

# Stellar Strategies for Emergency Department Super Utilizers

## Use of a Community Care Coordination Team to Reduce Emergency Department Utilization & Hospital Readmissions in the Highest Utilizers

INTEGRIS

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### INTRODUCTION

When the Emergency Department (ED) is used as a source of primary care it imposes unnecessary costs on a financially-overwhelmed healthcare system.<sup>1-6</sup> Super-utilizers comprise a small portion of patients who account for a high percentage of costs.<sup>7-9</sup> Their lack of primary care and insurance is associated with longer hospitalizations, greater resource consumption, and poorer health status.<sup>10</sup> Our institution found less than 5% of super-utilizers accounted for more than 50% of healthcare costs. We subsequently developed the 5/50 Program to reduce reliance on the ED for non-emergent care and saved our institution \$2.5 million in avoidable costs. The rationale was to use the Electronic Medical Record to identify super-utilizers, enroll them in a community-based program, and improve outpatient management while reducing healthcare costs.



### STUDY SETTINGS

A retrospective analysis in a single-center 389-bed non-profit metropolitan ED with a general census of >85,000 patient visits yearly, and an associated emergency medicine residency program.

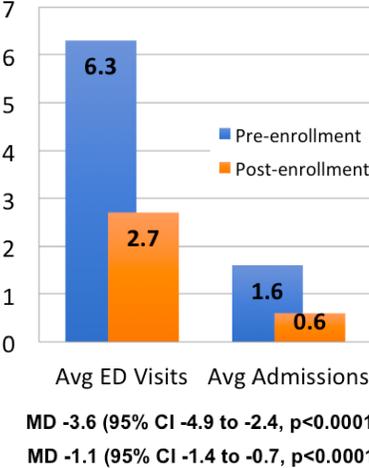
### METHODS

**Objectives:** To determine cost avoidances and reduce ED utilization and readmissions for super-utilizers post-intervention by a CCCT.

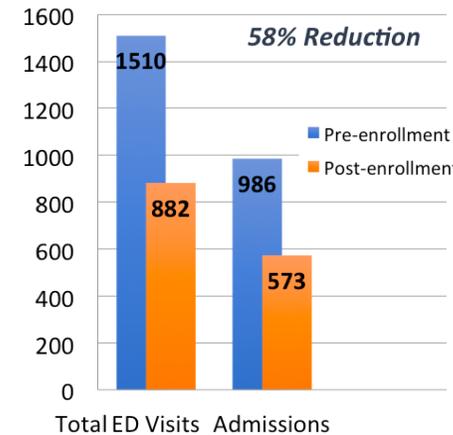
**Patients:** 296 patients were enrolled in the 5/50 Program over 3.5-year period. Patients were referred through one of three ways: an EMR tool flagged returning ED patients with multiple visits/admissions in the previous 30 days, patients with 3+ ED visits/90-days were reviewed on a daily basis by case-management, or individual physician referrals. Patients were at least 18-years-old and agreed to participate. 53% started without insurance, of which 3% obtained coverage during the program. **Interventions:** The CCCT consisted of 2 nurses, 2 social workers, 2 bilingual members, and 1 nurse practitioner. The team followed patients up to 6-months post-discharge to assist with social/medical needs. The team collaborated with community partners including paramedics, health departments, food banks, transportation services, nursing homes, free/low-cost clinics, mental health services, and homeless outreach teams. Interventions included program enrollment and extensive patient outreach with frequent face-to-face communication to assist with primary care follow-up and medication management. The team continually reassessed patients, assisted with follow-up, established care plans, and provided education for self-management of chronic conditions. **Outcomes:** ED visits & admissions prior to and after program enrollment, and cost-benefit estimation.

### VISIT REDUCTION

Average ED Visit & Admission Reduction Per Patient



Total Reduction in ED Visits & Admissions



### RESULTS

Over 3.5-years, participants averaged of 6.3 ED visits pre-enrollment and 2.7 visits post-intervention, a mean difference of -3.6 (95% CI -4.9 to -2.4, p<0.0001). Patients averaged 1.6 admissions pre-enrollment, reduced to 0.6 admissions post-enrollment, a mean difference of -1.1 (95% CI -1.4 to -0.7, p<0.0001). Super-utilizers accounted for 1510 total ED visits, reduced to 882 total visits post-enrollment. 986 total admissions were documented, reduced to 573 post-enrollment, both at 58% reductions. Cost-benefit estimation showed it cost \$5,418,628.30 to manage super-utilizers prior to enrollment. Program over 3-years was \$1,294,500.00, and post-enrollment cost was reduced to \$1,615,228.90, yielding an overall cost avoidance of \$2,508,899.40, a 46% reduction.



Overall Cost Avoidance

### DISCUSSION

Frequent use of the ED drives increased cost of health care in the United States and has been targeted by health care reform efforts. Additionally, hospital readmissions lead to increased expenditure and decreased reimbursements, as well as decreased quality of care and added financial burden to patients and families. This study shows that implementing a CCCT reduced ED utilization and hospital admissions among a group of super-utilizers. Programs such as our CCCT can bridge financial and gaps and assist with social barriers to healthcare through frequent face-to-face contact, individual care plans, establishing follow up appointments, and educating home-management for complex chronic conditions. Super-utilizers have markedly poor clinical outcomes and higher rates of mortality despite incurring a disproportionate share of costs. Our study showed positive patient-centered outcomes by reducing ED visits and hospital admissions.

### CONCLUSIONS

Our CCCT improved access to community resources and reduced hospital utilization.<sup>11</sup> Post-intervention outcomes demonstrated a cost avoidance of \$2.5 million. Community-based programs are a successful strategy to reduce acute-care services and alleviate the national burden super-utilizers impose on healthcare.<sup>12-16</sup>

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