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Research Letter

Changes in Care Delivery for Patients With Heart Failure During the COVID-19 Pandemic: Results of a Multicenter Survey

To the Editor:

For patients with heart failure (HF), the impact of the COVID-19 pandemic on care delivery and access to guideline-directed therapies known to reduce morbidity and mortality¹ is largely unknown. To better understand how COVID-19 has affected the care of patients with HF, we queried clinicians across the United States chi-square participating in the Care Optimization Through Patient and Hospital Engagement Clinical Trial for Heart Failure (CONNECT-HF) clinical trial.

Leveraging the infrastructure of the CONNECT-HF clinical trial (methods are published elsewhere²), an electronic survey was developed by expert consensus. Data were analyzed using descriptive statistics, the Wilcoxon-rank sum test for continuous variables and the chi-square² or Fisher exact test for categorical variables in SAS (version 9.4; Cary, North Carolina). Content analysis was performed for free text responses.

Between April 30, 2020, and May 13, 2020, surveys were sent to 149 site investigators. A total of 83 unique HF programs in 32 states responded (56% response rate). No statistically significant differences between responders and nonresponders were noted; however, data may be biased toward the Midwestern, Southern and not-for-profit programs (Supplementary Table 1).

Compared to pre-COVID-19, programs reported several changes in care for patients with HF. All experienced decreased in-person outpatient visits ($n = 82/82$, 100%), with the majority converted to telehealth (median = 71 [IQR 50-91] of pre-COVID clinic volume converted to telehealth). For patients presenting with worsened HF symptoms, the majority of programs did not change their threshold for hospitalization ($n = 46/80$; 57.5%). Of the programs that reported changes in admission thresholds, most reported a higher threshold ($n = 29/33$; 87.9%).

Most programs reported routine assessment of guideline-directed medical therapy during telehealth visits, including medication dosage ($n = 70/74$; 94.6%). Potential concern about increased risk of COVID-19 infection with use of angiotensin converting enzyme inhibitors or angiotensin II receptor blockers was discounted by half of HF programs ($n = 42/76$; 55.3%). Referral to cardiac rehabilitation ($n = 49/77$; 63.6%) was less likely, whereas most programs reported no change in referrals for implantable cardioverter defibrillator implantation ($n = 58/75$; 77.3%).

Free text responses revealed several themes (Table 1). HF programs reported patients' expressions of fear and reluctance to visit the hospital along with a lower likelihood of reporting symptoms early. Programs reported a lower volume of admissions due to HF and inpatient census. Most HF research activities were halted, and most study coordinators were no longer on site.

Our survey results confirm that the COVID-19 pandemic and resultant policy changes have affected the usual patterns of care for patients with HF, including a higher threshold for admitting patients to the hospital, conversion of more than half of stable outpatients to telehealth visits, decreased referrals to cardiac rehabilitation, and limited research activities.

The shift to telehealth and provision of care in the outpatient setting vs the inpatient setting is not unique to HF.³

Table 1. Themes and Illustrative Quotes

Theme	Illustrative quotes
Patients fearful of seeking care	<ul style="list-style-type: none"> • Patients are reluctant to be admitted. • I do think patients are less likely to report symptoms early and are wishing to avoid medical contact. • Patients are afraid to come to the clinic or the emergency department for decompensated heart failure, which delays care and causes them to need a higher level of care (the intensive care unit) upon presentation. • Patients afraid to come in, even if I want them to.
Lower volume of admissions due to HF	<ul style="list-style-type: none"> • Our daily admissions to the the emergency department due to heart failure have gone down from an average of 6 to 1 or none. • Much lower hospital census • Fewer inpatient new consults and fewer hospital patients with congestive HF • We have fewer admissions because of heart failure due to COVID-19.
Halted research activities	<ul style="list-style-type: none"> • The research department has been labeled as nonessential, and most studies are on hold for now. • Our study coordinator is working from home. • No research coordinator is in the hospital during this time.

According to the programs we surveyed, almost all reported practicing a thorough assessment of guideline-directed medical therapy via telehealth.

Less obvious and more difficult to assess empirically is the unanticipated effect of fear on hospital evaluation of symptom exacerbation. As demonstrated by recent data from Mississippi, a 50% reduction in hospitalizations because of HF was identified, even before a state of emergency was declared.⁴ Moving forward, there should be a concerted effort by health systems and clinicians to address these fears and implement appropriate protocols to ensure the safety of patients seeking care.

We were unable to control for COVID-19 cases or hospital volume, given the data collected and the small sample. The number of respondents based on region and type of organization may limit generalizability.

The COVID-19 pandemic has created a rapid evolution of care delivery to those with HF. As a consequence, there is a need for further evaluation of the impact of these changes, revised guidelines and protocols for telehealth care delivery, and efforts to address patients' fear of seeking care.

Supplementary materials

Supplementary material associated with this article can be found in the online version at [doi:10.1016/j.cardfail.2020.05.019](https://doi.org/10.1016/j.cardfail.2020.05.019).

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