



## Research Brief: Evaluating Gun Violence Reduction Efforts in Buffalo

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### Summary:

As part of the state Division of Criminal Justice Services Gun Involved Violence Elimination (GIVE) initiative, the city of Buffalo engages in a range of strategies to reduce gun violence. Researchers worked with the Buffalo Police Department to improve and evaluate three approaches: hot-spots policing, identifying links between victims of gun violence and conducting custom notifications.

### Background

Researchers from the University of Buffalo worked with the Buffalo Police Department (BPD) in 2018 to assess and strengthen three aspects of the department's gun violence-reduction efforts:

- Updating an existing system for identifying emerging geographic [hot-spots](#);
- Identifying social ties that link victims of gun violence; and
- Analyzing arrest outcomes for individuals receiving [custom notifications](#).

### Design

- To detect emerging clusters of gun violence and identify hot-spots, researchers used SaTScan™ software.
- To identify social ties that connect victims of gun violence, researchers created a network of 776 shooting victims killed or injured between January 2015 and March 2018. Associations were added based on BPD intelligence, jail visits and other factors. A regression model was used to assess the types of social ties most likely to link shooting victims.
- To assess outcomes for recipients of custom notifications, researchers studied arrest outcomes for the 196 individuals selected to receive custom

notifications between January 2015 and May 2018. Arrests that occurred between the notification date and January 2019 were counted.

### Results

- Hot-spot identification was automated to update daily and included BPD crime data available through Buffalo's OPENDATA portal. Interactive maps replaced static maps to allow for a better understanding of the spatial aspects of a cluster. Police officers could view the maps on any device with a web browser.
- Three factors were found to significantly increase an individual's risk of becoming a shooting victim: 1) appearing with a previous shooting victim in an incident report (42% increase in risk after the first incident, with subsequent incidents resulting in higher risk); being visited in jail by a shooting victim (72% increase in risk, but found to be a relatively rare type of link in the social network); and inclusion in the BPD gang database (28% increase in risk).
- Of those individuals identified for notifications, 53 percent were subsequently arrested for violent crimes during follow-up periods that ranged from nine months to four years, indicating that GIVE partners were successfully identifying at-risk individuals for custom notification.

### About the Research Consortium

An initiative of the state Division of Criminal Justice Services, the Research Consortium promotes criminal justice research and the use of data and evidence by facilitating partnerships between local practitioners and college and university-based researchers. The research design and conclusions detailed here are the sole work product of the academic partner that conducted the research. Neither DCJS nor the State of New York endorse the program, methodology or results.