

Individuals shot by police exhibit distinct patterns of recent prior hospitalizations and arrests

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A study published in the *American Journal of Preventive Medicine* found that more than 50 percent of people with assault-related or legal intervention (LI) firearm injuries due to law enforcement actions and over 25 percent of individuals with self-inflicted or unintentional firearm injuries were arrested, hospitalized, or both in the two years prior to being shot. While LI firearm injuries are comparatively rare, they are on the rise, increasing 10 percent nationally in the United States over the last decade. The study's findings contribute important evidence that can be used to reduce and prevent these injuries and deaths.

"Looking at arrest and hospital records in Seattle, we identified some patterns among intent-specific firearm injuries. Notably, individuals shot by police had arrest histories similar to those shot in assaults and homicides and medical histories similar to those with self-inflicted firearm injuries. The individuals who are injured in LI encounters also exhibit disruptive, impulsive, and conduct-related disorders more frequently than individuals in our control group and increased risk of interpersonal and self-directed violence," explained Brianna M. Mills, Ph.D., Harborview Injury Prevention and Research Center (HMC), University of Washington, Seattle, WA, USA. "Our results show how many firearm injuries occur after a series of encounters with institutions that are meant to help individuals in crisis, but unfortunately have failed to deter the situation leading to the [injury](#). We believe that each of these encounters represents an opportunity for more effective interventions

and long-term solutions."

The case-control study conducted by Dr. Mills and colleagues identified 763 individuals who sustained firearm injuries and 335 who had motor vehicle passenger injuries in Seattle over a five-year period (2010-2014). Data were obtained from from the HMC trauma registry and Washington State death records. Diagnoses from prior hospitalizations were extracted from the Comprehensive Hospital Abstract Reporting System (CHARS) maintained by the Washington State Department of Health, which documents inpatient treatment and observation stays in all state-licensed acute care, long-term, and cancer specialty hospitals in Washington, including psychiatric units. Arrest data came from the Washington State Identification System criminal history database.

Patients were grouped by firearm injury cause: assault-related (58.1 percent), self-inflicted (28.6 percent), unintentional (9.3 percent), and legal intervention (4.1 percent). In the control group were motor vehicle passenger accidents. The records for the two years prior to the incidents were mined for information about misdemeanor and felony arrests, as well as diagnoses of substance abuse (alcohol, marijuana, and other drugs), and mental disorders (psychosis, depression/anxiety, and impulsivity/conduct disorder). By comparing arrest history, substance use, and mental disorders within the same geographic region and time period in a single investigation, the study helped to clarify how each contributes to the risk of sustaining intent-specific firearm injuries. It is important to note that the findings should be interpreted as providing information on non-causal markers of increased risk, rather than causal risk factors.

Key findings:

In the two years prior to being shot, individuals with fatal and non-fatal LI firearm injuries were:

- 22 times more likely to have an impulsivity/conduct disorder diagnosis than passengers injured in a motor vehicle collision
- 11 times more likely to have been diagnosed with a substance use disorder than passengers injured in a motor vehicle collision
- 7 times more likely to have a prior felony arrest, depression/anxiety diagnosis, or psychosis diagnosis than passengers injured in a [motor vehicle](#) collision

While there is increasing public awareness of the scope and burden of firearm injury in the US, police shootings, in particular, have received relatively less attention in research over the past decades than other types of firearm injuries. Because they are occurring with increasing frequency, with profound negative implications for individuals, their families, and communities where they occur, this study is an important step for building – and using – an evidence base to understand the connections and distinctions between different types of firearm injuries.

These findings highlight a potential role for medical and law enforcement professionals in preventing LI injuries as they encounter vulnerable individuals. Screening instruments for [mental disorders](#) or risk of firearm violence can be validated and potentially adapted for use in multiple settings. Tools to identify and utilize intervention opportunities during medical or legal encounters may help prevent later [law enforcement](#) confrontations. Coordination between police and mental health services, including de-escalation training for officers tasked as first responders and specialized crisis response teams with decision-making authority given to qualified mental health professionals, may lead to better avoidance of confrontations between police and individuals in crisis. Police departments, including Seattle's, have begun to make some of these changes with good results.

"Moving the conversation forward requires understanding the connections and distinctions between different types of [firearm injuries](#)

so we can create focused and effective interventions," commented Dr. Mills. "We invite other researchers to collaborate with us to replicate the study in other cities and determine if some of the patterns we uncovered are generalizable or specific to Seattle."

More information: "Prior Arrest, Substance Use, Mental Disorder, and Intent-Specific Firearm Injury," *American Journal of Preventive Medicine* (2018). [DOI: 10.1016/j.amepre.2018.04.041](https://doi.org/10.1016/j.amepre.2018.04.041)

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