

Home-Based Cardiac Rehabilitation Improves Patient Outcomes

BACKGROUND

Cardiac rehabilitation (CR), an essential treatment for cardiovascular disease, focuses on lifestyle treatment and risk reduction by promoting optimal physical and psychosocial functioning.¹ Despite the recognition from the American Heart Association (AHA) and American College of Cardiology (ACC) as a Class 1 treatment,² and an abundance of evidence demonstrating effectiveness,³ CR is vastly underutilized.¹ Approximately 10% of eligible Veterans participate in CR^{4,5} and only 28% of U.S. Department of Veterans Affairs (VA) facilities offer on-site CR services.⁵ VA facilities that do not offer on-site CR services can refer to community-based programs; however, many Veterans face barriers (i.e., transportation, availability of programs, financial) to attending, particularly those who live in rural areas.

In 2010, as a solution to address access barriers for our rural Veterans in obtaining CR, the Iowa City VA Medical Center developed and implemented a home-based cardiac rehabilitation (HBCR) program.⁶

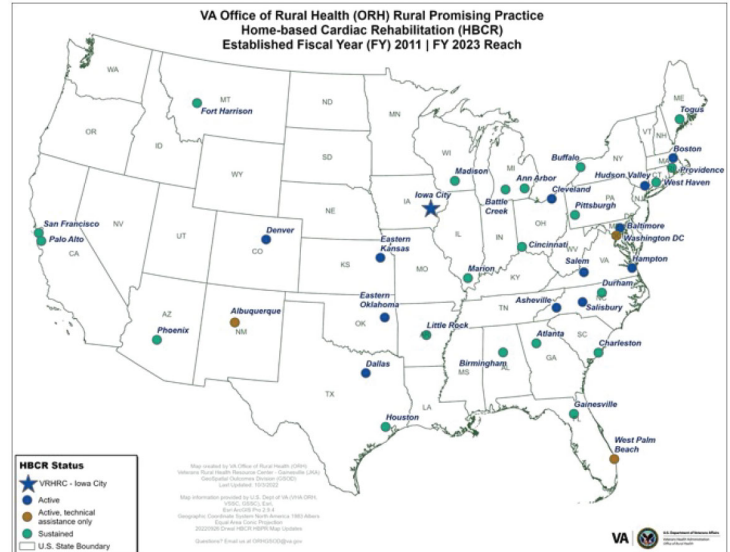
Home-based programs have been used in other countries and found to be comparable to traditional on-site models;⁷ however, there has been low adoption of these innovative models in the United States due to lack of reimbursement models. Since its initial adoption at the Iowa City VAMC, the program has been disseminated to other VA facilities across the country and enrolled over 7,500 Veterans.

The HBCR program is a 12-week individualized program where Veterans receive counseling on the core components (exercise, nutrition, stress management, tobacco cessation, medication adherence) of CR by phone and video appointments. Components such as exercise capacity, depression, nutrition, and cardiac self-efficacy are assessed at enrollment and completion of the HBCR program. These assessments are used to aid in development of a treatment plan that fits the Veteran's home environment while promoting independent and patient goals, and monitoring patients' progress.

Exercise Capacity	Pre (baseline)	Post (completion)	P Values
Patient Health Questionnaire – 9 (PHQ-9)	6.4	5.5	<.0001
6 Minute Walk Test (meters)	354.6	397.5	<.05
Pedometer (steps/day)	3150	4166	<.05
Rate Your Plate	47.2	51.1	<.05

FINDINGS

- Data was collected and analyzed on 572 Veterans from across the country who completed the HBCR program.⁸
- Veterans completed the Patient Health Questionnaire-9 to assess depression. Scoring ranges from 0 to 27, with higher scores reflecting more severe depression. Participants enrolled in the program have shown significant improvements in depression (Table).
- Veterans completed a 6-minute walk test (6MWT) to measure the distance walked in six minutes. Participants enrolled in the program have shown significant improvements in their 6MWT distance (Table). Seventy-eight percent of Veterans showed improvement in their 6MWT distance at completion, with an increase of 71 ± 20 meters.
- Veterans receive a pedometer and log daily activity during the program. Participants exhibited significant improvements in daily steps (Table).
- Participants improved their nutrition habits as assessed by the Rate Your Plate Assessment. Scoring ranges from 24-72, with higher scores reflecting healthier nutrition choices (Table).



For More Information

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IMPLICATIONS

The implementation of the HBCR program has shown to significantly influence clinical outcomes. The HBCR program has addressed and reduced barriers to Veteran access to CR by bringing individualized care into the patients' home. The success of the program continues to drive expansion to additional VA facilities across the country. Further research is currently underway to assess long term outcomes for Veterans who have completed the HBCR program.



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Visit www.ruralhealth.va.gov to learn more.

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