Care Transitions & Coordination℠

Evaluation of COPE Health Solution's Care Transitions & Coordination℠ Program in Kern County

Evaluation Conducted by:

Martin L. Lee, PhD, CStat, CSci

Sheryl O'Rourke, MS

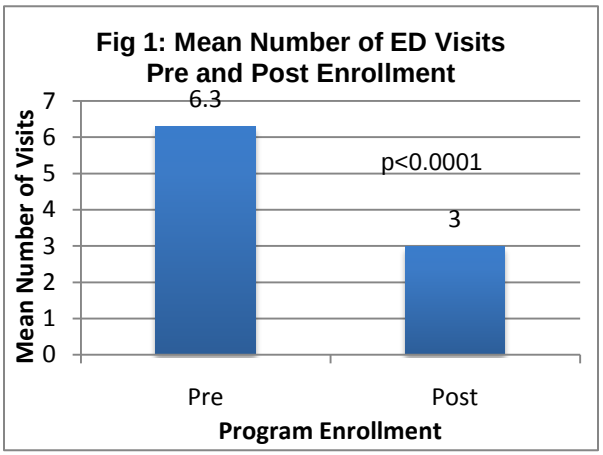
May 2010

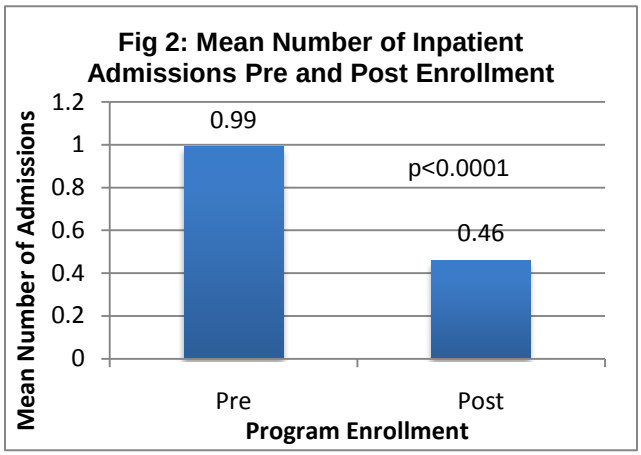
Program Overview

COPE Health Solutions has implemented and managed a Care Transitions & Coordination[SM] Program for Kern Medical Center (KMC) since 2008 (program referred to as "Care Management"). The goal of the program was to decrease avoidable emergency department (ED) visits and admissions among "frequent users" of hospital services. An evaluation of the program was conducted in April 2010 to assess changes in patients who participated in Care Management at KMC and also to compare changes after enrollment to a comparable group of patients who had not enrolled into Care Management.

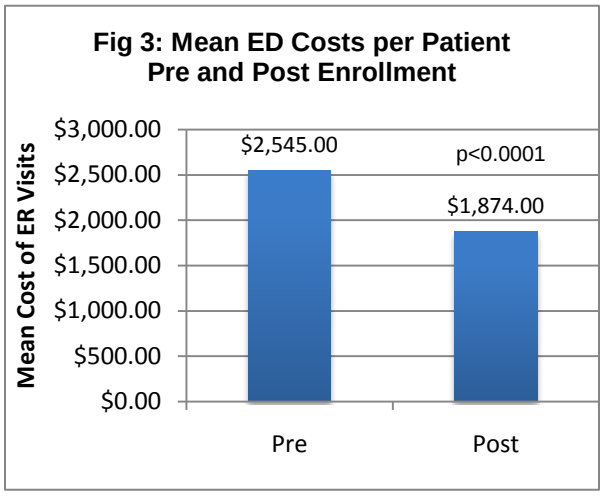
Evaluation Results

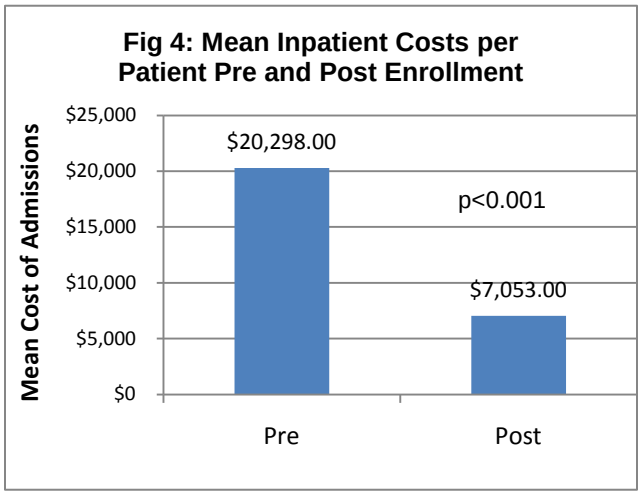
The first part of the analysis compared the utilization of patients enrolled in Care Management between August 2008 and January 2010 to their utilization in the year preceding enrollment. Figures 1 and 2 show the decreases in average number of ED visits and inpatient admissions per year for patients enrolled into the program for at least three months (98 patients). The results are statistically significant (p-value less than 0.05 indicates statistical significance).





Figures 3 and 4 show the differences in average ED costs and inpatient costs per year among patients before and after enrollment.





For the second part of the analysis, a comparison group was selected that met the "frequent user" utilization criteria, and was matched to the Care Management cohort on the basis of age, race and gender. Table 1 shows the characteristics of each population.

Table 1: Patient Demographics

Demographics	Care Management Patients N=98	Comparison Patients N=160
Gender	n (%)	n (%)
Male	58 (59.2)	75 (46.9)
Female	40 (40.8)	85 (53.1)
Race/Ethnicity	n (%)	n (%)
Asian/Pacific Islander	3 (3.1)	0 (0.0)
Black/African-American	12 (12.2)	18 (11.3)
Caucasian	46 (46.9)	80 (50.0)
Hispanic	37 (37.8)	62 (38.8)
	Mean ± SD	Mean ± SD
Age (year)	46.4 ± 9.6	46.0 ± 10.7

The top 10 diagnoses among both groups were also determined. Tables 2 and 3 demonstrate that care managed patients were much more likely to be admitted for conditions of the pancreas and coccidioidomycosis than patients in the comparison group.

Table 2: Top Diagnoses for Care Managed Patients

Diagnosis	Percentage of Admissions (%)
Diseases of pancreas	15.56
Asthma	6.67
Coccidioidomycosis	3.89
Diabetes mellitus	3.89
Symptoms involving respiratory system and other chest symptoms	3.33

Table 3: Top Diagnoses for Comparison Patients

Diagnosis	Percentage of Admissions (%)
Symptoms involving respiratory system and other chest symptoms	4.67
Diabetes Mellitus	3.74
Other cellulitis and abscess	3.74
Malignant neoplasm of bladder	2.80
Pneumonia, organism unspecified	2.80

Multivariate analyses were performed to evaluate the difference in utilization between Care Management and comparison group patients. After adjusting for demographics, medical co-morbidities, pre-enrollment visits, and length of Care Management patient follow-up, multivariate analyses showed the following:

- Patients enrolled into Care Management had a **32% reduced chance** of visiting the emergency department than the comparison group (statistically significant)
- Patients enrolled into Care Management had a **19% reduced chance** of increased inpatient admissions than the comparison group

Information about the Evaluators:

Martin L. Lee, PhD,CStat,CSci is an adjunct professor of Biostatistics at the UCLA School of Public Health.

Sheryl O'Rourke, MS is an independent consultant providing analytic and data management services. She holds a Masters degree in Biostatistics from the UCLA School of Public Health.