



# FACTS

## Cardiac Rehabilitation

### Putting More Patients on the Road to Recovery

#### OVERVIEW

Each year, roughly 915,000 Americans will have a heart attack and more than 30% will have a second and potentially fatal event.<sup>1</sup> Cardiac rehabilitation (CR) reduces the risk of a future cardiac event by stabilizing, slowing or even reversing the progression of cardiovascular disease (CVD).<sup>2</sup> Patients with other cardiovascular diseases such as valve repair and heart failure also benefit from a CR program, such as exercise rehabilitation.

Yet despite its clear benefits, CR remains underutilized, particularly among women and minorities.<sup>3,4</sup> Only 14% to 35% of eligible heart attack survivors and 31% of patients after coronary bypass surgery participate in a CR program.<sup>3,4</sup> The utilization rate for eligible Medicare beneficiaries is an even lower 12%. However, evidence clearly shows that the more sessions patients attend, the better their outcomes and the lower their risk for heart attack and mortality compared with those who do not participate.<sup>5,6</sup>

Among the main reasons for low participation in CR are: the lack of a referral or a strong endorsement from the patient's physician; limited or no health insurance coverage; conflicts with work or home responsibilities; and lack of program availability and access.<sup>2</sup>

The wide treatment gap between the benefits obtained from CR and participation in these programs is unacceptable. New delivery models for health care offer opportunities to address patient barriers and lower costs. At the same time, health practitioners must fully understand and appreciate the benefits of cardiac rehabilitation for their patients.

#### WHAT IS CARDIAC REHABILITATION?

Cardiac rehabilitation is a medically supervised program consisting of exercise training, education on heart healthy living, and

counseling to reduce stress and help patients return to an active lifestyle and recover more quickly. Cardiac rehabilitation offers a multifaceted and highly individualized approach to optimize the overall physical, mental, and social functioning of people with heart-related problems. It is recommended for both the inpatient and outpatient settings for the following conditions:<sup>7,8</sup>

- Recent myocardial infarction (heart attack)
- Percutaneous coronary Intervention
- Coronary artery bypass grafting
- Chronic stable angina
- Heart failure
- Cardiac transplantation
- Valvular heart disease

Medicare provides reimbursement for all the recommended conditions except congestive heart failure. CR sessions are limited to a maximum of two one-hour sessions per-day up to 36 sessions furnished over a period of up to 36 weeks with the option for an additional 36 sessions. Reimbursement guidelines require CR programs to include five components.

CR Program Components
<ul style="list-style-type: none"> <li>• Physician-prescribed exercise</li> <li>• Cardiac risk factor modification (education, counseling and behavioral intervention)</li> <li>• Psychosocial assessment</li> <li>• Outcomes assessment</li> <li>• Individualized treatment plan</li> </ul>

#### BENEFITS OF CARDIAC REHABILITATION

- A 20-30% reduction in all-cause mortality rates<sup>9,10</sup>
- Decreased mortality at up to 5 years post participation<sup>11</sup>
- Reduced symptoms (angina, dyspnea, fatigue)<sup>12</sup>
- Reduction in nonfatal recurrent myocardial infarction over median follow-up of 12 months<sup>13</sup>
- Improved adherence with preventive medications<sup>12</sup>
- Increased exercise performance<sup>14</sup>

- Improved health factors like lipids and blood pressure<sup>13</sup>
- Increased knowledge about cardiac disease and its management<sup>15</sup>
- Enhanced ability to perform activities of daily living<sup>13</sup>
- Improved health-related quality of life<sup>13</sup>
- Improved psychosocial symptoms<sup>16</sup>
- Reduced hospitalizations and use of medical resources<sup>13</sup>
- Increased ability to return to work or engage in leisure activities<sup>17</sup>

### REASONS FOR LIMITED ENROLLMENT IN CARDIAC REHABILITATION PROGRAMS

Older and sicker patients, women, minority populations, patients with lower socioeconomic status or levels of education, are less likely to be referred to CR<sup>18,19</sup> and are less likely to enroll after referral.<sup>20</sup> This is particularly significant because women and minorities are far more likely to die within 5 years after a first heart attack compared with white male patients.<sup>2</sup>

#### Barriers to Cardiac Rehabilitation<sup>2,21</sup>

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

### ACTION PLAN FOR IMPROVING ACCESS TO CARDIAC REHABILITATION

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

- Expand Medicare coverage for CR to patients with congestive heart failure.
- Create and disseminate information on the benefits of CR to physicians and health plans to enhance referral, follow-up and to reduce costs.

- Provide information on CR to patient-center medical homes to facilitate coordination and follow-up with patients referred to CR.
- Support alternative models to traditional CR that address barriers associated with transportation and responsibilities at home or work.
- Monitor the inclusion of meaningful coverage for CR in state essential health benefit packages.

<sup>1</sup> Go AS, Mozaffarian D, et al.; on behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2013 update: a report from the American Heart Association. *Circulation*. 2013;127:e6-e245.

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

<sup>3</sup> Suaya JA, Shepard DS, Normand SL, Ades PA, Protas J, Stason WB. Use of cardiac rehabilitation by Medicare beneficiaries after myocardial infarction or coronary bypass surgery. *Circulation*. 2007;116:1653-1662.

<sup>4</sup> Centers for Disease Control and Prevention (CDC). Receipt of outpatient cardiac rehabilitation among heart attack survivors—United States, 2003. *MMWR Morb Mortal Wkly Rep*. 2008;57:89-94.

<sup>5</sup> Hammill BG, Curtis LH, Schulman KA, Whellan DJ. Relationship between cardiac rehabilitation and long-term risks of mortality and myocardial infarction among elderly medicare beneficiaries. *Circulation*. 2010 January 5; 121(1): 63-70.

<sup>6</sup> Goel K, Lennon RJ et al., Impact of cardiac rehabilitation on mortality and cardiovascular events after percutaneous coronary intervention in the community. *Circulation*. published online May 16, 2011.

<sup>7</sup> L. Anderson, C.D. Adams, E.M. Antman et al. ACC/AHA 2007 guidelines for the management of patients with unstable angina/non-ST-elevation myocardial infarction: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol*, 50 (2007), pp. e1-e157.

<sup>8</sup> LD Hillis, PK Smith, JL Anderson et al. 2011 ACCF/AHA guideline for coronary artery bypass graft surgery: executive summary: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol*, 124(2011), pp.123-210.

<sup>9</sup> Geol K., Lennon RJ, Tilbury RT et al, Impact of Cardiac Rehabilitation on Mortality Following PCI. *Circulation*. 2011;123:2344-2352.

<sup>10</sup> Taylor RS, Unal B, Critchley JA, Capewell S. Mortality reductions in patients receiving exercise-based cardiac rehabilitation: how much can be attributed to cardiovascular risk factor improvements? *Eur J Cardiovasc Prev Rehabil*. 2006;13(3):369-374.

<sup>11</sup> Suaya JA, STason WB, ADes PA, et al . Cardiac Rehabilitation and Survival in Older Coronary patients. *J. Am. Coll. Cardiol*. 209;54:25-33.

<sup>12</sup> Jolliffe JA, Rees K, Taylor RS, Thompson D, Oldridge N, Ebrahim S. Exercise-based rehabilitation for coronary heart disease. *Cochrane Database Syst Rev*. 2001;(1):CD001800.

<sup>13</sup> Stephens MB. Cardiac rehabilitation. *Am Fam Physician*. 2009 Nov 1;80(9):955-959.

<sup>14</sup> Taylor RS, Brown A, Ebrahim S, et al. Exercise-based rehabilitation for patients with coronary heart disease: systematic review and meta-analysis of randomized controlled trials. *Am J Med*. 2004;116(10):682-692

<sup>15</sup> Clark AM, Hartling L, Vandermeer B, McAlister FA. Meta-analysis: secondary prevention programs for patients with coronary artery disease. *Ann Intern Med*. 2005;143(9):659-672

<sup>16</sup> Milani RV, Lavie CJ. Impact of cardiac rehabilitation on depression and its associated mortality. *Am J Med*. 2007;120(9):799-806.

<sup>17</sup> Williams MA, Ades PA, Hamm LF, et al. Clinical evidence for a health benefit from cardiac rehabilitation: an update. *Am Heart J*. 2006;152(5):835-841.

<sup>18</sup> Suaya JA, Shepard DS, Normand SL, Ades PA, Protas J, Stason WB. Use of cardiac rehabilitation by Medicare beneficiaries after myocardial infarction or coronary bypass surgery. *Circulation*. 2007;116:1653-1662.

<sup>19</sup> Brown TM, Hernandez AF, Bittner V, Cannon CP, Ellrodt G, Liang L, Peterson ED, Piña IL, Safford MM, Fonarow GC. Predictors of cardiac rehabilitation referral in coronary artery disease patients: findings from the American Heart Association's Get With The Guidelines Program. *J Am Coll Cardiol*. 2009;54:515-521.

<sup>20</sup> Sanderson BK, Phillips MM, Gerald L, DiLillo V, Bittner V. Factors associated with the failure of patients to complete cardiac rehabilitation for medical and nonmedical reasons. *J Cardiopulm Rehabil*. 2003;23:281-289.

<sup>21</sup> Dunlay SM et al., Barriers to participation in cardiac rehabilitation. [Am Heart J](#). 2009 November; 158(5): 852-859.