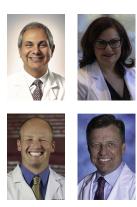


Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

## EDITORS' PAGE



## Heart Failure Collaboratory Statement on Remote Monitoring and Social Distancing in the Landscape of COVID-19

William T. Abraham, MD, *JACC: Heart Failure Editorial Consultant*, Mona Fiuzat, PHARMD, *JACC: Heart Failure Executive Editor*, Mitchell A. Psotka, MD, PHD, *JACC: Heart Failure Associate Editor*, Christopher M. O'Connor, MD, *JACC: Heart Failure Editor-in-Chief* 

atients with heart failure (HF) are extraordinarily vulnerable to the effects of COVID-19. The pandemic has put patients with HF at direct risk of COVID-19 infection-associated morbidity and mortality and at indirect risk due to diminished care because of reduced in-person contact (i.e., social distancing) with health care providers and hospital-based resources. One manifestation of this latter risk has been a paradoxical reduction of HF hospitalization rates during the COVID-19 pandemic, presumably due to patient reluctance to visit emergency departments and hospitals. This situation may result in an increased number of patient deaths and/or complicated HF admissions in the future. As a result, the COVID-19 pandemic has accelerated the move to remote telehealth visits and telemonitoring of patients with HF. Agencies like the U.S. Food and Drug Administration (FDA), Centers for Medicare and Medicaid Services (CMS), and bodies like the U.S. Department of Health and Human Services (HHS), have already updated their policies (1) to enable such telemedicine, and clinicians have changed their infrastructure to try to adjust to this new era of patient study, assessment, and treatment. The HF community must prepare for and embrace these changes during the era of social distancing and beyond. We suggest several guiding principles for HF remote monitoring during and following the COVID-19 crisis.

## COVID-19 AND SOCIAL DISTANCING HEART FAILURE REMOTE MONITORING RESPONSE: PRINCIPLES AND SOLUTIONS

- 1. Virtual visits. Interaction between patients with HF and clinicians should continue to be an essential part of HF management (2). During the COVID-19 pandemic, virtual visits have become the standard of care. Commonly available platforms, such as Facetime, Zoom, and Skype, support these interactions via home consumer devices, more sophisticated systems devised specifically to support telehealth visits (e.g., those linked to various electronic health record systems), and the oldfashioned approach of telephone visits. Although substantial patient information can be gained from such visits, certain challenges remain, such as the adequate assessment of volume status or congestion.
- 2. **Technologies.** Available remote patient monitoring technologies like CardioMEMS, HeartLogic, and ReDS (3-5), to name a few, should be adopted quickly to provide better assessment of HF clinical status while maintaining social distancing through the performance of virtual visits. Such invasive and noninvasive technologies may better allow clinicians to keep patients with HF safely in their homes and minimize the need for in-person hospital or clinic visits. These systems, accompanied by their

dedicated cloud-based information management, are no longer the future but the present of improved HF care. As a first step for implementation, high-risk patients at home and in settings like nursing homes could be the first recipients of such technologydriven remote HF assessment.

- 3. **Guidelines.** Current HF guidelines and protocols should be updated to include and support social distancing monitoring. Telehealth and remote monitoring are mentioned in some of our guidelines but are generally not strongly recommended. HF professional societies and committees should address the shift to remote monitoring by developing protocols and programs and call for additional research for telehealth and in-home assessment and treatment. In addition, although still under research, the relationship between HF and COVID-19 should be addressed. Methods to differentiate between HF decompensation and COVID- 19 should be developed, along with appropriate management algorithms.
- 4. Education. Information on telehealth and home monitoring technologies, as well as on COVID-19, should be provided to patients with HF. Many patients may not be aware of all the options they have. Patients who are concerned about going to the hospital but at risk for HF decompensation may gain more confidence from technology-driven home management. Likewise, HF clinicians require information on optimal patient care during the COVID-19 pandemic. With the cancelation of on-site professional meetings and congresses, webinars and other online programing should be developed so that HF monitoring technologies can be more widely discussed.
- 5. **Regulatory authorities and payers' policies.** The shift to telehealth and remote monitoring of patients with HF should be done in parallel to changes made by policymakers. CMS has already made sweeping, temporary changes for the duration of the COVID-19 public health emergency (PHE) to promote the widespread use of telecommunication technologies and avoid exposure risks to clinicians and patients. The requirements for remote patient monitoring have been lowered. For

example, state line limitations have been removed, and telehealth billing frequency limitations have been waived. CMS also significantly expanded the types of services that can be furnished via telehealth and will pay for these telehealth services at the same rate they would have been paid, if provided in person. CMS is paying for telehealth services, including office, hospital, and other visits furnished by physicians and other practitioners, to patients located anywhere in the country, including in a patient's home. FDA guidance facilitates expanded use of remote monitoring devices during the COVID-19 pandemic (6). The Office for Civil Rights at HHS will not impose penalties for noncompliance with the regulatory requirements under the HIPAA Rules against covered health care providers in connection with the good faith provision of telehealth during the COVID-19 nationwide PHE. Extension or elimination of the deadline for this mode of payment should be strongly considered.

In summary, the safety and care of patients with HF are of paramount importance in the COVID-19 era. CMS, FDA, and HHS are making progress, but there is a need to extend COVID-19 related policies beyond the acute phase and continue to support vulnerable populations like patients with HF in the post COVID-19 period. Patients, clinicians, payers, regulatory bodies, and industry should all continue their efforts to move to effective remote monitoring and telehealth approaches by following the previously described principles. This way, the HF community will be ready for the ongoing and subsequent consequences of COVID-19, and for the possibility of another major disruption to health care in the future. In doing so, we might just find a better way to deliver HF care even when times become "normal" again.

ADDRESS FOR CORRESPONDENCE: Dr. Christopher M. O'Connor, Editor-in-Chief, *JACC: Heart Failure*, American College of Cardiology, Heart House, 2400 N Street NW, Washington, DC 20037. E-mail: jacchf@acc.org.

## REFERENCES

1. American Medical Association. CMS payment policies & regulatory flexibilities during COVID-19 emergency. Available at: https:// www.ama-assn.org/practice-management/ medicare/cms-payment-policies-regulatoryflexibilities-during-covid-19. Accessed June 10, 2020. **2.** DeFilippis EM, Reza N, Donald E, et al. Considerations for Heart Failure Care During the COVID-19 Pandemic. J Am Coll Cardiol HF 2020 Jun 3 [E-pub ahead of print].

3. Abbott. Cardiomems HF System. Available at: https://www.cardiovascular.abbott/us/en/patients/ living-with-your-device/heart-failure/pulmonarypressure-artery-monitoring/cardiomems-hf-system. html. Accessed June 8, 2020.

4. HeartLogic Heart Failure Diagnostic. Available at: https://www.bostonscientific.com/en-US/ medical-specialties/electrophysiology/heartlogicheart-failure-diagnostic.html. Accessed June 8, 2020. 5. Sensible Medical. ReDS System Technology. Available at: https://sensible-medical.com/ Technology. Accessed June 8, 2020.

**6.** U.S. Food and Drug Administration. Enforcement policy for non-invasive remote monitoring devices used to support patient monitoring

during the coronavirus disease 2019 (COVID-19) public health emergency (Revised): guidance for industry and Food and Drug Administration staff. Available at: https://www.fda.gov/ regulatory-information/search-fda-guidancedocuments/enforcement-policy-non-invasiveremote-monitoring-devices-used-support-patientmonitoring-during?utm\_campaign=2020-03-20% 20Remote%20Monitoring%20Devices%20Used %20to%20Support%20Patient%20Monitoring %20During%20COVID-19&utm\_medium=email& utm\_source=Eloqua. Accessed June 10, 2020.