**Fatal and Non-Fatal Shootings in the City of Rochester 2015-2018**

**Working Paper 2019 - 04**

Jessica Burt
Research Assistant | Center for Public Safety Initiatives
jmb2808@rit.edu

Janelle Duda-Banwar, Ph.D.
Senior Research Associate | Center for Public Safety Initiatives
jmdgcj@rit.edu

Irshad Altheimer, Ph.D.
Director | Center for Public Safety Initiatives
ixagcj@rit.edu

John Klofas, Ph.D.
Founder and Director *Emeritus* | Center for Public Safety Initiatives
jmkgcj@rit.edu

https://www.rit.edu/cla/criminaljustice/cpsi/work

**Introduction**

This paper examines the demographics of fatal and non-fatal shooting victims in Rochester, NY, as reported in the Rochester Police Department's Open Data Portal from 2015-2018. Available demographics of shooting victims include age, race, ethnicity, and gender. ArcGIS Mapping Software was used to map non-fatal shooting incident locations. Locally, in the City of Rochester, the number of fatal and non-fatal shooting victims have remained relatively stable over the past 19 years, with a slight decline in the last four years. One hospital located within the City, Rochester General Hospital, was selected for an analysis tallying the number of non-fatal shooting victims that occurred over the designated timeframe in this area using ArcGIS Mapping Software.

**Data**

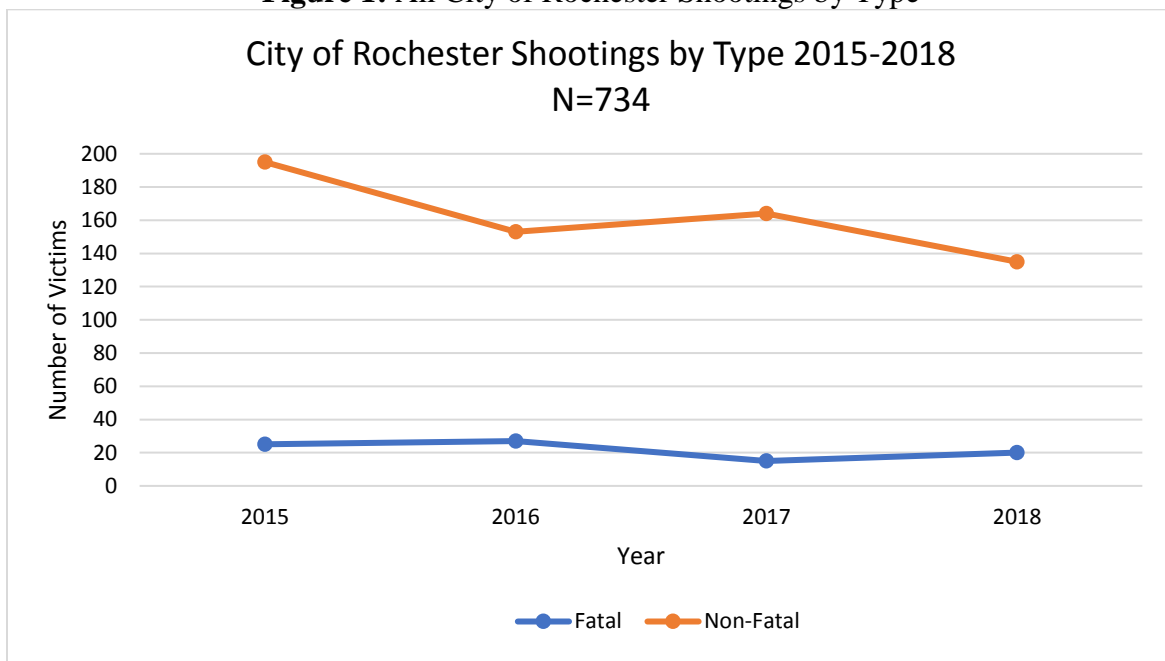**Figure 1:** All City of Rochester Shootings by Type



Figure 1 shows all City of Rochester fatal and non-fatal shootings that occurred between 2015 and 2018. In each year, there were more non-fatal shooting victims than fatal shooting

victims. Over the last four years, there was an average of 184 shooting victims each year, specifically, an average of 22 fatal and 162 non-fatal. There has been a slight decline in non-fatal victims with a slight increase in the number of fatal victims in the most recent year. From 2015 to 2018 there was a 30% reduction, from 220 victims to 155 victims, in combined fatal and non-fatal shootings. However, past research has shown that the long-term trend in the number of shooting victims has remained relatively stable since the early 2000's despite periods of growth and decline (Altheimer et al., 2017).

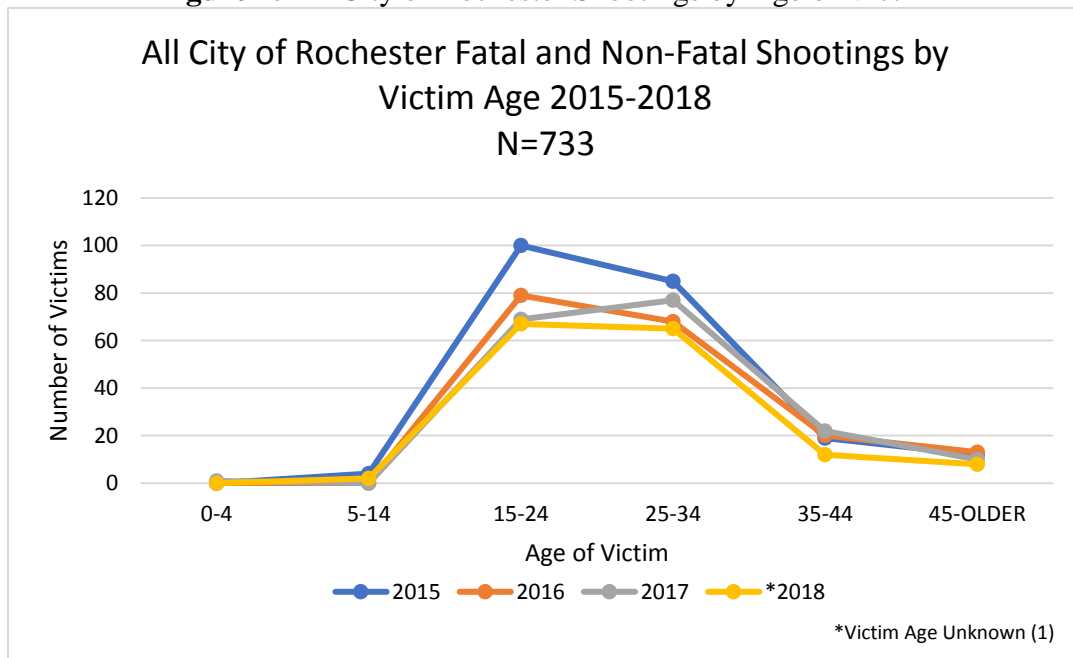**Figure 2:** All City of Rochester Shootings by Age of Victim



Figure 2 shows the age of victims which ranges from 1 year old to 70 years old. One victim's age for 2018 was unknown and was not included in Figure 2. Over the last four years the age of fatal and non-fatal shooting victims have followed a similar trend. The majority of fatal and non-fatal shooting victims were 15-24 years old and the second largest age group was 25-34 years old.
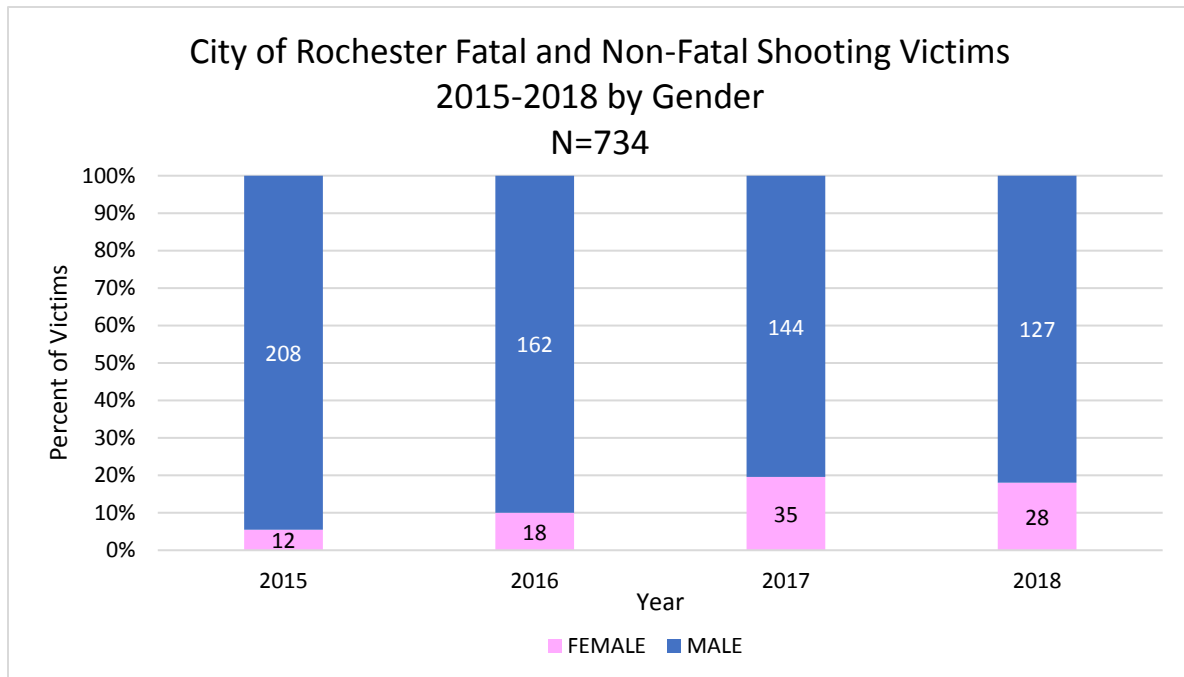
**Figure 3:** All City of Rochester Shootings by Gender of Victim



Figure 3 shows fatal and non-fatal shooting victims by gender. Over the last 4 years, the vast majority of victims were male. Despite this, the proportion of victims that were male declined from 2015-2018, from approximately 95% to about 82%, while the proportion of female victims has increased, from about 5% to about 18%. The number of female victims increased from 12 in 2015 to 35 in 2017 and then declined to 28 in 2018.
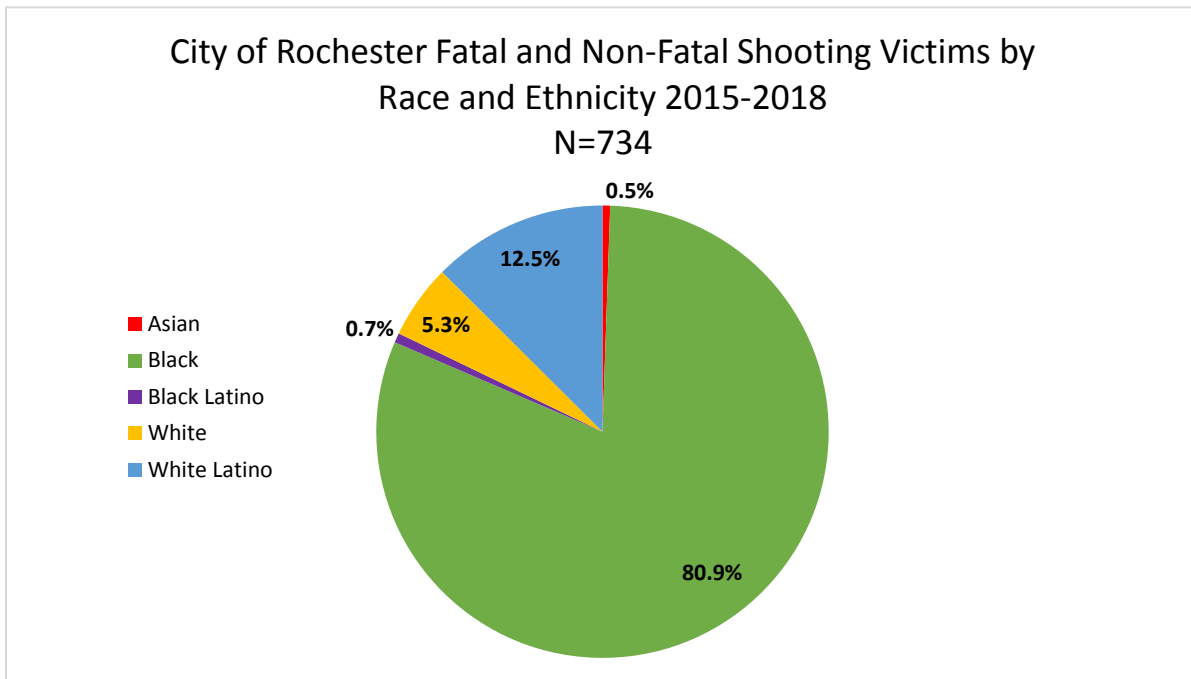
**Space Intentionally Left Blank**

**Figure 4:** All City of Rochester Shootings by Race of Victim



Figure 4 shows combined fatal and non-fatal shooting victims by race and ethnicity. Over the last 4 years, the majority of victims of gun violence were black, followed by Latino. According to the American Community Survey demographic and housing estimates 2013-2017 ([www.factfinder.census.gov](www.factfinder.census.gov)), 38.5% of the city's population is black, 36.8% are white, and 3.2% are Asian. Of the city's population, 17.8% identify as Latino of any race including Mexican, Cuban, and Puerto Rican. Although the distribution of the population by race for black and white individuals are similar, the distribution of black and white victims of gun violence are not. Black individuals are the overwhelming majority of victims of gun violence, about 81%, when compared to white individuals.
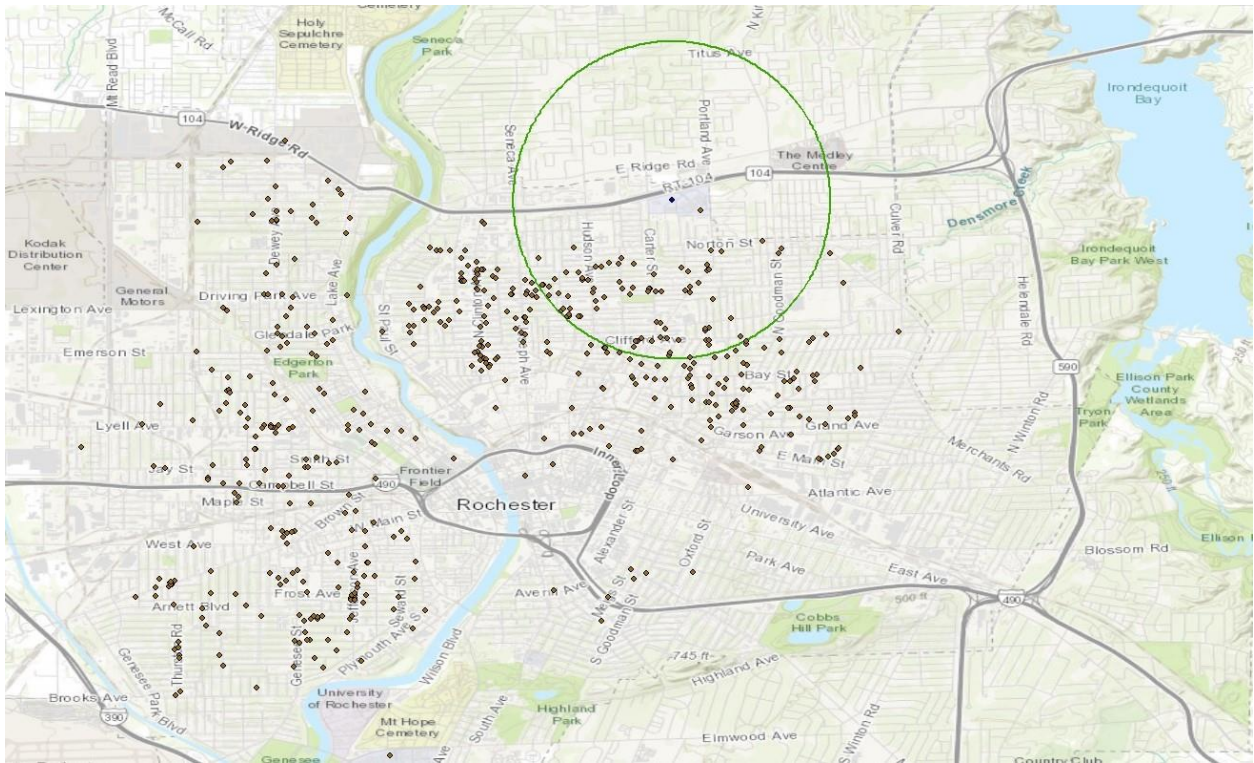
**Figure 5:** Location of all Non-Fatal Shooting Victims in Rochester, NY (n=647)



Figure 5 shows the incident locations for non-fatal shootings that occurred from 2015-2018 in Rochester (n=647). The green circle outlines a one-mile radius from Rochester General Hospital which provides much of the treatment for shooting victims. Within a one-mile radius of this hospital there were 100 shooting victims with reported incidents between 2015 through 2018. Of those 100 shootings, 80 of them had unique crime identification numbers. The remaining 20% of these incidents involved multiple victims. The remaining 547 shooting victims fell outside of that radius. These incident locations follow a similar pattern of violent crime in Rochester, stretching in a semi-circle from the North-East to the South-West of the city.

**Discussion**

The majority of shootings in Rochester are non-fatal. This means that most shooting victims likely receive care from a medical facility, including Rochester General Hospital. The

demographics provided above for 2015-2018 fatal and non-fatal shooting victims indicate that in Rochester those most affected by gun violence are young, black, males. This is a similar trend in other communities across the country (e.g., Centers for Disease Control and Prevention, 2017; Fitzpatrick et al., 2018). Despite this, rates of shooting victimization for males in Rochester declined during this period, while rates of victimization for females increased. Though males remain the vast majority of shooting victims, this trend suggests a need for further research in the local community.

The concentration of shootings leads to community trauma. This is shown in the above map where within a one-mile radius of the hospital there were 100 victims of non-fatal shootings in only four years. For a child that is four years old living in this neighborhood, they have been exposed to 100 shootings that involved at least one victim in their lifetime. This concentration of violence within the city may benefit from programs aimed at reducing the impact of community trauma. The concentration of shootings has implications for the potential normalization or desensitization to violence in these communities.

Similar to cities across the U.S., gun violence is a chronic issue in Rochester; violence impacts not only victims and the offenders, but also family and community members. Programs have developed in an effort to interrupt this violence. These programs include Pathways to Peace, Save Our Youth, and hospital-based violence intervention programs such as the Rochester Youth Violence Prevention program. These programs target individuals at high-risk of gun violence in an effort to reduce retaliation and any violence.

## Conclusion

Although there have been many programs set forth to tackle gun violence, due to the nature of this type of violence in communities creating an initiative that is hospital-based and

trauma informed would build on the existing efforts. Shootings traumatically impact victims and their families in many ways socially, emotionally, cognitively and physically demonstrating a need for a hospital-based intervention that is trauma informed. A successful program should bridge this gap and coordinate services for victims of gun violence.

Based on the data provided, focusing efforts on individuals of non-fatal shootings who are 15-34 in age, black, and male, the demographics of individuals who are most frequently victims of this type of crime, may help to reduce gun violence. Local research has shown that retaliation is a significant element of gun violence in Rochester and that nearly six-in-ten incidents of violence involve retaliatory disputes (Altheimer et al., 2013). Interrupting this violence is a growing issue and despite a decline in non-fatal shootings over the last four years, there is still much to be accomplished.

# References

ACS Demographic and Housing Estimates "American FactFinder - Results." *American FactFinder - Results*, U.S. Census Bureau, 5 Oct. 2010, https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

Altheimer, I., DiPoala, A., Klofas, J., & Bower, K. (2013). Preliminary Descriptive Analysis of the Rochester Shooting Database. Working Paper for the Center for Public Safety Initiatives. https://www.rit.edu/liberalarts/sites/rit.edu.liberalarts/files/documents/our-work/Preliminary%20Descriptive%20Analysis%20of%20the%20Rochester%20Shooting%20Database_for%20CPSI%20website.pdf

Altheimer, I., Klofas, J., & Gray, S. (2017). Examining Fluctuations in Rochester Homicides and Shootings from 2000 to 2016. Working Paper for the Center for Public Safety Initiatives. https://www.rit.edu/liberalarts/sites/rit.edu.liberalarts/files/documents/our-work/Fluctuations%20in%20Rochester%20Violence%20Paper%202.0.pdf

Cure Violence. (2019, March 07). Retrieved from http://cureviolence.org/understand-violence/changing-behavior/

Fitzpatrick, V., Castro, M., Jacobs, J., Sebro, N., Gulmatico, J., Shields, M., & Homan, S. M. (2018). Nonfatal Firearm Violence Trends on the Westside of Chicago Between 2005 and 2016. *Journal of Community Health*. doi:10.1007/s10900-018-00603-8

Rochester, NY Police Department Open Data Portal. (Updated 2019). Retrieved from https://data-rpdny.opendata.arcgis.com/

Ten Leading Causes of Death and Injury. (2017). Retrieved from https://www.cdc.gov/injury/wisqars/LeadingCauses.html