Abstract

Heart failure (HF) is a health condition that limits enjoyment of life for many patients due to associated symptoms such as swelling and shortness of breath. Because of such symptoms, it is not uncommon for HF patients to be hospitalized multiple times to receive treatment for their condition. Furthermore, the standard model of patient care involves limited follow-up with healthcare professionals following discharge. Remote monitoring of these patients at their homes through technology is a novel approach that has potential to reduce hospitalizations, promote patient self-care, and improve enjoyment of life while ultimately enhancing the level of care following discharge. The first phase of a remote monitoring project called TEC4Home was performed to assess the practicality of this approach, with hopes that it would be followed-up with a larger scale, randomized controlled trial. In the first phase, 70 HF patients were recruited in-hospital and monitored remotely for 60-days once they were discharged. The study tested the research framework, including data collection and evaluation methods, while measuring outcomes including changes in hospitalizations, cost-effectiveness for healthcare systems, and enjoyment of life for patients. The results suggested that TEC4Home can be a potential solution to yield positive outcomes for patients and the health system, and with refined protocols, warrants a larger trial. This second trial is currently underway and included recruitment of a larger sample of patients and a novel research design known as the stepped-wedge model. Data analysis is currently in progress and final results are expected in Fall 2021.