



2022 LEAD Capstone Poster Session

TRAC (Telemonitoring to reduce Acute Care use in pediatric patients with HF)

Maria Bano MD
Assistant Professor
Pediatric Cardiology



Abstract

- **Background:** Heart Failure (HF) is a terminal diagnosis for most children diagnosed with this condition. 11-14,000 children are admitted annually in the US with this condition with an overall mortality of 7%. 36% of these children die or get transplanted within 1 year of this admission. Access to high quality outpatient monitoring with judicious use of Guideline Directed Medical therapies (GDMT) for HF management can delay or even reverse the course of this disease and prevent hospital admission.
- **Objective:** TRAC (Telemonitoring to Reduce Acute Care) Pediatric HF is a program leveraging Remote physiologic monitoring (RPM) to improve access to high quality ambulatory HF care and outcomes in Pediatric Heart Failure.
- **Methods:** The program will use blue-tooth enabled RPM tools to collect and monitor daily information about BP, heart rate, weight and complete a daily HF symptom check list. This data will be monitored by the clinical care team including dedicated Nurse Coordinators and APPs with guidelines for escalation, intervention and follow up. Continuous monitoring data will also be used to allow rapid and safe escalation to achieve GDMT for HF management as soon as possible.
- **Outcomes:** Use of this program will reduce acute care needs (ER visits, Unplanned hospital admissions) in Children with HF by 50% in 1 year. It will also reduce time to reach target doses of GDMT in ambulatory Pediatric HF patients by 50% in 1 year. This program will improve access to care for children with HF in all SE and racial groups by removing potential barriers that come with the need for in-person visits to deliver high quality ambulatory care.



Objectives

Use of remote physiologic monitoring (RPM) intervention to:

1. Reduce acute care needs (ER visits, Unplanned hospital admissions) in Pediatric HF patients
2. Reduce Time to reach target doses of oral HF medications in ambulatory Pediatric HF patients



Background Information

- Heart Failure is a terminal diagnosis for most children diagnosed with this condition. 11-14,000 children are admitted annually in the US with this condition with an overall mortality of 7%.
- 36% of these children die or get transplanted within 1 year of this admission.
- Nonwhite children fare worse, with 16% increase in the risk of death compared with white children.
- We know that important sex, ethnic, and socioeconomic differences account for difference in the quality of care and outcomes in adults with a diagnosis of heart failure.
- Access to high quality outpatient monitoring with judicious use of GDMT for HF management can delay or even reverse the course of this disease and prevent hospital admission



Project Plan

- The program will use a blue-tooth enabled Remote Patient Monitoring (RPM) platform that utilizes RPM tools to collect and monitor daily information about BP, heart rate, weight and complete a daily Heart Failure symptom check list.
- This data will be monitored by the clinical care team including dedicated Nurse Coordinators and APPs with guidelines for escalation, intervention and follow up.
- Continuous monitoring data will also be used to allow rapid and safe escalation to achieve Guidelines Directed Medical Therapy (GDMT) for HF management as soon as possible.



Application of What You Learned at LEAD

- Using Empathy to connect with others
- Communicating in an impactful way
- Negotiation and conflict management
- Working as a Team to accomplish a shared goal



Proposed Budget

- 10% FTE Physician Time program launch and oversight
- Dedicated Staff time (nurse practitioner and coordinator) for enrollment and patient monitoring (~\$100,000)
- Resources to engage RPM vendors best suited to meet our goals (including subscription fees for their services and use of their platforms) (~\$50,000)



Innovation and Significance

- Use of this program will reduce acute care needs (ER visits, Unplanned hospital admissions) in Children with Heart Failure and reduce time to reach target doses of GDMT at our center
- Provide an innovative model for outpatient care in pediatric patients with heart failure.
- This program will improve access to care for children with Heart failure in all Socioeconomic and racial groups by removing potential barriers that come with the need for in-person visits to deliver high quality ambulatory care.



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