Evaluating Project Safe Neighborhoods Dallas: Effects on Violent Crime and Trauma Volume

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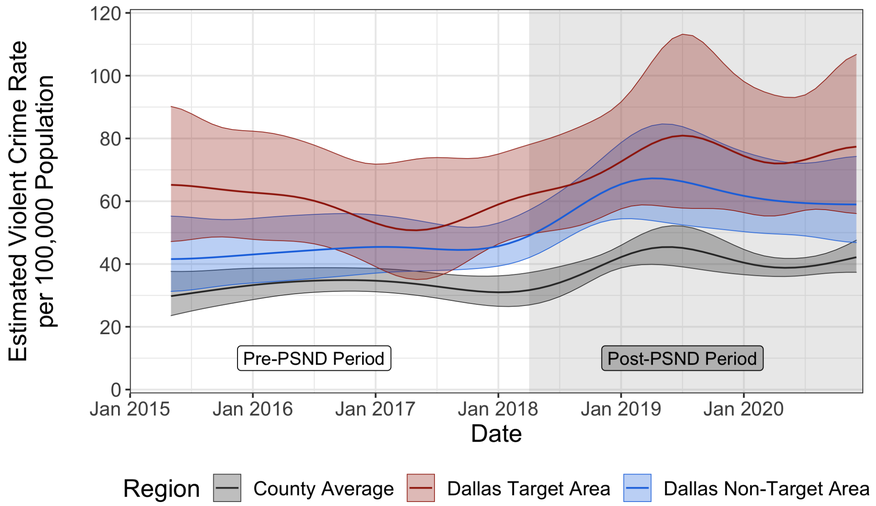
Introduction

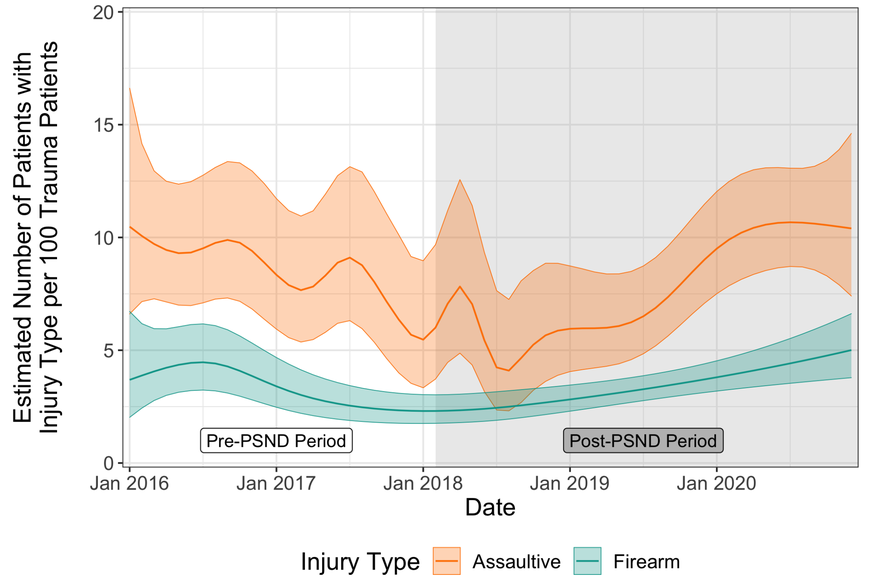
- *Project Safe Neighborhoods: Dallas* (PSND) was founded in 2017 to reduce increases in violent crime, especially firearm violence
- PSND's target areas largely overlap with the authors' institutional service area, with the trauma center located centrally in one target area
- This study examined:
  - If violent crime in the target area was reduced after PSND's launch in April 2018
  - What effect PSND had on the rate of patients presenting to the trauma center for firearm & assaultive injuries

Methods

- Data on index violent crime (robbery, aggravated assault, & murder/non-negligent homicide) were obtained from Dallas Police & from all other municipalities in Dallas County
- Data on trauma volume were queried from the hospital's trauma registry
- Nonlinear models controlling for seasonality, temporal dependency, & geospatial dependency were fit & used to derive crime rates per 100,000 population as well as injury rates per 100 trauma patients. The model predictions are plotted with 95% confidence intervals.



Note: The 'County Average' line includes 'Dallas Target Area' and 'Dallas Non-Target Area' and is only meant for visualization purposes, not inferential purposes.



Results

- Violent crime was consistently higher in the target area than the rest of Dallas & the county, & it never significantly changed in the target area
- From Nov. 2017 to July 2018, violent crime in the target area was significantly higher than in the non-target area; this ended due to significant increases in the non-target area
- After long-running decreases, firearm & assaultive injuries began to rise after PSND
- Assaultive injuries increased significantly from June 2019 to December 2019

Conclusions

- Violent crime in the target area did not significantly decrease after PSND, but it did increase in the non-target areas of Dallas
- PSND may have forced crime to partially plateau in the target area & prevented larger increases
- Violent crime could also have moved outside of the target area to evade increased scrutiny
- Increases in patients with assaultive injuries makes the second explanation more likely
- It is important to examine multiple data sources when assessing violence prevention efforts
- This is especially true of policies, like PSND, that can create various negative externalities

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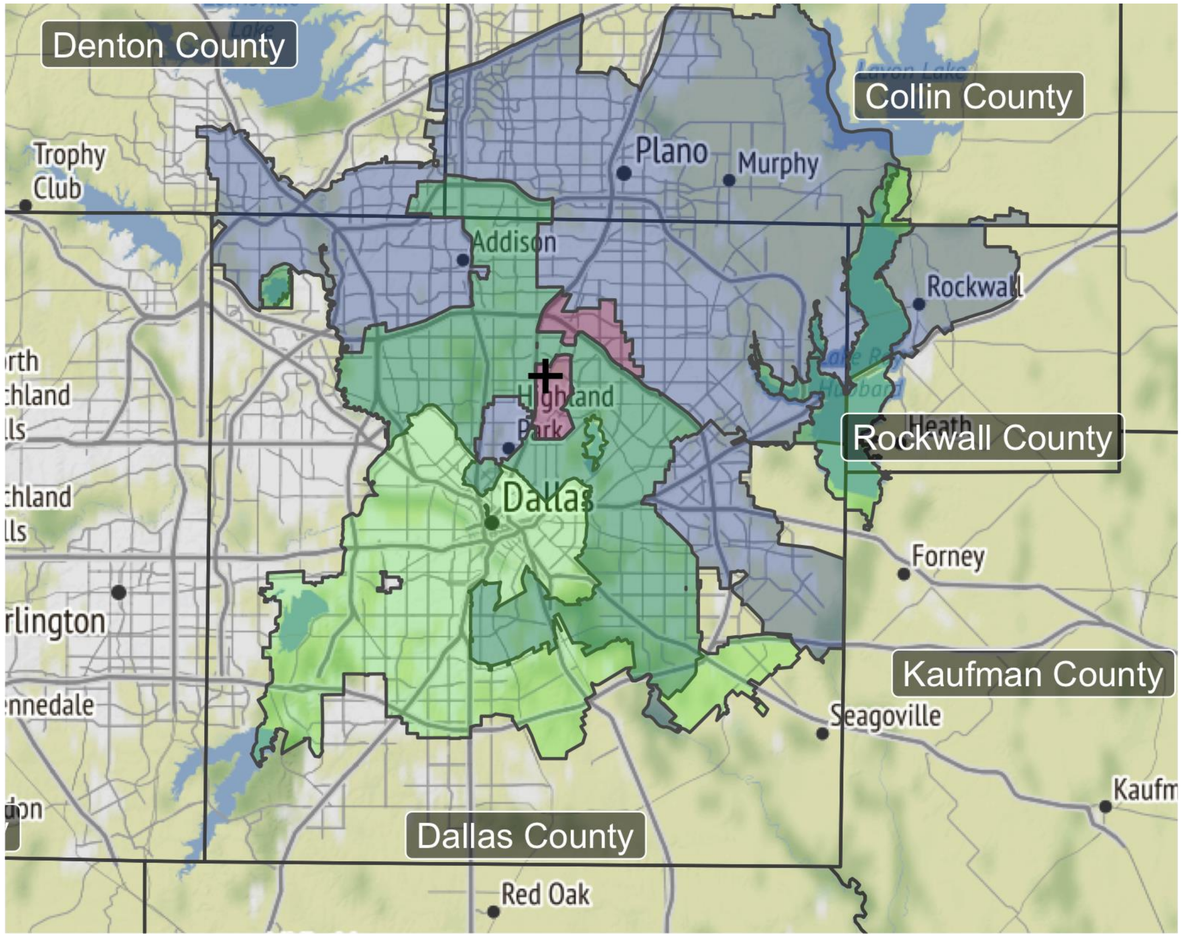

Sources
Background image: Stamen Maps
Hospital location and county boundaries: OpenStreetMap via *overpass-turbo.eu*

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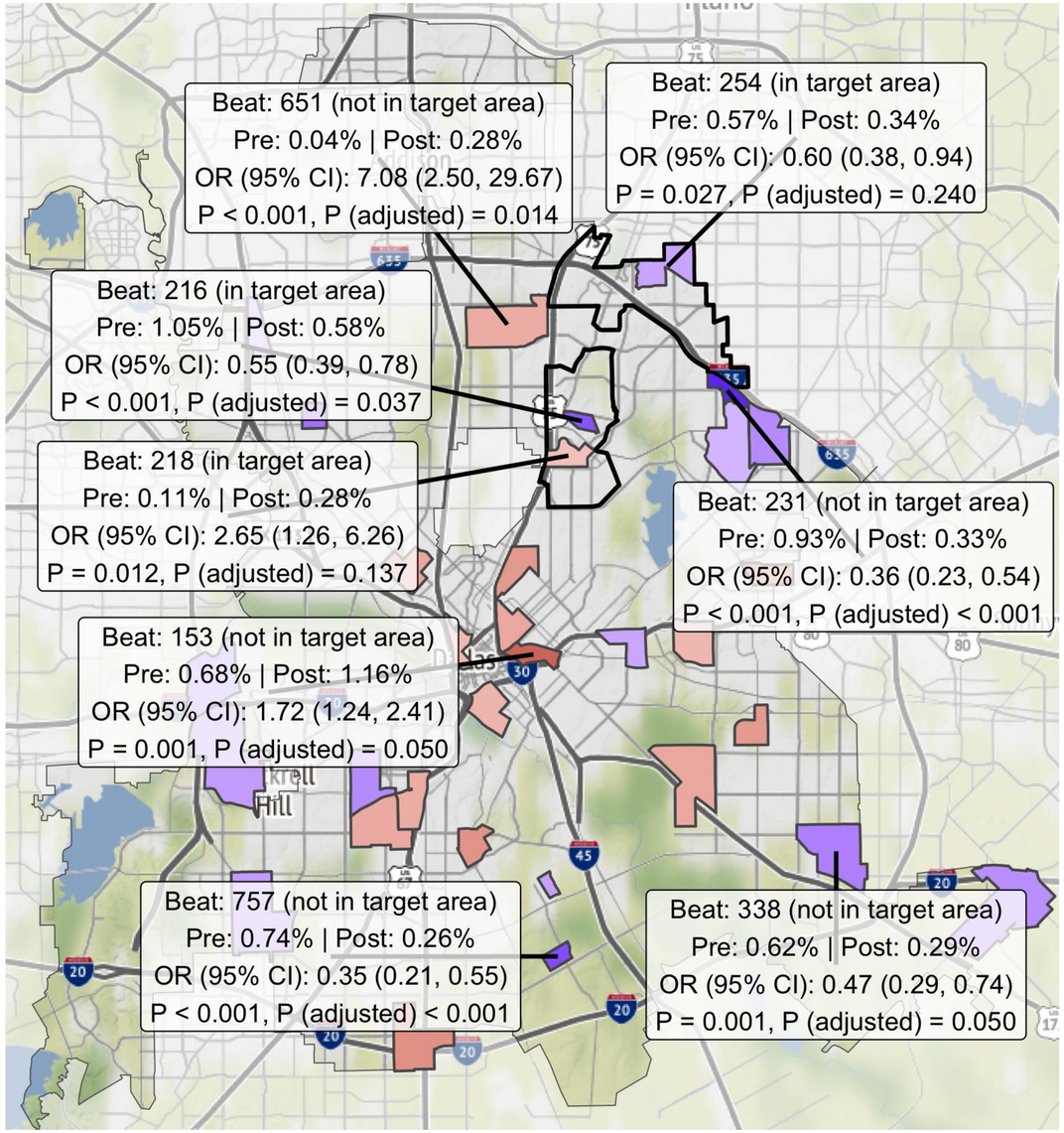
Additional exploratory analyses using spatial point pattern testing showed violent crime only significantly changed in six Dallas police beats when comparing 12 months pre/post PSND implementation.

Two beats (#216 & #254) in the target area experienced significant decreases in violent crime, but only the decrease in beat #216 remained significant after adjusting for multiple testing.

Both of these decreases were offset by increases in beats #218 and #651.

The increase in beat #218 (in the target area) was not significant after adjusting for multiple testing.

However, the increase in beat #651 (just outside of the target areas) was significant and larger than both of the decreases in the target area (OR = 7.08; 95% CI = 2.50, 29.67; p < 0.001; p adjusted = 0.014).



Only beats with significant differences before adjusting for multiple testing are shown.