

# New study finds virtual care team strategy improves treatment for heart failure patients

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Recent studies have provided strong evidence that patients with heart failure can benefit from medical therapies that can reduce risk of worsening symptoms and extend patients' lives. But despite new

guidelines, adoption of these therapies has been slow, incomplete and inequitable.

A prospective clinical study by investigators from Mass General Brigham evaluated a new approach to improve use of these therapies by putting in place a virtual care team, consisting of physicians and pharmacists, to help guide treatment strategies for patients seeking care at three Mass General Brigham hospitals: Brigham and Women's Hospital (BWH), Brigham and Women's Faulkner Hospital (BWFH), and Salem Hospital. The virtual care team strategy was both safe and effective, improving uptake of life-saving therapies during hospitalization compared with usual care. Results are presented at the American College of Cardiology meeting and simultaneously published in the *Journal of the American College of Cardiology*.

"We are fortunate that there have been rapid medical advances and that we now have recommended therapies to help patients with heart failure," said corresponding author Muthiah Vaduganathan, MD, MPH, of BWH's Division of Cardiovascular Medicine. "Our study was designed to evaluate a scalable approach to improve [quality of care](#) and medical therapy adoption. We found that new use of medical therapies substantially increased and that patients were more likely to leave the [hospital](#) with a combination of medical therapies, including drugs from four major therapeutic classes with known benefits. We thought that this was a very positive outcome."

The quality improvement effort, known as IMPLEMENT-HF (Implementation of Medical Therapy in Hospitalized Patients with Heart Failure with Reduced Ejection Fraction), began as a pilot study at BWH but expanded to include patients admitted to BWFH and Salem Hospital.

"What we learned when we took this to the community hospitals was that cardiologists were eager to work with us to improve adoption of

guideline-directed medical therapy to help their patients," said co-author Dale Adler, MD, executive vice chair of the BWH Department of Medicine and a specialist in Cardiovascular Medicine. "Many physicians had read recent studies about therapy for heart failure and knew the ideal [therapy](#) combinations, but they hadn't had the chance to implement them with supervision. This study and the virtual care team we assembled gave them the opportunity to do so."

IMPLEMENT-HF enrolled patients admitted to the hospital between October 2021 and June 2022 who had heart failure with reduced [ejection fraction](#) (HFrEF), a form of heart failure in which the heart pumps less blood than the body needs. Patients did not need to be admitted for a heart failure-related condition to be included. The study included 198 unique patients and 252 clinical encounters (contact between the patient and care providers). Of these, 145 encounters received usual care and 107 received the virtual care team-guided intervention.

The virtual care team consisted of a centralized physician, study staff and local pharmacist at each site. This team evaluated patient cases daily and provided recommendations for improving GDMT practices based on national guidelines, randomized clinical trial evidence, and more. Recommendations included prescribing medications such as  $\beta$ -blockers, ACE inhibitors/ARB/ARNI, MRA, and SGLT2 inhibitors.

The virtual care team made a total of 187 unique recommendations. At admission, few patients were treated with multi-drug regimens. Based on the recommendations of the virtual care team, significantly more patients initiated new treatment or received a more appropriate dosing of GDMT. Length of stay and safety events were comparable between the groups.

"We have been interested in identifying the most effective, safe, and

scalable strategies to better implement medical advances in the treatment of heart failure and other cardiometabolic conditions," said lead author Ankeet S. Bhatt, MD, MBA, ScM, a former BWH Cardiovascular Medicine fellow who is now a cardiologist at Kaiser Permanente San Francisco Medical Center. "To see that a virtual care team could help improve guideline-concordant care across three diverse system hospitals and do so in a manner that was both safe and did not prolong hospitalization was a very encouraging finding."

The authors note that their study was limited to three hospital sites, and, in the future, they are interested in scaling up to see if results are reproducible across hospital types, geographies, and populations. They also note that the intervention was less effective during encounters involving Spanish-speaking or Hispanic patients. The team plans to investigate how to address this gap in the future.

"This work began as a small pilot study at one hospital but benefited tremendously from working in a collaborative environment where people are committed to improving patient care," said Vaduganathan. "We believe this project can serve as a model for how to find and implement interventions that work to improve treatment and make a difference in patients' lives."

**More information:** Ankeet S. Bhatt et al, Virtual Care Team-Guided Therapeutic Optimization During Hospitalization in Patients with Heart Failure: The IMPLEMENT-HF Study, *Journal of the American College of Cardiology* (2023). [DOI: 10.1016/j.jacc.2023.02.029](https://doi.org/10.1016/j.jacc.2023.02.029)

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