

BACKGROUND

Firearm violence is the leading cause of death for children and young adults in the US.¹ Hospital Violence Intervention Programs (HVIPs) provide wrap around services to victims of gun violence that address violence risks, social determinants of health (SDoH) and recovery to improve outcomes for patients.² Little is known about HVIP impact on healthcare utilization.

The purpose of this study is to assess how MUSC's HVIP, Turning the Tide Violence Intervention Program (TTVIP), impacts:

- Outpatient follow-up
- Unplanned emergency department visits
- Unplanned admissions
- Repeat injury 1-year post-GSW assault

METHODS

This is a retrospective review of individuals

- Ages 12-30
 - Treated for GSW assault injuries at MUSC
- Patients were divided into two groups:
- Pre-TTVIP implementation (2020)
 - 1-year post-implementation (2021-2022)

Descriptive statistics and between-group differences were assessed.

Figure 1. Individualized Needs Assessment.



RESULTS

- TTVIP patients received significantly more referrals for outpatient follow-up care.
- Outpatient follow-up attendance was significantly higher for HVIP patients.
- There were no significant differences in ED visits and unplanned admissions after discharge, most of which were related to the index injury.
- Patients discharged from the ED were over 2x as likely to have unplanned ED visits compared to admitted patients in both groups.
- TTVIP patients were less likely to have repeat injuries, but this was not statistically significant.

Table 1. Enrollee Demographics

	Total (n=155)	Pre-HVIP (n=73)	HVIP Enrollees (n=82)	p value
Age	20.6	22	19.4	p<0.001
Sex				
Male	130 (83.9%)	67 (81.7%)	63 (86.3%)	p=0.5
Female	25 (16.1%)	15 (18.3%)	10 (13.7%)	
Race				
Black	144 (92.9%)	68 (93.2%)	76 (92.7%)	p=0.9
White	9 (5.8%)	4 (5.5%)	5 (6.1%)	
Other	2 (1.3%)	1 (1.4%)	1 (1.2%)	
ADI	4.7	4.3	4.9	p=0.1
Insurance status				
Uninsured	69 (44.5%)	47 (64.4%)	22 (26.8%)	p<0.001
Medicaid	73 (47.1%)	25 (34.2%)	48 (58.5%)	
Private	12 (7.7%)	1 (1.4%)	11 (13.4%)	
Other	1 (0.6%)	0 (0)	1 (1.2%)	
Injury Severity Score	9.3 (1-42, SD 9.3)	8	10.5	p=0.05
ED Disposition				
Discharge	46 (29.7%)	31 (42.5%)	15 (18.3%)	p<0.001
ICU	24 (15.5%)	11 (15.1%)	13 (15.9%)	
Floor	34 (21.9%)	10 (13.7%)	24 (29.3%)	
OR	47 (30.3%)	17 (23.3%)	30 (36.6%)	
AMA	4 (2.6%)	4 (5.5%)	0 (0)	

Table 2. Outcomes

	Total (n=155)	Pre-HVIP (n=73)	HVIP Enrollees (n=82)	p value
Outpatient Referrals	125 (78.7%)	49 (67.1%)	76 (92%)	p<0.0001
Outpatient Follow-Up	96 (62%)	34 (47%)	62 (82%)	p=0.0002
Trauma Clinic Referrals	72 (46.5%)	18 (24%)	54 (66%)	p<0.00001
Trauma Clinic Follow-up	55 (35.5%)	11 (15%)	44 (53.6%)	p<0.0001
ED Visit After Discharge	54 (35%)	24 (32%)	30 (36.6%)	p=0.7
ED Visit Associated with Index Injury	40 (25.8%)	18 (25%)	22 (26.8%)	p=0.7
Admission After Discharge	23 (14.8%)	8 (11%)	13 (15.8%)	p=0.3
Admission Associated with Index Injury	14 (9%)	5 (6.8%)	9 (11%)	p=0.4
Repeat Injury	22 (14.2%)	13 (17.8%)	9 (11%)	p=0.2

CONCLUSIONS

TTVIP enrollment :

1. Improved outpatient referrals
 2. Improved follow-up for patients
- **There was a non-statistically significant reduction in injury recidivism.*

No difference :

1. Unplanned ED visits
2. Admissions

DISCUSSION

- HVIPs can improve medical care follow-up for victims of violence.
- Further evaluation is needed to assess outcomes in subsequent years of TTVIP implementation.
- Other patient-centered care outcomes need to be explored including violence risk reduction and improvements in safety, quality of life and SDoH.
- Clinical care and discharge planning should be optimized to reduce ED visits and unplanned admissions after injury for victims of gun violence.

ACKNOWLEDGEMENTS

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REFERENCES

1. Kaufman, E. J., Wiebe, D. J., Xiong, R. A., et al. (2020). Epidemiologic trends in fatal and nonfatal firearm injuries in the US, 2009-2017. JAMA Internal Medicine.
2. Health Alliance for Violence Intervention. <https://www.thehavi.org/what-is-an-hvip>

