Cost-Effective Reduction of Acute Care Utilization using Home-Based Heart Failure Program

Victoria Thomas [1,*], Roopa Rao[2], and Cathy Schubert [2]

[1] Indiana University SOM, 550 University Blvd, Indianapolis, IN 46202
[2] Roudebush VA Medical Center, 1481 W 10th St, Indianapolis, IN 46202

* Corresponding author: thomasve@iu.edu

Indiana University Health

Department of Veterans Affairs

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Introduction

- Heart Failure is the failure is the number one cause of hospital readmissions among Veteran Affairs (VA) patients.

- We implemented a home-based RN/LPN team who provided short-term, intensive CHF case management in collaboration with a cardiologist with the goal of reducing 30-day readmissions, ER visits, and hospitalizations.

- Performing a retrospective study, we evaluated ER visits, admissions, 30-day readmission rates, and total inpatient days for 108 CHF patients at the Indianapolis VA Medical Center enrolled in the home-based CHF program from May 2016-September 2017.

- We compared patients' acute care utilization six months prior to the program, during the program, and at six months post-program discharge using chi squared test.

Results and Discussion

- When comparing all HF patients (21% 30-day readmission rate) admitted at our VA with the 108 patients enrolled, the difference in 30-day readmissions was significant (p <.001), with only 7% of our patients having a 30-day readmission within the first 30 days of enrollment into the program.

- When comparing our study population itself six months pre-program versus during program, there was a large reduction in ER visits and admissions per patient during the program (0.537 vs. 0.361) and (1.63 vs. 0.296).

- When comparing 6 months pre-program vs. during program enrollment and 6 months post-program discharge, the number of total inpatient days per person was drastically reduced (9.31 vs. 1.33) (9.31 vs 2.73).

- Using the average cost of one day in the hospital, $3,400, the VA saved approximately $22,372 per patient during our study and a a total annual cost savings of $4,619,348.

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Total # of patients enrolled=108	6-months Pre-Enrollment Days/Visits	During Enrollment Days/Visits	6-Months Post-Enrollment Days/Visits	Difference between Pre-Enrollment vs. During Enrollment per patient	Difference between 6 months pre-enrollment vs. 6 months post enrollment per patient
30-day Readmission	44	7	18	0.407 vs. 0.065	0.407 vs. 0.167
ER Visits	58	39	60	0.537 vs. 0.361	0.537 vs. 0.556
Admissions	176	32	66	1.63 vs. 0.296	1.63 vs. 0.611
Inpatient Days	1006	144	295	9.31 vs. 1.33	9.31 vs. 2.73

Conclusions

- Short-term, intensive home-based teams for high-risk Veterans with CHF can reduce ER visits, admissions, 30-day readmissions, and the number of inpatient days and be highly cost-effective.

- This home-based care model must also be noted for showing significant effect persisting after the formal program/intervention ended as there was a continued sizable reduction 6 months post-program discharge in total inpatient days.

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