



Cardiac Rehabilitation

Putting More Patients on the Road to Recovery

OVERVIEW

Since their peak in the early 1980s, deaths attributable to diseases of the heart have generally been on the decline.¹ Nevertheless, cardiovascular disease (CVD) remains the leading cause of death in the United States and accounted for more than 850,000 Americans deaths in 2017, more than cancer and chronic lung disease combined.¹ The patient education, exercise training, and stress reduction counseling available in cardiac rehabilitation (CR) services has the potential to help reduce the burden of heart disease. Research suggests individuals who receive CR after a serious cardiac event like a heart attack are less likely to experience subsequent heart attacks.² CR has also been shown to reduce the likelihood of hospital readmission—both all-cause and CVD-related³—as well as CVD-related and all-cause mortality.² Patients with other cardiovascular diseases, such as heart failure may also realize similar benefits from CR programs including reduced all-cause and heart-failure hospital readmission and reduced long-term all-cause mortality.⁴

In acknowledgement of the effectiveness of CR, the American Heart Association guidelines classify CR as a Class Ia recommendation⁵ indicating its strong benefit to improve cardiovascular outcomes and abundance of evidence supporting its efficacy for patients after bypass surgery. However, despite its clear and tangible benefits, CR remains underutilized, particularly among women⁶ and minority communities.⁷ Approximately 1 out of every 3 patients eligible for CR will receive CR; these statistics have remained largely unchanged over the past decade.⁸ Among Medicare beneficiaries, participation is even lower—only 1 out of every 4 Medicare patients eligible for CR receive CR services.⁹ Individual and systemic barriers prevent many patients and their physicians from taking greater advantage of cardiac rehabilitation (Table 1).

Table 1. BARRIERS TO UTILIZATION^{1,10}

- 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 responsibility
- 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 or little racial staff diversity
- Language problems and cultural beliefs
- Decreased availability of onsite programs during the COVID-19 pandemic

Nevertheless, new delivery models, such as automatic in-patient CR referral systems and utilization of navigators to coordinate care post-discharge, offer opportunities to address patient barriers and to lower treatment costs.^{11,12} In 2019, the Agency for Healthcare Research and Quality (AHRQ) began its TAKEheart initiative to disseminate and implement best practices in CR delivery. The three-year initiative is helping provide hospitals with the training and resources they need to increase participation in CR including assistance developing systems that automatically refer eligible patients to CR and training for navigators to ensure enrollment and retention in CR.¹³ TAKEheart is applying strategies developed by the Centers for Disease Control and Prevention (CDC) and the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR) in their Million Hearts®/AACVOR Cardiac Rehabilitation Change Package to improve CR services and delivery.¹⁴ TAKEheart is also contributing to the national Million Hearts® 2022 initiative led by CDC and the Centers for Medicare and Medicaid Services (CMS)¹⁴ which seeks to prevent 1 million heart attacks and strokes within five years through

implementing evidence-based activities that can improve cardiovascular health.¹⁵ Estimates suggest increasing CR participation from current levels to 70 percent could save nearly 25,000 lives and prevent approximately 180,000 hospitalizations each year.⁶

WHAT IS CARDIAC REHABILITATION?

Cardiac rehabilitation is a medically-supervised program for patients who have experienced a serious cardiac event 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:¹⁶

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- Recent myocardial infarction (MI, also known as heart attack)
- Percutaneous coronary intervention (PCI)
- Coronary artery bypass grafting (CABG)
- Cardiac valve repair/replacement
- Chronic stable angina (CSA)
- Stable, chronic heart failure
- Cardiac transplantation
- Valvular heart disease

Coverage of Cardiac Rehabilitation

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.¹⁷ Medicare reimbursement guidelines also provide for intensive CR, limited to up to six one-hour sessions per day, up to 72 sessions provided over a period of up to 18 weeks.¹⁷ Both traditional and intensive CR programs must include five basic components:¹⁷

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

Additionally, intensive CR programs must be able to demonstrate programming has accomplished one or more of the following for patients:¹⁷

- Positively affected the progression of coronary heart disease.
- Reduced the need for coronary bypass surgery.
- Reduced the need for percutaneous coronary interventions

Such programs also must demonstrate significant reduction in five or more of the following measures:¹⁷

- Low density lipoprotein.
- Triglycerides.
- Body mass index.
- Systolic blood pressure.
- Diastolic blood pressure.
- The need for cholesterol, blood pressure, and diabetes medications.

There are currently three CMS approved intensive CR programs: Dr. Ornish's Program for Reversing Heart Disease, the Pritikin Program, and the Benson-Henry Institute Cardiac Wellness Program.¹⁸

Medicare provides reimbursement for all the recommended conditions, although coverage for heart failure (HF) is limited to patients with compromised ejection fraction¹⁷—the ability of the heart to pump out blood. About half of hospitalized HF events involve patients who have HF with reduced ejection fraction (HFrEF).¹

Most commercial insurers also cover CR for the recommended conditions although out-of-pocket costs for patients and visit limitations vary by insurer.¹⁹

HEALTH BENEFITS

Studies have shown that cardiac rehabilitation can improve the health and recovery of those who have suffered a serious cardiac event. The benefits of CR include:

- Reduction in cardiovascular mortality,⁴
- Reduction in all-cause mortality,²⁰
- Decrease in likelihood of recurrent heart attack (among those who enrolled in CR following a heart attack),²⁰
- Reduction in risk of hospital admission,⁴
- Improved adherence with preventive medication,²¹
- Improved functional status and physical activity levels²²

- Improved health factors, blood pressure,²³ and lipids²⁴
- Improved psychosocial symptoms and health-related quality of life.²⁵

FINANCIAL BENEFITS

CR programs have been associated with reductions in mortality and hospitalizations.^{26–28} 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.²⁹ Further, a systematic review of CR found that most of the published literature supports CR as a cost-effective intervention.³⁰

ENROLLMENT IS LIMITED

The elderly, women, minority populations, rural 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.^{10,31} 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.¹⁰ According to one analysis, 7% of the Black versus White all-cause mortality gap could potentially be reduced by equitable CR referral.⁷

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. One component is to ensure that those who need CR are properly referred and increase CR enrollment and adherence.⁶
- 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.

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