

EDITORIAL

Why Automated E-Counseling for Chronic Heart Failure Matters in the COVID-19 Pandemic Era

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At the time of publication of this editorial, the coronavirus disease 2019 (COVID-19) pandemic is in its second wave and affecting many aspects of health care delivery. For heart failure (HF) care, this is apparent in the reshuffling of health care resources, such as reassigning health care professionals to COVID-19 related direct clinical care and bolstering patient care services that were historically on the periphery. One such service that has increased is the employment of telehealth in HF management. Telehealth has become an instrumental mode of delivering HF care to ensure ongoing delivery of chronic care while maintaining patient and health care worker safety.¹ Policy changes during the pandemic, such as those by the Centers for Medicare & Medicaid Services, have helped reduced barriers to using telehealth and facilitated its widespread adoption.^{2,3} What this change means for the future of HF management and the delivery of HF services in ambulatory settings globally is still too early to tell, but there are already wide-ranging implications for future HF management; from improving access to care by overcoming transportation barriers and the prohibitive cost of clinic visits especially for those who travel miles to academic medical centers, to enhanced home remote monitoring, patient education, and conducting research in a more patient-centered way.^{4,5}

See Article by Nolan et al

In comparison to HF studies with pharmacological and device related interventions, there are not many

studies assessing telehealth's use for delivering self-care resources and for improving health-related quality of life (HRQL) among patients with chronic HF. Hence, research on optimal methods of telehealth delivery is particularly timely when presented against the backdrop of the COVID-19 pandemic.

In this issue of *Circulation: Heart Failure*, Nolan et al⁶ present a novel telehealth study, the CHF-CePPORT (Canadian e-Platform to Promote Behavioral Self-Management in Chronic Heart Failure Trial). This Canadian, multi-site, double-blind, randomized controlled trial of 231 patients with chronic HF provided a fully automated online only counseling service that incorporated motivational interviewing and cognitive behavioral therapy techniques (e-counseling). A key feature of this telehealth intervention was the use of multimedia that included self-help tips integrated with interactive self-assessment tools and trackers. Other interventions employed included the use of dramatic vignettes and a video-taped discussion among patients with chronic HF. Nolan et al⁶ hypothesized that compared to delivering online chronic HF self-care education with usual care (e-UC), e-counseling would improve HRQL, as measured by the Kansas City Cardiomyopathy Questionnaire Overall Summary Scale. Secondary outcomes evaluated included user participation with CHF self-care activities, change in health behaviors, and adherence to chronic HF self-care behaviors.

At the end of the 12-month period, the e-counseling intervention did not improve the primary end point of HRQL (improvement in Kansas City Cardiomyopathy Questionnaire >5 points, e-counseling n=29 [29.6%] versus e-UC n=32 [34.0%]; $P=0.51$). The 6-minute

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walk test and 4-day step count did not improve either. However, patients in the e-counseling program were more actively engaged with self-care resources. In comparison to e-UC, e-counseling increased the duration of the engagement with the program, including total logon weeks ($P=0.02$) and the intensity of patient involvement, represented by increased logon hours ($P=0.001$) and logons ($P<0.001$). This appeared to translate to improvements in some chronic HF self-care behaviors, including having active living habits 5 to 6 d/wk, reduction in salt consumption, and fluid restriction. At the end of the 12-month period, participants also reported that they would continue using the program on a weekly basis.

A contributor to the lack of difference between e-counseling and e-UC in achieving the primary outcome may have been the high baseline Kansas City Cardiomyopathy Questionnaire-Overall Summary Scale of the patients enrolled (e-counseling=82.3, e-UC=83.9). These patients are categorized as having an already good-to-excellent HRQL and are less affected by chronic HF symptoms, psychosocial functioning issues, and emotional distress. Consequently, it would be challenging to achieve a statistically significant improvement in HRQL, 6-minute walk test, and 4-day step count in this relatively healthy chronic HF study population. Improvements in the secondary outcomes—daily intake of fruits and vegetables, active living habits 5 to 6 d/wk, reduction in salt consumption, and fluid restriction in this population—are notable, as these behaviors are vital to maintaining the health of patients.

Although statistical significance was not achieved in the primary outcome, there are key study methods that merit our attention. What differentiates this telehealth intervention that has implications for designing chronic HF care is that it was fully automated, allowing patients more control and less need for health care personnel interaction. Counseling was delivered in a completely online mode that patients may access at home or elsewhere. In the face of competing patient care demands and the increasing push for shorter length of hospital stays, the robust HF education required per the American College of Cardiology Foundation/American Heart Association HF guidelines⁷ becomes more challenging to achieve. Thus, delivering self-care resources outside the clinical setting via a method that could reduce clinician burden while empowering patients to sustain or improve their HRQL is relevant for chronic heart failure care.

The added benefit of including interactive patient counseling using behavioral change techniques while providing self-care resources is clinically relevant to the ongoing work to institute best practices to improve chronic HF care. Study participants were able to watch videos on chronic HF self-management and, even more relatable, observe a discussion among patients with chronic HF. Seeing other patients with chronic HF

could serve as a model for promoting adherence to self-care behaviors and showcase the effect of these behaviors on improving or sustaining one's HRQL. Additionally, patients' use of interactive self-assessment tools and trackers serve to improve adherence to chronic HF self-care behaviors. The data from these tools could be used by clinicians to evaluate patients' progress and modify the plan of care. The chronic heart failure-CePPORT trial demonstrates an approach to supporting patients with chronic HF that could be modeled at all levels as internet access becomes more widely available globally: nationally through health ministries, regionally at the health systems levels through quality departments, and locally through private cardiology offices.

Furthermore, the chronic heart failure-CePPORT trial includes what many multimedia intervention studies in health care lack: a patient engagement and dose-response information component. Including dose-response information was particularly useful to determine patients' use of resources and engagement, especially as internet-based patient resources become more prevalent in health care. Hence, this study adds to the body of knowledge regarding telehealth's use in chronic heart failure management. It expands our understanding of how to evaluate patient engagement in telehealth studies and how to use the data for outcome evaluation. This has value for determining whether patients are using a service and provides valuable data for budgetary considerations in the midst of competing priorities for limited health care resources and health care financing. For future research, using a mixed-methods design by adding a qualitative component, could add to the depth and patient-centeredness of such studies. This would capture patient perspectives about telehealth and include meaningfulness and real-world use. These data would inform us regarding the practicality of chronic HF programs and recommendations for modification.

Although, this was a multi-site study in large Canadian cities, Toronto, Vancouver, and Ottawa, the patient characteristics are notable: less than a quarter of the study participants were women, they were predominantly White, well-educated, and more affluent. It is unclear as to whether this played a role in the improvement in secondary outcomes. If so, then generalizability may be compromised as well as the ability to fully evaluate the potential of this program. Future studies exploring this intervention and other telehealth related interventions should consider a broader representative sample to enhance generalizability. As the literature has shown, HF disproportionately affects certain high-risks groups such as Blacks and has an asymmetrical impact on their health outcomes.⁸ This may even be demonstrated in eligibility for research studies. For example, low-income patients may lack computer and internet access, thus

disqualifying them for telehealth studies. In designing studies, researchers must consider how to bridge these gaps, so that our studies have more far reaching benefits for all, especially those most vulnerable.

Nolan et al⁶ present a novel intervention based on a rigorous design that will be useful to future research on e-counseling and telehealth's use in chronic HF management. As we advance the field of HF, goals to consider include ensuring studies not only inform current and future practice but are translatable to real-world settings, and factor in the constraints of clinical practice. Thus, this format of automated online e-counseling incorporating evidence-based behavioral change techniques may be one such strategy that can be employed to provide self-care support to patients while they are away from care providers, particularly during unusual times such as these.

ARTICLE INFORMATION

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Disclosures

None.

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