardiac rehabilitation in patients with coronary heart disease: results from the EUROASPIRE III survey. European journal of preventive cardiology.2047487312449591.

[18] Johnston, M., et al. 2011. Impact of cardiac rehabilitation on the ability of elderly cardiac patients to perform common household tasks. J Cardiopulm Rehabil Prev 31(2): 100-104.

[19] Pinto, BM., et al. 2013. Psychosocial outcomes of an exercise maintenance intervention after Phase II cardiac rehabilitation. Journal of cardiopulmonary rehabilitation and prevention 33(2): 91

[20] Humen D, et al. 2014. A Cost Analysis of Event Reduction Provided by a Comprehensive Cardiac Rehabilitation Program. Canadian Journal of Cardiology; 29.10: S156.

[21] Williams MA, et al. 2006. Clinical evidence for a health benefit from cardiac rehabilitation: an update. Am Heart J;152(5):835-841.

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