

A Virtual Cardiovascular Care Program for Prevention of Heart Failure Readmissions in a Skilled Nursing Facility Population

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Background

Heart failure (HF) is a common and costly diagnosis in skilled nursing facility (SNF) patients.

300,000+ SNF patients

carrying a heart failure diagnosis

27% to 43% 30-day readmission rate

for SNF patients receiving usual care

\$9,051 per readmission

for an average heart failure readmission

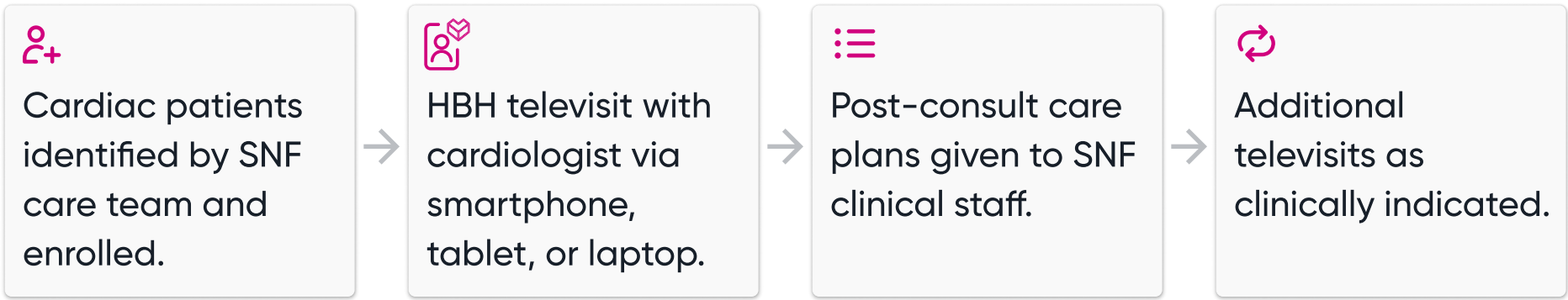
RESEARCH QUESTION

Could a virtual cardiovascular care program reduce the 30-day readmission rate for HF patients discharged to SNF relative to the expected rate for this population?

SNFs in New York City were disproportionately affected by COVID-19. Improved access to specialty care through a virtual medium also represented an opportunity to decrease patient infection risk.

Methods

Heartbeat Health (HBH), a digital health company, developed and implemented a virtual cardiovascular care program for 11 SNFs in New York.



A retrospective case review of patients between Aug 2020 and Feb 2021 was performed.

n = 185 Patients with CHF diagnosis discharged to SNF following hospitalization	
n = 45 Received ≥1 consult	n = 140 Index admission ≠ CHF; Consult after 30 days; Comfort care
n = 40 Analyzed	n = 5 Lost to follow up (discharged home within 30 days of SNF arrival)

Results

Among the 40 patients who were analyzed, baseline comorbidities were typical of an older SNF population.

65% had one virtual consultation while 35% had more than one. Additional consultations were called by SNF medical staff or at cardiologist discretion for:

Volume management | Blood pressure control

BASELINE CHARACTERISTICS			
Age (in years)	80.5	(10.4)	
Ejection Fraction (in %)	41.6	(17.9)	
Systolic BP (in mmHg)	127.5	(19.4)	
Diastolic BP (in mmHg)	67.7	(9.6)	
Sex	Female	20	(50%)
Race	Black	11	(28%)
	Hispanic	2	(5%)
	Asian	1	(3%)
	White	26	(65%)
HF Type	HFrEF	21	(53%)
	HFpEF	16	(40%)
	Unknown	3	(8%)
NYHA Class	I	0	(0%)
	II-III	37	(93%)
	IV	3	(8%)
CAD		17	(43%)
Hypertension		38	(95%)
Diabetes		10	(25%)
CKD		15	(38%)

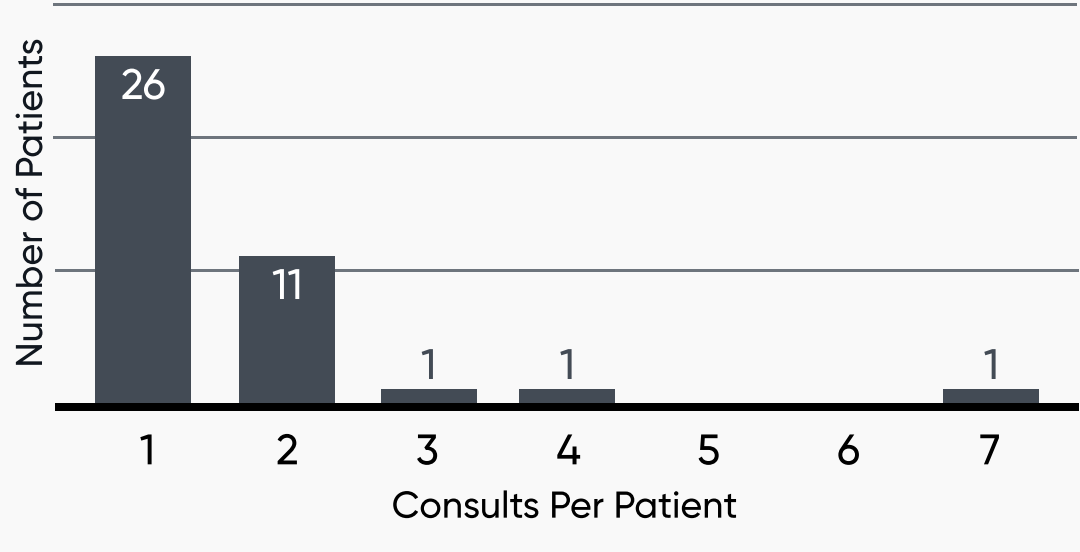
Mean (SD) or N (%)

Black patients were significantly more likely to be readmitted than white patients (OR: 9.21; 95% CI: 1.17 to 119.50), a disparity consistent with previous research examining HF readmission rates that must be addressed.

CONCLUSION

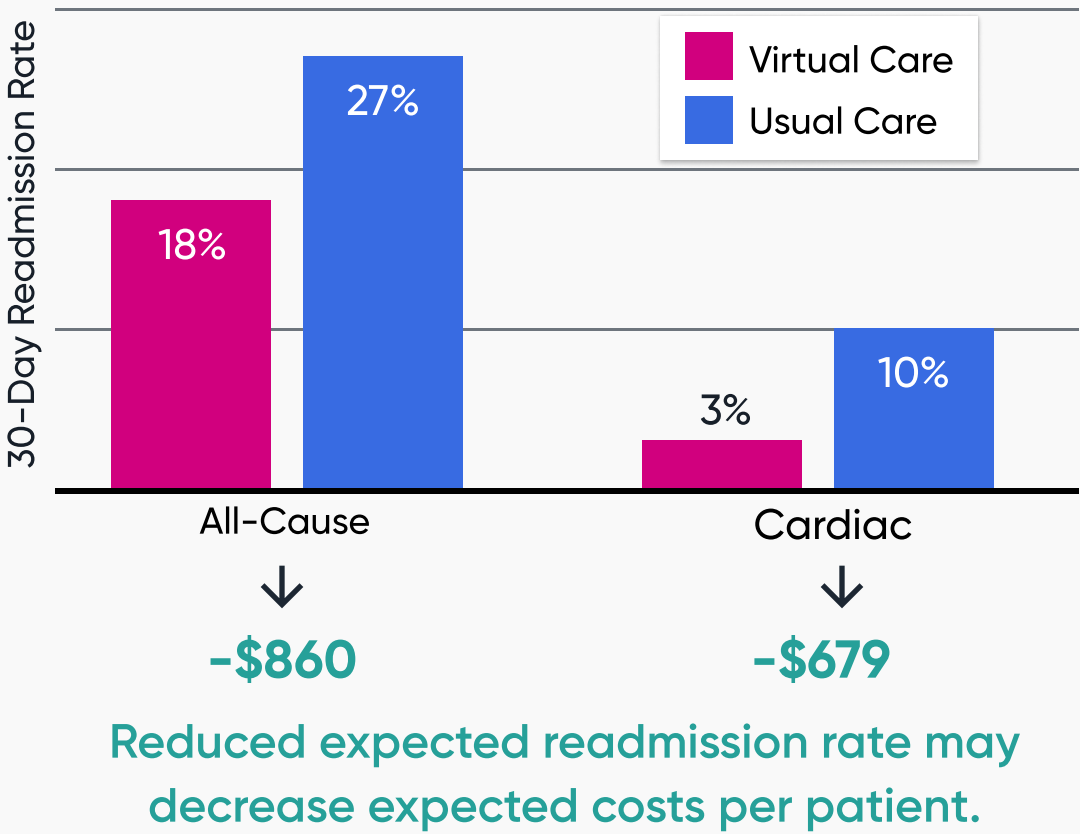
Virtual cardiovascular care consultation within 30 days for HF patients discharged to SNF may lower readmission rates relative to expected rates for this population.

Number of Virtual Consults Per Patient



Readmission rates were lower for patients who received at least 1 virtual consultation compared to the expected readmission rates with usual care for both all-cause and cardiac readmissions.

Readmission Rate by Cause



Discussion

Further research is warranted to optimize the use of novel virtual care programs to transform delivery of cardiovascular care to high-risk populations.

Potential Virtual Care Benefits

SNF Patients & SNFs

- Increased access to timely care
- Increased access to follow-up visits
- Reduce disruption (i.e. no transport)
- Reduce exposure to infectious diseases
- Reduce ED visits and/or readmissions
- Reduce time to optimize GDMT

Remote Providers

- Increase care for high-risk population
- Reduce disruption to in-person clinic flow
- Enable frequent follow-up televisits
- Assistance with physical from SNF nurse

Healthcare System

- Reduce costs
- Support research efforts into virtual care

Limitations

- Comparison HF readmission rate was for the SNF population at large. Baseline readmission data from the 11 SNFs studied would have been a preferred control.
- Patients discharged home were lost to follow-up despite having a consultation.
- Small sample size limits significance.

Disclosures & References

- The authors receive compensation from Heartbeat Health, Inc and/or Cassena Care, LLC.
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