FEP Medical Policy Manual

FEP 8.03.08 Cardiac Rehabilitation in the Outpatient Setting

Annual Effective Policy Date: July 1, 2024

Original Policy Date: March 2012

Related Policies:

None

Cardiac Rehabilitation in the Outpatient Setting

Description

Description

Cardiac rehabilitation refers to comprehensive medically supervised programs in the outpatient setting that aim to improve the function of patients with heart disease and prevent future cardiac events. National organizations have specified core components to be included in cardiac rehabilitation programs.

OBJECTIVE

The objective of this evidence review is to determine whether outpatient cardiac rehabilitation programs improve the net health outcome in individuals with heart disease.

POLICY STATEMENT

Outpatient cardiac rehabilitation programs may be considered **medically necessary** for individuals with a history of the following conditions and procedures:

- acute myocardial infarction (heart attack) within the preceding 12 months;
- coronary artery bypass graft surgery;
- percutaneous transluminal coronary angioplasty or coronary stenting;
- heart valve surgery;
- heart or heart-lung transplantation;
- current stable angina pectoris; or
- compensated heart failure.

Repeat participation in an outpatient cardiac rehabilitation program in the absence of another qualifying cardiac event is considered **investigational**.

Intensive cardiac rehabilitation with the Ornish Program for Reversing Heart Disease, Pritikin Program, or Benson-Henry Institute Program is considered **investigational**.

Virtual cardiac rehabilitation is considered **investigational**.

Outpatient cardiac rehabilitation is considered **investigational** for all other indications (e.g., SARS-CoV-2).

POLICY GUIDELINES

The following components must be included in cardiac rehabilitation programs:

- physician-prescribed exercise each day cardiac rehabilitation services are provided;
- cardiac risk factor modification;
- psychosocial assessment;
- outcomes assessment; and
- an individualized treatment plan detailing how each of the above components are utilized.

A cardiac rehabilitation exercise program is eligible for coverage for 3 sessions per week up to a 12-week period (36 sessions). Programs should start within 90 days of the cardiac event and be completed within 6 months of the cardiac event.

A comprehensive evaluation may be performed before the initiation of cardiac rehabilitation to evaluate the individual and determine an appropriate exercise program. In addition to a medical examination, an electrocardiogram stress test may be performed. An additional stress test may be performed at the completion of the program.

Physical and/or occupational therapy are not medically necessary in conjunction with cardiac rehabilitation unless performed for an unrelated diagnosis.

BENEFIT APPLICATION

Experimental or investigational procedures, treatments, drugs, or devices are not covered (See General Exclusion Section of brochure).

Cardiac rehabilitation must be performed in a facility approved by the Plan.

Services that are educational in nature (eg, lectures or counseling), which are performed as part of the cardiac rehabilitation program, are not eligible for coverage, even when occurring on a different date of service unless specified in the contract or certificate of coverage.

Psychological testing and psychotherapy are not usual components of cardiac rehabilitation. Such services for patients who have a psychiatric diagnosis must be considered under the Mental Health Benefits of the contract.

The ongoing maintenance program that follows the 12-week rehabilitation program is not eligible for coverage.

Some contracts have an exclusion for cardiac rehabilitation because this is considered "self-care" or "self-help" training. In these cases, any related diagnostic testing must also be excluded.

FDA REGULATORY STATUS

Not applicable.

RATIONALE

Summary of Evidence

For individuals who have been diagnosed with heart disease and receive outpatient cardiac rehabilitation, the evidence includes multiple randomized controlled trials (RCTs) and systematic reviews of these trials. Relevant outcomes are overall survival (OS), disease-specific survival, symptoms, and morbid events. Meta-analyses of the available trials have found that cardiac rehabilitation improves health outcomes for select patients, particularly those with coronary heart disease, heart failure, and who have had cardiac surgical interventions. The available evidence has limitations, including lack of blinded outcome assessment, but for the survival-related outcomes of interest, this limitation is less critical. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have been diagnosed with heart disease without a second event and receive repeat outpatient cardiac rehabilitation, the evidence includes no trials. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. No studies were identified evaluating the effectiveness of repeat participation in a cardiac rehabilitation program. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have been diagnosed with heart disease and receive intensive cardiac rehabilitation with the Ornish Program for Reversing Heart Disease, the evidence includes an RCT. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. No RCTs have compared the Ornish Program with a "standard" cardiac rehabilitation program; an RCT compared it with usual care. The trial included patients with coronary artery disease and no recent cardiac events and had mixed findings at 1 and 5 years. The trial had a small sample size for a cardiac trial (N=48), and only 35 patients were available for the 5-year follow-up. The Ornish Program is considered by the Centers for Medicare & Medicaid Services as an intensive cardiac rehabilitation program, but the program described in the RCT could meet criteria for standard cardiac rehabilitation. No studies were identified comparing the Ornish Program with any other cardiac rehabilitation program. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have been diagnosed with heart disease and receive intensive cardiac rehabilitation with the Pritikin Program, the evidence includes 2 nonrandomized studies. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. Studies are needed that compare the impact of intensive cardiac rehabilitation using the Pritikin Program with standard outpatient cardiac rehabilitation programs for these outcomes. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have been diagnosed with heart disease and receive intensive cardiac rehabilitation with the Benson-Henry Institute Program, the evidence includes a case-control study and case series. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. Studies are needed that compare the impact of intensive cardiac rehabilitation using the Benson-Henry Institute Program with standard outpatient cardiac rehabilitation programs. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have heart disease due to post-acute sequelae of SARS-CoV-2 infection who receive cardiac rehabilitation in the outpatient setting, no relevant evidence was identified. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. Limited reports examining the outcomes of rehabilitation in patients with post-acute COVID-19 have not primarily focused on cardiac rehabilitation. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have been diagnosed with heart disease and receive virtual cardiac rehabilitation, the evidence includes systematic reviews/meta-analyses, RCTs, and observationalr studies. Relevant outcomes are OS, disease-specific survival, symptoms, and morbid events. Meta-analyses have found beneficial effects of virtual cardiac rehabilitation on physical activity and quality of life, but not on cardiovascular hospitalization or mortality. The few available prospective randomized studies have conflicting findings on the effect of virtual cardiac rehabilitation compared to traditional outpatient cardiac rehabilitation for hospital readmission. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

SUPPLEMENTAL INFORMATION

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

American College of Cardiology Foundation/American Heart Association

The 2022 American College of Cardiology (ACC) and the American Heart Association (AHA) heart failure guidelines recommend rehabilitation for Stage C heart failure stating, "In patients with HF, a cardiac rehabilitation program can be useful to improve functional capacity, exercise tolerance, and health-related QOL."[48,]In 2023, theACC/AHA published a statement on supervised exercise training specific to patients with chronic heart failure with preserved ejection fraction (HFpEF) and concluded, "data reviewed herein demonstrate a comparable or larger magnitude of improvement in exercise capacity from supervised exercise training in patients with chronic HFpEF compared with those with heart failure with reduced ejection fraction."[49,]

American Heart Association

In 2007, the American Heart Association and the American Association of Cardiovascular and Pulmonary Rehabilitation issued a consensus statement on the core components of cardiac rehabilitation programs.[2,] The core components included patient assessment before beginning the program, nutritional counseling, weight management, blood pressure management, lipid management, diabetes management, tobacco cessation, psychosocial management, physical activity counseling, and exercise training. Programs that only offered supervised exercise training were not considered cardiac rehabilitation. The guidelines specified the assessment, interventions, and expected outcomes for each of the core components. For example, symptom-limited exercise testing before exercise training was strongly recommended. The guidelines did not specify the optimal overall length of programs or the number or duration of sessions.

In 2019, the American Heart Association, with the American Association of Cardiovascular and Pulmonary Rehabilitation and the American College of Cardiology, released a scientific statement on home-based cardiac rehabilitation (HBCR).[50,] They make the following suggestions for healthcare providers:

- Recommend center-based cardiac rehabilitation (CBCR) to all eligible patients.
- As an alternative, recommend HBCR to clinically stable low- and moderate-risk patients who cannot attend CBCR.
- Design and test HBCR "using effective processes of care for CVD [cardiovascular disease] secondary prevention."
- For healthcare organizations, develop and support the following:
    - Maximization of cardiac rehabilitation (CR) referrals
    - High-quality CBCR and HBCR programs "using evidence-based standards and guidelines, strategies to maximize patient adherence both in the shorter and longer-term, and outcome tracking methods to help promote continuous quality improvement."
    - "Testing and implementation of an evidence-based hybrid approach to CR" that are optimized for each patient and that "promote long-term adherence and favorable behavior change."
- For CR professionals, "work with other healthcare professionals and policymakers to implement additional research and...expand the evidence base for HBCR."

The guideline does not use the terminology "virtual" cardiac rehabilitation, but it states that electronic tools such as text messaging, smartphone applications, and wearable sensors may allow patients to follow personalized recommendations for exercise, dietary, and behavioral interventions, and thus expand the number of patients who can participate in cardiac rehabilitation. Other benefits of technology-assisted HBCR include greater patient engagement and patient-provider communication. The panel stated that studies were needed regarding the effect of technology-assisted HBCR on outcomes.

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

Cardiac Rehabilitation

Since 1989, Medicare has had a national coverage determination (NCD) for cardiac rehabilitation. The NCD was retired in April 2023. CMS periodically retires NCDs that no longer contain clinically pertinent and/or current information or no longer reflect current medical practice. In the absence of NCDs, coverage determinations are made by the Medicare Administrative Contractors (MACs) under section 1862(a)(1)(A) of the Social Security Act. [51,]

In October 2020, virtual cardiac rehabilitation and intensive cardiac rehabilitation were added to the list of telehealth services that Medicare would cover during the COVID-19 public health emergency.[52,] Virtual cardiac rehabilitation will continue to be covered through the end of 2024.[53,54,]

Intensive Cardiac Rehabilitation

In January 2010, Medicare added intensive cardiac rehabilitation as a benefit. Intensive cardiac rehabilitation programs must be approved by Medicare on an individual basis.[55,]

The national coverage determination described intensive cardiac rehabilitation in the following manner:

"Intensive cardiac rehabilitation (ICR) refers to a physician-supervised program that furnishes cardiac rehabilitation services more frequently and often in a more rigorous manner. As required by 1861(eee)(4)(A) of the Social Security Act (the Act), an ICR program must show, in peer-reviewed published research, that it accomplished 1 or more of the following for its patients: (1) positively affected the progression of coronary heart disease; (2) reduced the need for coronary bypass surgery; and, (3) reduced the need for percutaneous coronary interventions. The ICR program must also demonstrate through peer-reviewed published research that it accomplished a statistically significant reduction in 5 or more of the following measures for patients from their levels before cardiac rehabilitation services to after cardiac rehabilitation services: (1) low density lipoprotein; (2) triglycerides; (3) body mass index; (4) systolic blood pressure; (5) diastolic blood pressure; and, (6) the need for cholesterol, blood pressure, and diabetes medications. Individual ICR programs must be approved through the national coverage determination process to ensure that they demonstrate these accomplishments."

In 2010, the Centers for Medicare & Medicaid Services also issued 2 decision memos on specific programs. One stated that the Ornish Program for Reversing Heart Disease met the intensive cardiac rehabilitation program requirements and was included on the list of approved intensive cardiac rehabilitation programs.[55,] It provided the following description of the Ornish Program: "The Ornish Program for Reversing Heart Disease (also known as the Multisite Cardiac Lifestyle Intervention Program, Multicenter Cardiac Lifestyle Intervention Program and the Lifestyle Heart Trial program) ... incorporates comprehensive lifestyle modifications including exercise, a low-fat diet, smoking cessation, stress management training, and group support sessions. Over the years, the Ornish program has been refined but continues to focus on these specific risk factors."

The other stated that the Pritikin Program met program requirements and was included on the list of approved intensive cardiac rehabilitation programs.[56,] As described in the decision memo: "The Pritikin program (also known as the Pritikin Longevity Program) evolved into a comprehensive program that is provided in a physician"s office and incorporates a specific diet (10% to 15% of calories from fat, 15% to 20% from protein, 65% to 75% from complex carbohydrates), exercise and counseling lasting 21 to 26 days. An optional residential component is also available for participants."

In 2014, Centers of Medicare & Medicaid Services issued another decision memo on the Benson-Henry Institute Cardiac Wellness Program.[57,] The memo stated that "the evidence is sufficient to expand the intensive care rehabilitation benefit to include the Benson-Henry Institute Cardiac Wellness Program. The Cardiac Wellness Program is a multicomponent intervention program that includes supervised exercise, behavioral interventions, and counseling, and is designed to reduce cardiovascular risk and improve health outcomes."

REFERENCES

1. Martin SS, Aday AW, Almarzooq ZI, et al. 2024 Heart Disease and Stroke Statistics: A Report of US and Global Data From the American Heart Association. Circulation. Jan 24 2024. PMID 38264914
2. Balady GJ, Williams MA, Ades PA, et al. Core components of cardiac rehabilitation/secondary prevention programs: 2007 update: a scientific statement from the American Heart Association Exercise, Cardiac Rehabilitation, and Prevention Committee, the Council on Clinical Cardiology; the Councils on Cardiovascular Nursing, Epidemiology and Prevention, and Nutrition, Physical Activity, and Metabolism; and the American Association of Cardiovascular and Pulmonary Rehabilitation. Circulation. May 22 2007; 115(20): 2675-82. PMID 17513578

3. Corrà U, Piepoli MF, Carr F, et al. Secondary prevention through cardiac rehabilitation: physical activity counselling and exercise training: key components of the position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. Eur Heart J. Aug 2010; 31(16): 1967-74. PMID 20643803
4. Leon AS, Franklin BA, Costa F, et al. Cardiac rehabilitation and secondary prevention of coronary heart disease: an American Heart Association scientific statement from the Council on Clinical Cardiology (Subcommittee on Exercise, Cardiac Rehabilitation, and Prevention) and the Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity), in collaboration with the American association of Cardiovascular and Pulmonary Rehabilitation. Circulation. Jan 25 2005; 111(3): 369-76. PMID 15668354
5. Lindenfeld J, Albert NM, Boehmer JP, et al. HFSA 2010 Comprehensive Heart Failure Practice Guideline. J Card Fail. Jun 2010; 16(6): e1-194. PMID 20610207
6. Oldridge N. Exercise-based cardiac rehabilitation in patients with coronary heart disease: meta-analysis outcomes revisited. Future Cardiol. Sep 2012; 8(5): 729-51. PMID 23013125
7. Anderson L, Thompson DR, Oldridge N, et al. Exercise-based cardiac rehabilitation for coronary heart disease. Cochrane Database Syst Rev. Jan 05 2016; 2016(1): CD001800. PMID 26730878
8. Davies EJ, Moxham T, Rees K, et al. Exercise based rehabilitation for heart failure. Cochrane Database Syst Rev. Apr 14 2010; (4): CD003331. PMID 20393935
9. Heran BS, Chen JM, Ebrahim S, et al. Exercise-based cardiac rehabilitation for coronary heart disease. Cochrane Database Syst Rev. Jul 06 2011; (7): CD001800. PMID 21735386
10. Long L, Mordi IR, Bridges C, et al. Exercise-based cardiac rehabilitation for adults with heart failure. Cochrane Database Syst Rev. Jan 29 2019; 1(1): CD003331. PMID 30695817
11. Molloy CD, Long L, Mordi IR, et al. Exercise-based cardiac rehabilitation for adults with heart failure - 2023 Cochrane systematic review and meta-analysis. Eur J Heart Fail. Dec 2023; 25(12): 2263-2273. PMID 37850321
12. West RR, Jones DA, Henderson AH. Rehabilitation after myocardial infarction trial (RAMIT): multi-centre randomised controlled trial of comprehensive cardiac rehabilitation in patients following acute myocardial infarction. Heart. Apr 2012; 98(8): 637-44. PMID 22194152
13. Doherty P, Lewin R. The RAMIT trial, a pragmatic RCT of cardiac rehabilitation versus usual care: what does it tell us?. Heart. Apr 2012; 98(8): 605-6. PMID 22505460
14. Pandey A, Kitzman DW, Brubaker P, et al. Response to Endurance Exercise Training in Older Adults with Heart Failure with Preserved or Reduced Ejection Fraction. J Am Geriatr Soc. Aug 2017; 65(8): 1698-1704. PMID 28338229
15. Kitzman DW, Brubaker PH, Morgan TM, et al. Exercise training in older patients with heart failure and preserved ejection fraction: a randomized, controlled, single-blind trial. Circ Heart Fail. Nov 2010; 3(6): 659-67. PMID 20852060
16. Opotowsky AR, Rhodes J, Landzberg MJ, et al. A Randomized Trial Comparing Cardiac Rehabilitation to Standard of Care for Adults With Congenital Heart Disease. World J Pediatr Congenit Heart Surg. Mar 2018; 9(2): 185-193. PMID 29544423
17. Sumner J, Harrison A, Doherty P. The effectiveness of modern cardiac rehabilitation: A systematic review of recent observational studies in non-attenders versus attenders. PLoS One. 2017; 12(5): e0177658. PMID 28498869
18. Nilsson BB, Lunde P, Grgaard HK, et al. Long-Term Results of High-Intensity Exercise-Based Cardiac Rehabilitation in Revascularized Patients for Symptomatic Coronary Artery Disease. Am J Cardiol. Jan 01 2018; 121(1): 21-26. PMID 29096886
19. Jafri SH, Imran TF, Medbury E, et al. Cardiovascular Outcomes of Patients Referred to Home Based Cardiac Rehabilitation. Heart Lung. 2022; 52: 1-7. PMID 34801771
20. Ornish D, Brown SE, Scherwitz LW, et al. Can lifestyle changes reverse coronary heart disease? The Lifestyle Heart Trial. Lancet. Jul 21 1990; 336(8708): 129-33. PMID 1973470
21. Ornish D, Scherwitz LW, Billings JH, et al. Intensive lifestyle changes for reversal of coronary heart disease. JAMA. Dec 16 1998; 280(23): 2001-7. PMID 9863851
22. Lakhani F, Racette SB, Park LK, et al. Prospective Study of the Impact of Outpatient Intensive Cardiac Rehabilitation on Diet Quality, Health-related Quality of Life, and Cardiovascular Health Indices. Am J Cardiol. Apr 01 2023; 192: 60-66. PMID 36736014
23. Racette SB, Park LK, Rashdi ST, et al. Benefits of the First Pritikin Outpatient Intensive Cardiac Rehabilitation Program. J Cardiopulm Rehabil Prev. Nov 01 2022; 42(6): 449-455. PMID 35861951
24. Zeng W, Stason WB, Fournier S, et al. Benefits and costs of intensive lifestyle modification programs for symptomatic coronary disease in Medicare beneficiaries. Am Heart J. May 2013; 165(5): 785-92. PMID 23622916
25. Casey A, Chang BH, Huddleston J, et al. A model for integrating a mind/body approach to cardiac rehabilitation: outcomes and correlators. J Cardiopulm Rehabil Prev. 2009; 29(4): 230-8; quiz 239-40. PMID 19451830
26. Centers for Disease Control and Prevention (CDC). Post-COVID Conditions: Information for Healthcare Providers. September 11, 2023; https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-care/post-covid-conditions.html. Accessed February 2, 2024.
27. Soriano JB, Murthy S, Marshall JC, et al. A clinical case definition of post-COVID-19 condition by a Delphi consensus. Lancet Infect Dis. Apr 2022; 22(4): e102-e107. PMID 34951953
28. Jin Choo Y, Chang MC. Effects of telecardiac rehabilitation on coronary heart disease: A PRISMA-compliant systematic review and meta-analysis. Medicine (Baltimore). Jul 15 2022; 101(28): e29459. PMID 35839029
29. Nacarato D, Sardeli AV, Mariano LO, et al. Cardiovascular telerehabilitation improves functional capacity, cardiorespiratory fitness and quality of life in older adults: A systematic review and meta-analysis. J Telemed Telecare. Dec 05 2022: 1357633X221137626. PMID 36469017
30. Cavalheiro AH, Silva Cardoso J, Rocha A, et al. Effectiveness of Tele-rehabilitation Programs in Heart Failure: A Systematic Review and Meta-analysis. Health Serv Insights. 2021; 14: 11786329211021668. PMID 34188484
31. Cruz-Cobo C, Bernal-Jimnez MÁ, Vzquez-Garca R, et al. Effectiveness of mHealth Interventions in the Control of Lifestyle and Cardiovascular Risk Factors in Patients After a Coronary Event: Systematic Review and Meta-analysis. JMIR Mhealth Uhealth. Dec 02 2022; 10(12): e39593. PMID 36459396

32. Maulana S, Trisyani Y, Mirwanti R, et al. The Potential of Cardiac Telerehabilitation as Delivery Rehabilitation Care Model in Heart Failure during COVID-19 and Transmissible Disease Outbreak: A Systematic Scoping Review of the Latest RCTs. Medicina (Kaunas). Sep 21 2022; 58(10). PMID 36295482
33. Ramachandran HJ, Jiang Y, Tam WWS, et al. Effectiveness of home-based cardiac telerehabilitation as an alternative to Phase 2 cardiac rehabilitation of coronary heart disease: a systematic review and meta-analysis. Eur J Prev Cardiol. May 25 2022; 29(7): 1017-1043. PMID 34254118
34. McDonagh ST, Dalal H, Moore S, et al. Home-based versus centre-based cardiac rehabilitation. Cochrane Database Syst Rev. Oct 27 2023; 10(10): CD007130. PMID 37888805
35. Zhou M, Xu Y, Zhang L, et al. Effectiveness of smartphone-assisted cardiac rehabilitation: a systematic review and meta-analysis. Disabil Rehabil. Aug 09 2023: 1-10. PMID 37559408
36. Nagatomi Y, Ide T, Higuchi T, et al. Home-based cardiac rehabilitation using information and communication technology for heart failure patients with frailty. ESC Heart Fail. Aug 2022; 9(4): 2407-2418. PMID 35534907
37. Brouwers RWM, Kemps HMC, Herkert C, et al. A 12-week cardiac telerehabilitation programme does not prevent relapse of physical activity levels: long-term results of the FIT@Home trial. Eur J Prev Cardiol. May 25 2022; 29(7): e255-e257. PMID 35040993
38. Brouwers RWM, Kraal JJ, Regis M, et al. Effectiveness of Cardiac Telerehabilitation With Relapse Prevention: SmartCare-CAD Randomized Controlled Trial. J Am Coll Cardiol. Jun 01 2021; 77(21): 2754-2756. PMID 34045031
39. Indraratna P, Biswas U, McVeigh J, et al. A Smartphone-Based Model of Care to Support Patients With Cardiac Disease Transitioning From Hospital to the Community (TeleClinical Care): Pilot Randomized Controlled Trial. JMIR Mhealth Uhealth. Feb 28 2022; 10(2): e32554. PMID 35225819
40. Snoek JA, Prescott EI, van der Velde AE, et al. Effectiveness of Home-Based Mobile Guided Cardiac Rehabilitation as Alternative Strategy for Nonparticipation in Clinic-Based Cardiac Rehabilitation Among Elderly Patients in Europe: A Randomized Clinical Trial. JAMA Cardiol. Apr 01 2021; 6(4): 463-468. PMID 33112363
41. Piotrowicz E, Pencina MJ, Opolski G, et al. Effects of a 9-Week Hybrid Comprehensive Telerehabilitation Program on Long-term Outcomes in Patients With Heart Failure: The Telerehabilitation in Heart Failure Patients (TELEREH-HF) Randomized Clinical Trial. JAMA Cardiol. Mar 01 2020; 5(3): 300-308. PMID 31734701
42. Yudi MB, Clark DJ, Tsang D, et al. SMARTphone-based, early cardiac REHABilitation in patients with acute coronary syndromes: a randomized controlled trial. Coron Artery Dis. Aug 01 2021; 32(5): 432-440. PMID 32868661
43. Hakala S, Kivist H, Paajanen T, et al. Effectiveness of Distance Technology in Promoting Physical Activity in Cardiovascular Disease Rehabilitation: Cluster Randomized Controlled Trial, A Pilot Study. JMIR Rehabil Assist Technol. Jun 18 2021; 8(2): e20299. PMID 34142970
44. Dalli Peydr E, Sanz Sevilla N, Tuzn Segarra MT, et al. A randomized controlled clinical trial of cardiac telerehabilitation with a prolonged mobile care monitoring strategy after an acute coronary syndrome. Clin Cardiol. Jan 2022; 45(1): 31-41. PMID 34952989
45. Maddison R, Rawstorn JC, Stewart RAH, et al. Effects and costs of real-time cardiac telerehabilitation: randomised controlled non-inferiority trial. Heart. Jan 2019; 105(2): 122-129. PMID 30150328
46. Lear SA, Singer J, Banner-Lukaris D, et al. Randomized trial of a virtual cardiac rehabilitation program delivered at a distance via the Internet. Circ Cardiovasc Qual Outcomes. Nov 2014; 7(6): 952-9. PMID 25271050
47. Nkonde-Price C, Reynolds K, Najem M, et al. Comparison of Home-Based vs Center-Based Cardiac Rehabilitation in Hospitalization, Medication Adherence, and Risk Factor Control Among Patients With Cardiovascular Disease. JAMA Netw Open. Aug 01 2022; 5(8): e2228720. PMID 36006642
48. Heidenreich PA, Bozkurt B, Aguilar D, et al. 2022 AHA/ACC/HFSA Guideline for the Management of Heart Failure: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. J Am Coll Cardiol. May 03 2022; 79(17): e263-e421. PMID 35379503
49. Sachdev V, Sharma K, Keteyian SJ, et al. Supervised Exercise Training for Chronic Heart Failure With Preserved Ejection Fraction: A Scientific Statement From the American Heart Association and American College of Cardiology. J Am Coll Cardiol. Apr 18 2023; 81(15): 1524-1542. PMID 36958952
50. Thomas RJ, Beatty AL, Beckie TM, et al. Home-Based Cardiac Rehabilitation: A Scientific Statement From the American Association of Cardiovascular and Pulmonary Rehabilitation, the American Heart Association, and the American College of Cardiology. J Am Coll Cardiol. Jul 09 2019; 74(1): 133-153. PMID 31097258
51. Centers for Medicare & Medicaid Services (CMS). National Coverage Determination (NCD) for Intensive Cardiac Rehabilitation Programs (20.31). 2010; http://www.cms.gov/medicare-coverage-database/details/ncd- details.aspx?NCDId=339. Accessed January 25, 2024.
52. Centers for Medicare and Medicaid Services. Trump Administration Drives Telehealth Services in Medicaid and Medicare. October 14, 2020. https://www.cms.gov/newsroom/press-releases/trump-administration-drives-telehealth-services-medicaid-and-medicare. Accessed January 23, 2024.
53. Centers for Medicare and Medicaid Services. List of Telehealth Services. Updated November 13, 2023. https://www.cms.gov/Medicare/Medicare-General-Information/Telehealth/Telehealth-Codes. Accessed January 21, 2024.
54. Centers for Medicare and Medicaid Services. Billing and Coding: Outpatient Cardiac Rehabilitation. Revision effective date October 1, 2023. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleid=54070. Accessed January 29, 2024.
55. Centers for Medicare & Medicaid Services (CMS). Decision Memo for Intensive Cardiac Rehabilitation (ICR) Program - Dr. Ornish's Program for Reversing Heart Disease (CAG-00419N). 2010; https://www.hhs.gov/guidance/sites/default/files/hhs-guidance-documents/R125NCD.pdf. Accessed January 27, 2024.
56. Centers for Medicare & Medicaid Services (CMS). Decision Memo for Intensive Cardiac Rehabilitation (ICR) Program - Pritikin Program (CAG-00418N). 2010; https://www.cms.gov/medicare-coverage- database/details/nca-decision- memo.aspx?NCAId=239&NCDId=339. Accessed January 28, 2024.

57. Centers for Medicare and Medicaid Services. Decision memo for intensive cardiac rehabilitation (ICR) program - Benson-Henry Institute Cardiac Wellness Program (CAG-00434N). May 6, 2014. https://www.hhs.gov/guidance/sites/default/files/hhs-guidance-documents/R175NCD.pdf. Accessed January 24, 2024.

POLICY HISTORY - THIS POLICY WAS APPROVED BY THE FEP® PHARMACY AND MEDICAL POLICY COMMITTEE ACCORDING TO THE HISTORY BELOW:

Date	Action	Description
March 2012	New policy	
December 2012	Replace policy	Bulleted list in first policy statement changed to say "or€š rather than "and€š: Policy guidelines changed to indicate that it is "preferable€š that the program start within 90 days of the cardiac event to eliminate any conflict with the time-frame in the policy statement. Rationale and References updated.
September 2013	Replace policy	Policy updated with literature review, References 3 and 9 added. Other references renumbered or removed. No change to policy statements.
September 2014	Replace policy	Policy updated with literature review, adding references 1,2,5,6, 13 and 14. No change to policy statements.
September 2015	Replace policy	Policy updated with literature review through May 12, 2015; reference 18 added. Policy statements unchanged.
March 2016	Archive policy	Policy updated with literature review; reference 8 added. Policy archived.
March 2019	Reinstate policy	Policy updated with literature review through January 26, 2018; references 11, 13-14, 16 and 22-23 added. Statement added that Intensive cardiac rehabilitation with the Pritikin Program or the Ornish Program is considered investigational; policy statements otherwise unchanged.
June 2019	Replace policy	Policy updated with literature review through January 6, 2019; references added. Policy statements unchanged.
June 2020	Replace policy	Policy updated with literature review through January 13, 2020; reference added. Policy statements unchanged.
June 2021	Replace policy	Policy updated with literature review through January 20, 2021; references added. Added PICO and investigational policy statement for intensive cardiac rehabilitation with the Benson-Henry Institute Program.
June 2022	Replace policy	Policy updated with literature review through February 3, 2022; reference added. Policy statements unchanged.
June 2023	Replace policy	Policy updated with literature review through February 7, 2023; references added. Added PICO and investigational policy statement for virtual cardiac rehabilitation.
June 2024	Replace policy	Policy updated with literature review through January 23, 2024; references added. Investigational policy statement added for all other indications, including post-acute sequelae of SARS-CoV-2 infection.