INCREASED LENGTH OF STAY IN SMALL BOWEL OBSTRUCTION FOLLOWING IMPLEMENTATION OF EMERGENCY GENERAL SURGERY MODEL

Daniel H. Wolbrom, MD, MPH[1], Lizhou Nie, MS[2], Jie Yang, PhD[3], Konstantinos Spaniolas, MD[1], Amy L. Rosenbluth, MD[1], Kinga Powers, MD, PhD[1], Aurora D. Pryor, MD, MBA[1], Samer Sbayi, MD, MBA[1]

[1]Department of Surgery, Stony Brook University Renaissance School of Medicine, Stony Brook, NY, [2]Department of Applied Mathematics and Statistics, Stony Brook University, Stony Brook, NY, [3]Department of Family, Population & Preventive Medicine, Stony Brook University Renaissance School of Medicine, Stony Brook, NY

Introduction:

Small bowel obstructions (SBO) represent one of the most common causes for admission to surgical services, with over 350,000 operations performed annually in the U.S., representing 1 in 6 admissions to a surgical service. We sought to evaluate the length of stay (LOS) for SBO patients at a single, academic institution before and after the implementation of an EGS model.

Methods:

Using a statewide administrative database, we performed a longitudinal, observational study to evaluate the influence of the EGS service on the LOS for SBO at a single, academic institution. The LOS 2 years prior and 2 years following the implementation of the EGS service were analyzed and compared to other institutions in our region. LOS was compared using generalized linear models for a negative binomial distributed outcome, after adjusting for significant risk factors in corresponding univariate regression models.

Table 1:

Variable	Level	Total (n = 3167)	Academic Facilities (n = 1020)	Community Facilities (n = 1992)	SBUH. (n = 155)
Age Group	35-49	12.03%	12.84%	11.14%	18.06%
	<35	5.65%	6.76%	4.67%	10.97%
	>=50	82.32%	80.39%	84.19%	70.97%
Gender	F	60.69%	60.20%	61.40%	54.84%
	M	39.31%	39.80%	38.60%	45.16%
Insurance	Commercial	46.45%	52.75%	42.42%	56.77%
	Medicaid	4.20%	4.02%	4.22%	5.16%
	Medicare	48.63%	42.84%	52.41%	38.06%
	Other	0.73%	0.39%	0.95%	0.00%
Race	Asian	2.90%	6.27%	1.31%	1.29%
	Black	14.37%	18.43%	13.00%	5.16%
	Hispanic	9.19%	7.25%	10.69%	2.58%
	Other	5.08%	6.08%	4.27%	9.03%
	White	68.46%	61.96%	70.73%	81.94%

Results:

155 patients were admitted for SBO at our academic institution during the 4-year study period, with the majority being over 50 years old (70.97%), female (54.84%), on Medicare (38.06%), and white (81.94%). Prior to the implementation of the EGS model, our institution reported shorter LOS when compared with other regional academic hospitals (RR=1.19 , 95% C.I. 1.02, 1.39) and other regional community hospitals (RR=1.10, 95% C.I. 0.95, 1.28) although not statistically significant for community hospitals. Following the implementation of EGS, our institution saw a longer LOS compared to regional academic hospitals (RR=0.78, 95% C.I. 0.68, 0.89) and regional community hospitals (RR=0.84, 95% C.I. 0.73, 0.96).

Conclusions:

The implementation of an EGS service at our academic institution is associated with an increased LOS for patients admitted SBOs when compared to other regional academic and community hospitals. This is likely due to an increase in nonoperative management, which likely increases LOS.

Stony Brook Medicine