

--Compiled by Michael Edwards, PhD, Northeast Telehealth Resource Center, **May 2020**  
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### Reviews

- Chambers D, Cantrell A, Booth A. Implementation of interventions to reduce preventable hospital admissions for cardiovascular or respiratory conditions: an evidence map and realist synthesis. *NIHR Journals Library*, January 2020 [htm](#)
- Chan C, Yamabayashi C, Syed N, Kirkham A, Camp PG. Exercise telemonitoring and telerehabilitation compared with traditional cardiac and pulmonary rehabilitation: a systematic review and meta-analysis. *Physiother. Can.* 68(3):242-251, 2016 [htm](#)
- Duff OM, Walsh DM, Furlong BA, et al. Behavior change techniques in physical activity eHealth interventions for people with cardiovascular disease: systematic review. *J. Med. Internet Res.* 19(8):e281, 2017 [htm](#)
- Frederix I, Vanhees L, Dendale P, Goetschalckx K. A review of telerehabilitation for cardiac patients. *J. Telemed. Telecare* 21(1):45-53, 2015 [htm](#)
- Verburg A, Selder JL, Schaliq MJ, Schuurin MJ, Treskes RW. eHealth to improve patient outcome in rehabilitating myocardial infarction patients. *Expert Rev. Cardiovasc. Ther.* 17(3):185-192, 2019 [PubMed](#)
- Nabutovsky I, Nachshon A, Klempfner R, Shapiro Y, Tesler R. Digital cardiac rehabilitation programs: the future of patient-centered medicine. *Telemed. eHealth* 26(1):34-41, 2020 [PubMed](#)
- Rawstorn JC, Gant N, Direito A, Beckmann C, Maddison R. Telehealth exercise-based cardiac rehabilitation: a systematic review and meta-analysis. *Heart* 102(15):1183-1192, 2016 [PubMed](#)
- Sandesara PB, Dhindsa D, Khambhati J, et al. Reconfiguring cardiac rehabilitation to achieve panvascular prevention: new care models for a new world. *Can. J. Cardiol.* 34(10 Suppl 2):S231-S239, 2018 [htm](#)

### Studies and demonstrations

#### --COVID-era set

- American College of Cardiology. COVID-19 coding of telehealth/telemedicine/digital/remote services. ACC, March 31, 2020 [htm](#)
- Bhatt AB, Freeman AM, Mullen B. Telehealth: rapid implementation for your cardiology clinic. *Cardiology Magazine*, March 13, 2020 [htm](#)
- Fry ETA. COVID-19 operational considerations. *Cardiology Magazine*, March 20, 2020 [htm](#)
- Maxwell YL. Telehealth offers a lifeline for cardiology patients during the COVID-19 pandemic. TCTMD (Cardiovascular Research Foundation), March 24, 2020 [htm](#)
- Neubeck L, Hansen T, Jaarsma T, Klompstra L, Gallagher R. Delivering healthcare remotely to cardiovascular patients during COVID-19: A rapid review of the evidence. *Eur. J. Cardiovasc. Nurs.* [epub ahead of print], May 2020 [PubMed](#)
- Thomas E, Gallagher R, Grace ASL. Future-proofing cardiac rehabilitation: Transitioning services to telehealth during COVID-19. *Eur. J. Prev. Cardiol.* [epub ahead of print], April 2020 [htm](#)

#### --Pre-COVID set

- Avila A, Claes J, Goetschalckx K, et al. Home-based rehabilitation with telemonitoring guidance for patients with coronary artery disease (short-term results of the TRiCH Study): randomized controlled trial. *J. Med. Internet Res.* 20(6):e225, 2018 [htm](#)
- Barnason S, Zimmerman L, Schulz P, Pullen C, Schuelke S. Weight management telehealth intervention for overweight and obese rural cardiac rehabilitation participants: A randomised trial. *J. Clin. Nurs.* [epub ahead of print], January 2019 [PubMed](#)
- Batalik L, Dosbaba F, Hartman M, Batalikova K, Spinar J. Benefits and effectiveness of using a wrist heart rate monitor as a telerehabilitation device in cardiac patients: A randomized controlled trial. *Medicine* 99(11):e19556, 2020 [PubMed](#).

- Beatty AL, Magnusson SL, Fortney JC, Sayre GG, Whooley MA. VA FitHeart, a mobile app for cardiac rehabilitation: usability study. *JMIR Hum Factors* 5(1):e3, 2018 [htm](#) [WA](#)
- Bernocchi P, Vitacca M, La Rovere MT, et al. Home-based telerehabilitation in older patients with chronic obstructive pulmonary disease and heart failure: a randomised controlled trial. *Age Ageing* 30:1-7, 2017 [PubMed](#)
- Berry R, Brawner CA, Kipa SG, et al. Telemedicine home-based cardiac rehabilitation: a case series. *J Cardiopulm Rehabil Prev*. [epub ahead of print] April 2020 [htm](#) [MI](#)
- Bogyi P, Vamos M, Bari Z, et al. Association of remote monitoring with survival in heart failure patients undergoing cardiac resynchronizaon therapy: retrospective observational study. *J. Med. Internet Res.* 21(7):e14142, 2019 [htm](#)
- Bostrom J, Sweeney G, Whiteson J, Dodson JA. Mobile health and cardiac rehabilitation in older adults. *Clin. Cardiol*. [epub ahead of print], December 2019 [htm](#) [NY](#)
- Boyde M, Rankin J, Whitty JA, et al. Patient preferences for the delivery of cardiac rehabilitation. *Patient Educ. Couns.* 101(12):2162-2169, 2018 [PubMed](#)
- Bravo-Escobar R, González-Represas A, Gómez-González AM, et al. Effectiveness and safety of a home-based cardiac rehabilitation programme of mixed surveillance in patients with ischemic heart disease at moderate cardiovascular risk: A randomised, controlled clinical trial. *BMC Cardiovasc. Disord.* 17(1):66, 2017 [htm](#).
- Brewer LC, Kaihoi B, Schaepe K, et al. Patient-perceived acceptability of a virtual world-based cardiac rehabilitation program. *Digit. Health* 3:2055207617705548, 2017 [htm](#) [MN](#)
- Brewer LC, Kaihoi B, Zarlino KK, et al. The use of virtual world-based cardiac rehabilitation to encourage healthy lifestyle choices among cardiac patients: intervention development and pilot study protocol. *JMIR Res. Protoc.* 4(2):e39, 2015 [PubMed](#) [MN](#)
- Dinesen B, Spindler H. The use of telerehabilitation technologies for cardiac patients to improve rehabilitation activities and unify organizations: qualitative study. *JMIR Rehabil. Assist. Technol.* 5(2): e10758, 2018 [htm](#)
- Donesky D, Selman L, McDermott K, Citron T, Howie-Esquivel J. Evaluation of the feasibility of a home-based TeleYoga intervention in participants with both chronic obstructive pulmonary disease and heart failure. *J. Altern. Complement. Med.* 23(9):713-721, 2017 [PubMed](#)
- Duan YP, Liang W, Guo L, Wienert J, Si GY, Lippke S. Evaluation of a web-based intervention for multiple health behavior changes in patients with coronary heart disease in home-based rehabilitation: pilot randomized controlled trial. *J. Med. Internet Res.* 20(11):e12052, 2018 [htm](#)
- Fang J, Ayala C, Luncheon C, Ritchey M, Loustalot F. Use of outpatient cardiac rehabilitation among heart attack survivors — 20 states and the District of Columbia, 2013 and four states, 2015. *MMWR Morb. Mortal Wkly Rep.* 66:869–873, 2017 [htm](#)
- Frederix I, Solmi F, Piepoli MF, Dendale P. Cardiac telerehabilitation: A novel cost-efficient care delivery strategy that can induce long-term health benefits. *Eur. J. Prev. Cardiol.* 24(16):1708-1717, 2017 [PubMed](#)
- Gonzalez-Garcia MC, Fatehi F, Scherrenberg M, et al. International feasibility trial on the use of an interactive mobile health platform for cardiac rehabilitation: protocol of the Diversity 1 study. *BMJ Health Care Inform.* 26(1): e100042, 2019 [htm](#)
- Grover DB, Alexander JL. Patient attitudes toward telemedicine-delivered cardiac rehabilitation. *Rehabil. Nurs.* 44(6):358-363, 2019 [PubMed](#) [NY](#)
- Herkert C, Kraal JJ, van Loon EMA, van Hooff M, Kemps HMC. Usefulness of modern activity trackers for monitoring exercise behavior in chronic cardiac patients: validation study. *JMIR mHealth uHealth* 7(12):e15045, 2019 [htm](#)
- Hwang R, Morris NR, Mandrusiak A, et al. Cost-utility analysis of home-based telerehabilitation compared with centre-based rehabilitation in patients with heart failure. *Heart Lung Circ.* 28(12):1795-1803, 2019 [PubMed](#)
- Hwang R, Mandrusiak A, Morris NR, et al. Exploring patient experiences and perspectives of a heart failure telerehabilitation program: A mixed methods approach. *Heart Lung* 46(4):320-327, 2017 [PubMed](#)
- Hwang R, Bruning J, Morris NR, Mandrusiak A, Russell T. Home-based telerehabilitation is not inferior to a centre-based program in patients with chronic heart failure: a randomised trial. *J. Physiother.* 63(2):101-107, 2017 [htm](#)

- Joensson K, Melholt C, Hansen J, et al. Listening to the patients: using participatory design in the development of a cardiac telerehabilitation web portal. *mHealth* 5:33, 2019 [htm](#)
- Kidholm K, Rasmussen MK, Andreasen JJ, Hansen J, Nielsen G, Spindler H, Dinesen B. Cost-utility analysis of a cardiac telerehabilitation program: the teledialog project. *Telemed. eHealth* 22(7): 1-11, 2015 [htm](#)
- Knudsen MV, Laustsen S, Petersen AK, Hjortdal VE, Angel S. Experience of cardiac tele-rehabilitation: analysis of patient narratives. *Disabil. Rehabil.* [epub ahead of print], July 2019 [PubMed](#)
- Laustsen S, Oestergaard LG, van Tulder M, Hjortdal VE, Petersen AK. Telemonitored exercise-based cardiac rehabilitation improves physical capacity and health-related quality of life. *J. Telemed. Telecare* 26(1-2):36-44, 2020 [PubMed](#)
- Laustsen S, Oestergaard LG, van Tulder M, Hjortdal VE, Petersen AK. Telemonitored exercise-based cardiac rehabilitation improves physical capacity and health-related quality of life. *J. Telemed. Telecare* [epub ahead of print] August 2018 [PubMed](#)
- 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* 7(6):952-959, 2014 [htm](#)
- Lear SA. The delivery of cardiac rehabilitation using communications technologies: the "virtual" cardiac rehabilitation program. *Can. J. Cardiol.* 34(10 Suppl 2):S278-S283, 2018 [PubMed](#)
- Lunde P, Bye A, Bergland A, et al. Long-term follow-up with a smartphone application improves exercise capacity post cardiac rehabilitation: A randomized controlled trial. *Eur J Prev Cardiol.* [epub ahead of print], February 2020 [PubMed](#)
- Maddison R, Rawstorn JC, Stewart RAH, et al. Effects and costs of real-time cardiac telerehabilitation: randomised controlled non-inferiority trial. *Heart* 105(2):122-129, 2019 [htm](#)
- Maeng DD, Starr AE, Tomcavage JF, Sciandra J, Salek D, Griffith D. Can telemonitoring reduce hospitalization and cost of care? A health plan's experience in managing patients with heart failure. *Popul. Health Manag.* 17(6):340-344, 2014 [htm](#) [PA](#)
- Martin S, Anderson B, Vincenzo JL, Zai SY. A retrospective comparison of home telehealth and nursing care with or without rehabilitation therapy on rehospitalization rates of individuals with heart failure. *J. Cardiopulm. Rehabil. Prev.* 37(3):207-213, 2017 [PubMed](#) [ME](#)
- Mendell J, Bates J, Banner-Lukaris D, et al. What do patients talk about? A qualitative analysis of online chat sessions with healthcare specialists during a "virtual" cardiac rehabilitation program. *Telemed. eHealth* [epub ahead of print], May 2018 [PubMed](#)
- Pfaeffli Dale L, Whittaker R, Dixon R, et al. Acceptability of a mobile health exercise-based cardiac rehabilitation intervention: a randomized trial. *J. Cardiopulm. Rehabil. Prev.* 35(5):312-319, 2015 [PubMed](#)
- 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.* [epub ahead of print] 2019 [PubMed](#)
- Piotrowicz E, Piepoli MF, Jaarsma T, et al. Telerehabilitation in heart failure patients: The evidence and the pitfalls. *Int. J. Cardiol.* 220:408-413, 2016 [htm](#)
- Rawstorn JC, Gant N, Rolleston A, et al. End users want alternative intervention delivery models: usability and acceptability of the REMOTE-CR exercise-based cardiac telerehabilitation program. *Arch. Phys. Med. Rehabil.* 99(11):2373-2377, 2018 [PubMed](#)
- Salvi D, Ottaviano M, Muuraiskangas S, et al. An m-Health system for education and motivation in cardiac rehabilitation: the experience of HeartCycle guided exercise. *J. Telemed. Telecare* 24(4):303-316, 2018 [PubMed](#)
- Sankaran S, Dendale P, Coninx K. Evaluating the impact of the HeartHab app on motivation, physical activity, quality of life, and risk factors of coronary artery disease patients: multidisciplinary crossover study. *JMIR mHealth uHealth* 7(4):e10874, 2019 [htm](#)
- Shaw DK. Overview of telehealth and its application to cardiopulmonary physical therapy. *Cardiopulm. Phys. Ther. J.* 20(2): 13-18, 2009 [htm](#)
- Snoek JA, Meindersma EP, Prins LF, et al. The sustained effects of extending cardiac rehabilitation with a six-month telemonitoring and telecoaching programme on fitness, quality of life, cardiovascular risk factors and care utilisation in CAD patients: The TeleCaRe study. *J. Telemed. Telecare* [epub ahead of print], 2019 [PubMed](#)

- Spindler H, Leerskov K, Joensson K, et al. Conventional rehabilitation therapy versus telerehabilitation in cardiac patients: a comparison of motivation, psychological distress, and quality of life. *Int. J. Environ. Res. Public Health* 16(3): E512, 2019 [htm](#)
- Thorup CB, Grønkjær M, Spindler H, et al. Pedometer use and self-determined motivation for walking in a cardiac telerehabilitation program: a qualitative study. *BMC Sports Sci. Med. Rehabil.* 8:24, 2016 [htm](#)
- Walsh DM, Moran K, Cornelissen V, et al. Electronic health physical activity behavior change intervention to self-manage cardiovascular disease: qualitative exploration of patient and health professional requirements. *J. Med. Internet Res.* 20(5):e163, 2018 [htm](#)
- Widmer RJ, Senecal C, Allison TG, et al. Dose-response effect of a digital health intervention during cardiac rehabilitation: subanalysis of randomized controlled trial. *J. Med. Internet Res.* 22(2):e13055, 2020 [htm](#) MN