Impact of a Longitudinal Virtual-First Cardiology Program on Identification and Management of Complex Cardiovascular Disease

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Background

Despite progress made in medical and device therapy over recent decades, cardiovascular disease remains the leading cause of death in the United States. Costs to treat cardiovascular disease are variable and care transitions fragmented, resulting in increased cost and adverse outcomes.

In the face of rising healthcare expenditures nationally, value-based payment models are growing with promise to improve care quality and lower specialty care costs. Participation in these models by specialists, particularly cardiologists, is critical to controlling cost.

Despite innovation in this space, there has been no study that critically examines the efficacy of virtual-first cardiology care as an adjunct to existing primary care models.

Methods

We performed a retrospective review of patients enrolled in Heartbeat Health's virtual-first longitudinal care program.

The program provided cardiovascular care to patients through telemedicine visits, introducing and adjusting guideline-directed medical therapy (GDMT), testing, and remote patient monitoring when clinically indicated. Patient engagement points were adjusted based on the level of patient acuity.

Upon closure of care goals and/or completion of therapy, patients were returned to their primary care teams for ongoing management. If indicated, patients continued with Heartbeat for ongoing management.

We reviewed all new diagnoses, initiation of GDMT, changes in blood pressure and patient satisfaction.

Results

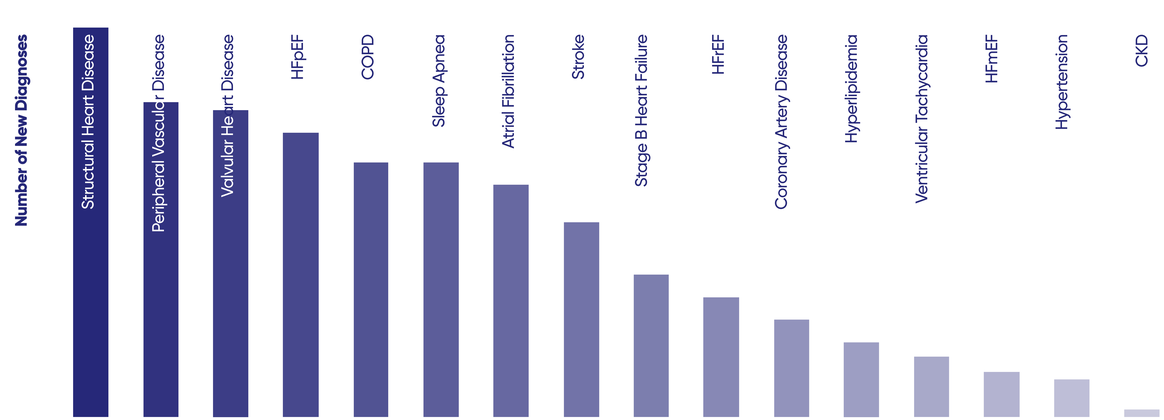
Our study cohort included 230 patients (mean age: 71.1 years). Meaningful increases in new diagnoses were evident (Figure).

Regarding blood pressure control, 30.8% saw improvement during the program and another 20.6% were at their goal by the time of graduation.

Aspirin therapy (either primary or secondary prevention) increased from 28.3% to 35.7% in all-comers, while primary stroke prevention in patients with atrial fibrillation increased from 50% to 62.5%.

Additionally, 46.5% (n=107) of patients were placed on GDMT for at least one of the conditions listed in Figure. Overall patient Net Promoter Score was 87.

Condition	Number Diagnoses	% Total Cohort
Structural Heart Disease	52	22.6%
Peripheral Vascular Disease	42	18.3%
Valvular Heart Disease	41	17.8%
HFpEF	38	16.5%
COPD	34	14.8%
Sleep Apnea	34	14.8%
Atrial Fibrillation	31	13.5%
Stroke	26	11.3%
Stage B Heart Failure	19	8.3%
HFrEF	16	7.0%
Coronary Artery Disease	13	5.7%
Hyperlipidemia	10	4.3%
Ventricular Tachycardia	8	3.5%
HFmEF	6	2.6%
Hypertension	5	2.2%
CKD	1	0.4%



Among all patients in the longitudinal care cohort (n = 230), structural heart disease and peripheral vascular disease were the most common new diagnoses. Notably, 8.3% of patients were newly diagnosed with Stage B Heart Failure, having entered the program without a prior diagnosis documented in their records.

Conclusions

Introduction of a virtual-first cardiology program allows for improvements in disease identification, introduction and titration of GDMT, and blood pressure control. Further, our program supports that cardiovascular care can be delivered effectively through a virtual-first program in conjunction with primary care organizations.

Identification and management of cardiovascular disease through similar programs is promising in terms of closing gaps in care and reducing costs. Future research should focus on long-term clinical outcomes and financial impact of similar programs, which are a promising addition to value-based care models.

Disclosures

The authors of this study were employed by Heartbeat Health ("Significant" or "Modest support) at the time of this study.