Heart Failure and Cardiomyopathies

CONTRARY TO CURRENT POPULATION HEALTH MANAGEMENT TRENDS: HOW A HIGH-RISK TELE-HOSPITAL MODEL CAN IMPROVE CARE QUALITY AND COST IN TOP 5% HIGH-RISK/COST POPULATION

Poster Contributions
Monday, May 17, 2021, 9:45 a.m.-10:30 a.m.

Session Title: Heart Failure and Cardiomyopathies: Population Science 3
Abstract Category: 09. Heart Failure and Cardiomyopathies: Population Science

Authors: *Michael Shen, Kaelin DeMuth, Irene Kouz, Julio Llanga, Kareem Osman, Sheree Baron, Yixiang Liu, Ioana Dumitru, Ahmed Osman, Duxlink Health, Sunrise, FL, USA, Philadelphia College of Osteopathic Medicine South Georgia, Moultrie, GA, USA*

Background: Despite expanding Population Health Management (PHM), healthcare costs are still staggering. Based on 5:50 Rule, top 5% pts accounts for 50% of US healthcare costs over 12 years due to severe chronic/acute conditions. This study investigated the impact of a High-Risk Care/Tele-Hospital (HRC-TH) model with new hospital-grade wireless technology & processes (HWTP) on top 5% pts' care quality and cost.

Methods: HRC-TH was created integrating: 1. On-Site Care: ARNP & lab/imaging at home; 2. On-Line Care: 24/7 monitoring & prompt cardiopulmonary intervention; and 3. New HWTP with vital, 12-lead ECG, PFT & telemetry devices with protocols/processes. 54 Medicare pts in top 1-5% of cost with complex cardiopulmonary diseases & multiple hospitalizations were enrolled in HRC-TH for 3 months following Conventional Care (CC: hospital/clinic). MACE, readmissions & costs were normalized/compared for 3 months.

Results: In 5% pts, HRC-TH promptly diagnosed and intervened acute life-threatening episodes and cut 88% of MACE at home. HRC-TH also significantly reduced unnecessary readmissions by 77% with ~$1M net cost savings.

Conclusion: This groundbreaking study demonstrated how new Tele-Hospital model with HWTP can manage high-risk episodes safely and reduce readmissions. Compared to CC/PHM, this innovative model with 24/7 service at home has proven to significantly improve care quality and cut high costs for top 5% high-risk pts to deliver more effective clinical/financial benefits to healthcare.

N=54	Conventional Care	HRC Tele-Hospital	Improvement	p Value
Total MACE	32	4*	87.5%	p = .001
# Total Hospital Admissions/ER	104	24*	76.9%	<0.0001
Normalized Admissions/Patient	2.06 ± 0.37	0.47 ± 0.18*	77.2%	<0.0001
Total 3-Month Cost	$1,395,000	$345,000*	75.3%	<0.0001
Mean (95% CI)				