



The effect of the COVID-19 pandemic on community violence in Connecticut

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Objective

To analyze the pattern of violence-related trauma presenting to trauma centers in CT and determine whether there is an increase of community violence presentations since the onset of the COVID-19 pandemic and whether this disproportionately affects racial and ethnic minorities.

Introduction

The COVID-19 crisis is a unique historical event with unprecedented public health consequences, such as the institution of mandatory social distancing restrictions, quarantines, and mask wearing mandates. In Connecticut, Governor Lamont issued the “Stay Safe, Stay Home” executive order on March 23rd, 2020. This order required nonessential businesses and not-for-profit entities to stop all in-person services.³ This led to the temporary closure of many businesses resulting in broad social disruption. The order expired on May 21st, 2020, but the mandatory social distancing restrictions continued in varying forms through the end of 2020.

Methods

Using the trauma registries at all three Level 1 American College of Surgeons (ACS) Committee on Trauma (COT) verified adult trauma centers in the state of Connecticut (Yale-New Haven Hospital in New Haven; Saint Francis Hospital in Hartford; Hartford Hospital in Hartford) as well as the Level II Center at Bridgeport Hospital in Bridgeport, we collected data for all violence-related-trauma presentations in Connecticut from 2018 to 2021. We compared the pattern of violence-related trauma from pre-COVID and COVID pandemic using an interrupted time series linear regression model.

Results

- Overall, there was a 55% increase in violence-related trauma presentations in Connecticut in the COVID period as compared with the pre- COVID period.
- There were significant differences between hospitals. Significant increases in violence-related trauma presentations were observed at Hospital 2, Hospital 3 and Hospital 4. However, there was no significant change in violence-related trauma presentations at Hospital 1.
- Racial/ethnic minoritized patients experienced a 61% increase in violence-related trauma presentations in the COVID period as compared with the pre-COVID period.
- White patients by comparison had no significant change in violence-related trauma presentations in the COVID period as compared with the pre-COVID period.
- There was a 76% increase in penetrating injuries in the COVID period as compared with the pre-COVID period.

Table 2

Rate ratio calculation from the interrupted time series regression analysis.

Violence-related trauma presentation	Rate Ratio	95% Confidence interval	p-value
All	1.55	1.34-1.80	<.001
Hospital 1	1.11	0.89-1.38	.362
Hospital 2	1.56	1.12-2.16	.009
Hospital 3	2.84	1.97-4.09	<.001
Hospital 4	1.70	1.21-2.40	.002
Among racial and ethnic minorities	1.61	1.36-1.90	<.001
Among white population	0.91	0.61-1.36	.659
Penetrating injury	1.76	1.46-2.13	<.001
GSW injury	1.57	1.24-1.98	<.001
Stab injury	1.93	1.42-2.62	<.001
Assault injury	1.27	1.00-1.61	.050

Racial and ethnic minorities were defined as Black and Latinx patients. All incidence rate ratios are assuming a relatively stable population over the last three years.

Results

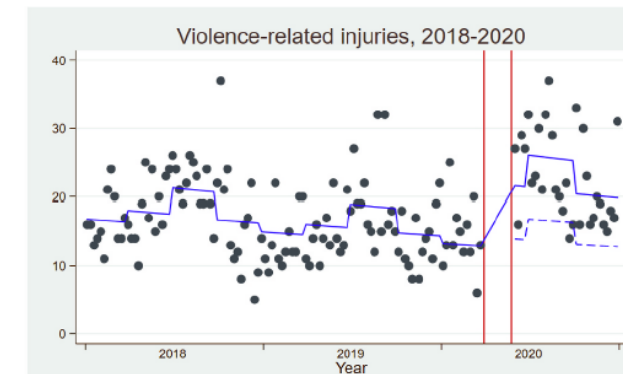


Fig. 1. Time series linear regression analysis for all violence-related injuries. Interrupted time series regression analysis for all violence-related injuries in combined dataset, adjusted for seasonality. Data points are weekly violence-related trauma presentations. Blue line = predicted mean violence by the model; Dashed blue line = predicted mean violence with removal of effect of COVID-19 pandemic; Red lines = lockdown period (March 23 – May 21, 2020).

Conclusion

This research demonstrated a significant increase in violence-related trauma presentations to trauma centers throughout Connecticut after the onset of the pandemic, which was most pronounced in racial/ethnic minoritized communities. Most of this increase in community violence was the result of penetrating injuries, including stabbings and gunshot wounds.

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