

NHS England
Technology Enabled Care Services (TECS) Evidence Database

CHF/ CVD EVIDENCE

The evidence base for using technology to enhance care is large, complex and continuing to grow rapidly. TECS is a complex intervention involving people, process and technology, therefore results are dependent on all these elements. The evidence is based on a range of methodologies and can – in some contexts – provide mixed messages on the clinical and cost-effectiveness of TECS. It would therefore be impractical and unhelpful to try and provide a definitive list of all studies on all TECS in all clinical areas.

This database provides a list of individual studies as well as a link to a single key paper for selected as selected clinical areas. The lists are limited to the most recent studies and may not be exhaustive. They are intended to help those considering TECS how these solutions might best address their needs. Some resources may need to be purchased and in many cases the link is to a summary of the paper rather than the full content.

Key paper:

Remote monitoring after recent hospital discharge in patients with heart failure: a systematic review and network meta-analysis <http://heart.bmj.com/content/early/2013/05/15/heartjnl-2013-303811.abstract>

Additional papers:

1. **Implant-based multiparameter telemonitoring of patients with heart failure (IN-TIME): a randomised controlled trial.** <http://www.ncbi.nlm.nih.gov/pubmed/25131977>
2. **Remote Delivery of Congenital Cardiac Magnetic Resonance Imaging Services: A Unique Telemedicine Model.** <http://www.ncbi.nlm.nih.gov/pubmed/25099031>
3. **Electrocardiographic diagnosis of rural emergencies, by applying a tele-ECG recording and analysis system.** <http://www.ncbi.nlm.nih.gov/pubmed/25095660>
4. **Challenges in implementing a pediatric cardiovascular home telehealth project.** <http://www.ncbi.nlm.nih.gov/pubmed/25083905>
5. **REHAL[®], a telemedicine platform for home cardiac rehabilitation.** <http://www.ncbi.nlm.nih.gov/pubmed/25069785>
6. **Examining the use of telehealth in community nursing: identifying the factors affecting frontline staff acceptance and telehealth adoption.** <http://www.ncbi.nlm.nih.gov/pubmed/25069605>
7. **Multi-sources data fusion framework for remote triage prioritization in telehealth.** <http://www.ncbi.nlm.nih.gov/pubmed/25047520>

8. Is telemedicine an answer to reducing 30-day readmission rates post-acute myocardial infarction? <http://www.ncbi.nlm.nih.gov/pubmed/25046174>
9. Program Evaluation of Remote Heart Failure Monitoring: Healthcare Utilization Analysis in a Rural Regional Medical Center. <http://www.ncbi.nlm.nih.gov/pubmed/25025239>
10. Telemedicine systems in organ transplantation: a feasibility and reliability study of the integrated teleradiological and tele-pathological evaluation of the cardiac graft. <http://www.ncbi.nlm.nih.gov/pubmed/25000077>
11. Building a multicenter telehealth network to advance chronic disease management. <http://www.ncbi.nlm.nih.gov/pubmed/25000076>
12. The empirical foundations of telemedicine interventions for chronic disease management. <http://www.ncbi.nlm.nih.gov/pubmed/24968105>
13. Randomized controlled feasibility trial of two telemedicine medication reminder systems for older adults with heart failure. <http://www.ncbi.nlm.nih.gov/pubmed/24958355>
14. International telemedicine in pediatric cardiac critical care: a multicenter experience. <http://www.ncbi.nlm.nih.gov/pubmed/24901442>
15. Information technology implementing globalization on strategies for quality care provided to children submitted to cardiac surgery: International Quality Improvement Collaborative Program--IQIC. <http://www.ncbi.nlm.nih.gov/pubmed/24896168>
16. Transitional care interventions to prevent readmissions for persons with heart failure: a systematic review and meta-analysis. <http://www.ncbi.nlm.nih.gov/pubmed/24862840>
17. The evolution of pediatric tele-echocardiography: 15-year experience of over 10,000 transmissions. <http://www.ncbi.nlm.nih.gov/pubmed/24841367>
18. Assessing the clinical use of a novel, mobile fetal monitoring device. <http://www.ncbi.nlm.nih.gov/pubmed/24770221>
19. Home Telehealth Uptake and Continued Use Among Heart Failure and Chronic Obstructive Pulmonary Disease Patients: a Systematic Review. <http://www.ncbi.nlm.nih.gov/pubmed/24763972>
20. Management of Chronic Heart Failure: Biomarkers, Monitors, and Disease Management Programs. <http://www.ncbi.nlm.nih.gov/pubmed/24751564>
21. A remote monitoring and telephone nurse coaching intervention to reduce readmissions among patients with heart failure: study protocol for the Better Effectiveness After Transition - Heart Failure (BEAT-HF) randomized controlled trial. <http://www.ncbi.nlm.nih.gov/pubmed/24725308>
22. The informative contribution of the "virtual medical visit" in a new heart failure telemedicine integrated system. <http://www.ncbi.nlm.nih.gov/pubmed/24712556>
23. Diagnostic performance and system delay using telemedicine for prehospital diagnosis in triaging and treatment of STEMI. <http://www.ncbi.nlm.nih.gov/pubmed/24637516>

24. Conceptual model for heart failure disease management. <http://www.ncbi.nlm.nih.gov/pubmed/24565255>
25. Cost-effectiveness of telehealth interventions for chronic heart failure patients: a literature review. <http://www.ncbi.nlm.nih.gov/pubmed/24495581>
26. Effect of a reminder system using an automated short message service on medication adherence following acute coronary syndrome. <http://www.ncbi.nlm.nih.gov/pubmed/24491349>
27. Contributors to frequent telehealth alerts including false alerts for patients with heart failure: a mixed methods exploration. <http://www.ncbi.nlm.nih.gov/pubmed/24454576>
28. The effects on health behavior and health outcomes of Internet-based asynchronous communication between health providers and patients with a chronic condition: a systematic review. <http://www.ncbi.nlm.nih.gov/pubmed/24434570>
29. Hot spot: impact of July 2011 heat wave in southern Italy (Apulia) on cardiovascular disease assessed by emergency medical service and telemedicine support. <http://www.ncbi.nlm.nih.gov/pubmed/24404817>
30. Home telemonitoring of vital signs - Technical challenges and future directions. <http://www.ncbi.nlm.nih.gov/pubmed/25163076>
31. Primary and secondary prevention of cardiovascular disease: is there a place for Internet-based interventions? <http://www.ncbi.nlm.nih.gov/pubmed/25079147>
32. Are people with chronic diseases interested in using telehealth? A cross-sectional postal survey. <http://www.ncbi.nlm.nih.gov/pubmed/24811914>
33. Telehealth interventions for primary prevention of cardiovascular disease: a systematic review and meta-analysis. <http://www.ncbi.nlm.nih.gov/pubmed/24726502>
34. WE-CARE: an intelligent mobile telecardiology system to enable mHealth applications. <http://www.ncbi.nlm.nih.gov/pubmed/24608067>
35. Telemonitoring can assist in managing cardiovascular disease in primary care: a systematic review of systematic reviews. <http://www.ncbi.nlm.nih.gov/pubmed/24606887>
36. Effectiveness and cost-effectiveness of a telehealth intervention to support the management of long-term conditions: study protocol for two linked randomized controlled trials. <http://www.ncbi.nlm.nih.gov/pubmed/24460845>
37. The Cardiovascular Intervention Improvement Telemedicine Study (CITIES): rationale for a tailored behavioral and educational pharmacist-administered intervention for achieving cardiovascular disease risk reduction. <http://www.ncbi.nlm.nih.gov/pubmed/24303930>
38. Factors affecting frequency of patient use of Internet-based telemedicine to manage cardiovascular disease risk. <http://www.ncbi.nlm.nih.gov/pubmed/23666439>
39. Internet-delivered cognitive behavioural therapy for adults with mild to moderate depression and high cardiovascular disease risks: a randomised attention-controlled trial. <http://www.ncbi.nlm.nih.gov/pubmed/23555624>

40. Telemedicine cardiovascular risk reduction in veterans.
<http://www.ncbi.nlm.nih.gov/pubmed/23537965>
41. Evaluation of satisfaction with telemedicine devices and with the results of the care received among chronic patients. The ValCrònic program
<http://www.ncbi.nlm.nih.gov/pubmed/25262307>
42. Telemedicine-guided very low-dose international normalized ratio self-control in patients with mechanical heart valve implants. <http://www.ncbi.nlm.nih.gov/pubmed/25205534>
43. Telehealth for "the digital illiterate"--elderly heart failure patients experiences.
<http://www.ncbi.nlm.nih.gov/pubmed/25160205>
44. Policy expectations and reality of telemedicine - a critical analysis of health care outcomes, costs and acceptance for congestive heart failure.
<http://www.ncbi.nlm.nih.gov/pubmed/24803273>
45. Will telemonitoring be adopted by patients with chronic heart failure?
<http://www.ncbi.nlm.nih.gov/pubmed/24722932>
46. Economic evaluation of Manitoba Health Lines in the management of congestive heart failure. <http://www.ncbi.nlm.nih.gov/pubmed/24359716>
47. Meta-analysis and meta-regression of telehealth programmes for patients with chronic heart failure. <http://www.ncbi.nlm.nih.gov/pubmed/24163234>
48. Cost-effectiveness analysis of telemonitoring versus usual care in patients with heart failure: the TEHAF-study. <http://www.ncbi.nlm.nih.gov/pubmed/24163233>
49. Tele-accelerometry as a novel technique for assessing functional status in patients with heart failure: feasibility, reliability and patient safety.
<http://www.ncbi.nlm.nih.gov/pubmed/23962782>
50. Home-based telesurveillance program in chronic heart failure: effects on clinical status and implications for 1-year prognosis. <http://www.ncbi.nlm.nih.gov/pubmed/23758079>
51. Effect of telemonitoring on re-admission in patients with congestive heart failure.
<http://www.ncbi.nlm.nih.gov/pubmed/23469498>
52. The E-coach transition support computer telephony implementation study: protocol of a randomized trial. <http://www.ncbi.nlm.nih.gov/pubmed/22922245>
53. Effect of a telemonitoring-facilitated collaboration between general practitioner and heart failure clinic on mortality and rehospitalization rates in severe heart failure: the TEMA-HF 1 (TElemonitoring in the MAnagement of Heart Failure) study.
<http://www.ncbi.nlm.nih.gov/pubmed/22045925>
54. Home-based telemanagement in chronic heart failure: an 8-year single-site experience.
<http://www.ncbi.nlm.nih.gov/pubmed/21979603>
55. Remote telemonitoring for patients with heart failure: might monitoring pulmonary artery pressure become routine? <http://www.ncbi.nlm.nih.gov/pubmed/24984847>

56. **Telemonitoring in heart failure: Big Brother watching over you.**
<http://www.ncbi.nlm.nih.gov/pubmed/24972644>
57. **Can Telemonitoring Reduce Hospitalization and Cost of Care? A Health Plan's Experience in Managing Patients with Heart Failure.** <http://www.ncbi.nlm.nih.gov/pubmed/24865986>
58. **Remote monitoring of implantable cardioverter-defibrillators : Problems and implications using a telemonitoring system.**<http://www.ncbi.nlm.nih.gov/pubmed/24848864>
59. **Telemonitoring in heart failure: a state-of-the-art review.**
<http://www.ncbi.nlm.nih.gov/pubmed/24830309>
60. **The effect of a randomized trial of home telemonitoring on medical costs, 30-day readmissions, mortality, and health-related quality of life in a cohort of community-dwelling heart failure patients.** <http://www.ncbi.nlm.nih.gov/pubmed/24769270>
61. **Will telemonitoring be adopted by patients with chronic heart failure?**
<http://www.ncbi.nlm.nih.gov/pubmed/24722932>
62. **Is age a factor in the success or failure of remote monitoring in heart failure? Telemonitoring and structured telephone support in elderly heart failure patients.**
<http://www.ncbi.nlm.nih.gov/pubmed/24681423>
63. **Telemonitoring can assist in managing cardiovascular disease in primary care: a systematic review of systematic reviews.** <http://www.ncbi.nlm.nih.gov/pubmed/24606887>
64. **Frequent Home Monitoring of ICD Is Effective to Prevent Inappropriate Defibrillator Shock Delivery.** <http://www.ncbi.nlm.nih.gov/pubmed/24592279>
65. **Cost-effectiveness of telehealth interventions for chronic heart failure patients: a literature review.** <http://www.ncbi.nlm.nih.gov/pubmed/24495581>
66. **Perceptions of transmission of body weight and telemonitoring in patients with heart failure?** <http://www.ncbi.nlm.nih.gov/pubmed/24345687>