

Letters

RESEARCH LETTER

PACIFIC COAST SURGICAL ASSOCIATION

Patient Navigator in Trauma Survivor Follow-Up

Patient service navigators (PSNs) play an integral role in health care coordination and delivery. While PSNs have been well studied in oncology, supporting treatment, survivorship, and end-of-life care, research on PSNs in trauma care is limited.^{1,2}

Trauma survivors are disproportionately affected by low socioeconomic status, housing insecurity, and other risk factors for poor outcomes.^{3,4} In 2018, our level I trauma center implemented a PSN program that works with social workers (who provide inpatient psychosocial support) and case managers (responsible for discharge planning) to longitudinally support patients and mitigate barriers to care continuity. PSNs schedule appointments; arrange transportation; and provide resources for violence recovery, housing insecurity, and other needs. We hypothesized that attendance at follow-up appointments would be higher for patients admitted after PSN implementation.



Supplemental content

Methods | We queried our institutional database to identify adult (aged ≥18 years) trauma patients treated in 2017 and 2023. Exclusion criteria were admission to a nontrauma service or discharge from the emergency department (ED), inpatient mortality or discharge to hospice, and documented preference for follow-up outside the hospital system. The Mass General

Brigham Institutional Review Board approved this study and waived the informed consent requirement because deidentified data were retrospectively collected. We followed the STROBE reporting guideline.

Medical record review was performed to determine whether patients followed up with the trauma surgery team (indications: rib fractures or surgical intervention by the trauma service) and/or a specialty team (eg, orthopedic surgery and neurosurgery) if recommended. Other outcomes included 30-day ED visits and readmissions. Using Stata version 18 (StataCorp LLC), multivariable logistic regression was performed to determine the association of PSN implementation with outcomes. Tests were 2-sided, with $P < .05$ indicating statistical significance.

Results | Of 957 patients (mean [SD] age, 61.7 [22.5] years; 535 males [56%]) included, 593 (62%) had pre-PSN and 364 (38%) had post-PSN implementation admissions. There were no differences in patient characteristics, except median (IQR) total length of stay (LOS) (4 [2-7] vs 5 [3-8] days; $P = .02$) (**Table 1**). In unadjusted analysis, there were no differences in 30-day readmissions (59 [10%] vs 32 [9%]), 30-day ED visits (85 [14%] vs 51 [14%]), and specialty clinic attendance (275 of 342 [80%] vs 306 of 356 [86%]) between groups ($P > .05$). However, there was a significant difference in trauma clinic attendance (205 of 366 [56%] vs 160 of 214 [75%]; $P < .001$) (**Table 2**).

Adjusting for age, sex, race and ethnicity, injury severity score, service from which the patient was discharged, and LOS, multivariable analysis showed that PSN implementation was associated with significantly higher odds of attendance at both

Table 1. Patient Characteristics

Characteristic	Patients, No. (%)		P value
	Pre-PSN implementation (n = 593)	Post-PSN implementation (n = 364)	
Age, median (IQR), y	67 (40-80)	67.5 (47-80)	.32
Sex			
Male	336 (57)	199 (55)	.55
Female	257 (43)	165 (45)	
Race and ethnicity ^a			
Hispanic	51 (9)	30 (8)	.85
Non-Hispanic Black	59 (10)	34 (9)	
Non-Hispanic White	441 (74)	283 (78)	
ISS, median (IQR) ^b	9 (5-16)	10 (8-16)	.16
Mechanism of injury			
Penetrating	50 (8)	23 (6)	.24
Blunt	543 (92)	339 (93)	
Disposition			
Home	362 (61)	229 (63)	.27
SNF, rehabilitation, and LTACH	244 (36)	129 (35)	
Other ^c	16 (3)	6 (2)	
Total LOS, median (IQR), d	4 (2-7)	5 (3-8)	.02
ICU LOS, median (IQR), d	1 (0-3)	0 (0-3)	.10

Abbreviations: ICU, intensive care unit; ISS, Injury Severity Score; LOS, length of stay; LTACH, long-term acute care hospital; PSN, patient services navigator; SNF, skilled nursing facility.

^a Race and ethnicity data were self-reported by patients and obtained from medical records. Only Hispanic ethnicity and non-Hispanic Black and White race are reported because numbers for other races are small. These data were collected and included in analysis to provide background demographic information about the sample.

^b ISS ranges from 1 to 75, with higher scores indicating more severe injuries.

^c Other disposition included patients who left against medical advice and patients who were discharged to jail or prison.

Table 2. Patient Outcomes Before and After Patient Services Navigator Implementation

Outcome	Patients, No./total No. (%)		P value
	Pre-PSN implementation	Post-PSN implementation	
30-d Readmissions	59/593 (10)	32/364 (9)	.55
30-d ED visits	85/593 (14)	51/364 (14)	.89
No. of ED visits, mean (SD)	1.15 (0.5)	1.35 (0.8)	.07
Indication to be seen in trauma clinic	366/593 (62)	214/364 (59)	.37
Trauma clinic attendance when indicated	205/366 (56)	160/214 (75)	<.001
Specialty clinic attendance when indicated	275/342 (80)	306/356 (86)	.05

Abbreviations: ED, emergency department; PSN, patient services navigator.

trauma clinic (odds ratio [OR], 2.41 [95% CI, 1.65-3.54]; absolute risk difference [ARD], 19.05% [95% CI, 11.32%-26.77%]) and specialty clinic (OR, 1.55 [95% CI, 1.03-2.34]; ARD, 6.03% [95% CI, 0.47%-11.60%]). No association was found between PSN implementation and 30-day readmissions, 30-day ED visits, or meeting criteria for clinic follow-up.

Discussion | PSN implementation at a level I trauma center was associated with increased follow-up attendance in both trauma and specialty clinics. The unchanged rates of 30-day ED visits and readmissions may be explained by the social challenges experienced by trauma patients. Nonetheless, PSNs bridge the gap between inpatient and outpatient care to address both the proximal (eg, scheduling and transportation issues) and distal (eg, housing or food insecurity or substance use) factors that may limit patient participation in postdischarge care. Because trauma is increasingly understood as a chronic condition requiring long-term multidisciplinary care, PSN programs should be expanded, with special support for socioeconomically vulnerable subpopulations.⁵

Study limitations include its retrospective design, small sample sizes for other minority racial and ethnic groups, and our inability to account for moderators such as the COVID-19 pandemic, which increased the use of telemedicine. Future research should analyze a PSN program's cost-effectiveness as well as the quantitative and qualitative association of PSNs with postdischarge well-being and functioning of patients.

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