

Gun violence exposure associated with higher rates of mental health-related ED visits by children

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Exposure to neighborhood gun violence is associated with increased odds of mental health-related pediatric Emergency Department (ED) visits among children living within four to five blocks of a shooting, according to research by the Perelman School of Medicine at the University of Pennsylvania and Children's Hospital of Philadelphia, published today in *JAMA Pediatrics*.

The study revealed a significant increase in pediatric mental-health related ED visits following incidents of neighborhood gun violence, most pronounced in the two weeks after the shooting, among children residing closest to where the violence occurred, and among children exposed to multiple shootings.

"Gun violence affects the whole community, beyond the victims who are personally injured," said lead author Aditi Vasan, MD, MSHP, an instructor of Pediatrics at the Perelman School of Medicine and a pediatric hospitalist and health

services researcher at Children's Hospital of Philadelphia. "Now that we have confirmed exposure to shootings negatively impacts the mental health of children, we can work to develop ways to provide preventive and responsive support for children and families exposed to neighborhood gun violence."

Using data from Children's Hospital of Philadelphia (CHOP), researchers examined how many ED visits for children age 1.5 to 11.5 years old from 12 Philadelphia ZIP codes were primarily for [mental health concerns](#), such as PTSD, depression, intentional ingestion of harmful substances, and other psychiatric emergencies. Then, they cross-referenced the Philadelphia Police Department's repository of shootings on the city's open data website to determine how many of these children were exposed to gun violence in the 60 days prior to the ED visit. A child was considered exposed to gun violence if they lived within a quarter mile (4-5 blocks) of the reported shooting. As a control, researchers also evaluated the cases of mental-health related ED visits in the 60 days prior to a shooting as well.

Of the 54,341 patients included in the study, 43,143 had one or more ED visits in the 60 days following a shooting, and 42,913 had one or more ED visits in the 60 days prior to a shooting. Of the 2,629 shooting incidents in the data set, 814 (31%) had one or more corresponding mental health-related ED visits in the 60 days following the shooting. Children residing within an eighth of a mile, or 2-3 blocks of an episode of gun violence, had greater odds of having a mental health-related ED visit.

"Symptoms of mental health distress in children appear within days of being exposed to a single shooting. What's more, in Philadelphia and other cities across the United States, gun violence

disproportionately affects Black children and families, adding to existing health disparities," said senior author Eugenia South, MD, MSHP, an assistant professor of Emergency Medicine and Faculty Director of the Penn Urban Health Lab. "This research underscores the need to develop public health interventions aimed at both reducing children's exposure to gun violence and mitigating the mental health symptoms associated with this exposure."

The authors recommend a number of interventions that can help reduce community violence and mitigate the health impacts of violence, such as safe storage of firearms and background check laws, as well as funding mental health services and violence prevention programs. Additionally, they suggest that [health systems](#) can partner with community-based organizations to provide preventive and responsive support for children and families exposed to neighborhood gun violence, such as proactively reaching out to families of [children](#) known to a health system who live close to a shooting in the days or weeks after that shooting, to offer mental health resources and support.

More information: Aditi Vasani et al, Association of Neighborhood Gun Violence With Mental Health–Related Pediatric Emergency Department Utilization, *JAMA Pediatrics* (2021). [DOI: 10.1001/jamapediatrics.2021.3512](#)

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