

Datasheet for Non-Fatal Firearm Incident Knowledge Graph

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Use case description and societal challenges being addressed

Accurate and timely data are necessary to understand the nature of non-fatal firearm injuries in the US and inform prevention and harm reduction policies at local, state, and federal levels. There are basic questions about non-fatal firearm injuries that cannot be answered with currently available data including, “How many people are shot with a firearm each year and survive? Where are non-fatal shootings most likely to occur? What are the typical medical complications of those who are shot and do not die?” An accurate and flexible reporting system that relies on high-quality yet granular data is necessary to answer these questions and properly understand the landscape of firearm injuries in America. Our data support a scalable knowledge graph warehouse that relies on micro- and neighborhood-level data to inform research, policy, and strategic violent crime prevention efforts in local communities.

Data sets and descriptions

Our primary source of data come directly from police departmental records on non-fatal and fatal shootings. Data are made available by individual police departments through Open Data Portals, accessed via the Police Data Initiative (www.policedatainitiative.org). Police records provide data for surveilling gunshot injuries that result from one person shooting another. Initial police agencies will include Chicago, Philadelphia, New York City, Cincinnati, Newark, and Dallas. All data are made available at the incident level so they can be geographically tagged and standardized for comparison to one another. Incident-level characteristics include shooting location, dispatch time of day, associated crime, and victim characteristics when available from police agencies (e.g., race/ethnicity, sex, age, wound location).

Incident-level shooting data are linked to information about census tracts (i.e., neighborhoods) using the American Community Survey, accessed via the National Historical Geographic Information System [(NHGIS)]. These data provide census tract information on important neighborhood-level, structural predictors of gun violence including: the percentage of families living in poverty, the percentage of those unemployed, neighborhood racial composition, the percentage of disengaged youth (those not in school, employed, or in the labor force), and the percentage of those living in female-headed households.

User queries for use case

Queries can be made by incident type (e.g., fatal, non-fatal, location, time of dispatch, associated crime), victim characteristics (race/ethnicity, age, wound location), and census tract characteristics (poverty, racial composition, unemployment).