

Mathews Perez

ENGL 21003

Professor LeBigre

Literature Review

Gun Violence as a Public Health Crisis: An Interdisciplinary Literature Review

Introduction

The impact of gun violence is widespread throughout the United States, it penetrates not only individuals who are victims but also families and communities and influences society. While long viewed as a criminal justice issue, gun violence has become increasingly understood as a public health crisis by virtue of its impacts on physical and mental health, social cohesion, and community health¹. From a public health view people focus on the population level interventions, behavior prevention, and data driven method such as those used in managing epidemic or chronic disease². Scholars view public health, sociology and policy research as embracing not only all firearm-related harm but also the most effective approaches to mitigate it.

The necessity of this cross discipline is highlighted and reinforced when analyzing inequities in the exposure to gun violence and their consequences. For instance, Reinhold and Smith have shown that there is a significantly increased risk of suicidal ideation and mental health stress among Black adults who experience firearm violence⁹. Similarly, collective

efficacy factors and norms are also highlighted in community-based studies^{4,5}. Collectively, these findings indicate that comprehending gun violence may entail integrating perspectives from public health epidemiology, sociology and policy studies.

This review of the literature takes a cross-disciplinary approach to gun violence, recognizing sources from public health, sociology and policy-oriented research. It asks the question: How can public health and sociological perspectives enhance our understanding of gun violence's role in community life? The article reviews methods, patterns and gaps in the literature and comments on the benefits of integrating complementary disciplinary strategies to shape prevention strategies and policy interventions.

Background and Context

Gun violence in the U.S., is an issue with historical and social dimensions based on laws and cultural views toward weapons, and based on disparities in wealth and income. Firearms are among the most common causes of death and injury in this country; tens of thousands die annually due to homicide, suicide or accidents involving weapons². Therefore, the huge availability of weapons combined with misunderstood laws of regulation has increased public health. According to Hemenway the increasing number of guns available combined with the lack of good regulations creates higher rates of injury and suicide, especially in vulnerable populations³. This highlights the need for a population-level intervention strategy, since interventions at the civil level may be insufficient to address structural risk factors and appear less effective.

The rate of gun violence in the United States has changed over time due to a range of political and economic factors. Research shows that the increase in gun homicide relates to poverty, poor urban environments, and times of social upset, which shows how structural inequalities contribute to individuals being exposed to violence⁵. These findings can be compared to the trends of other developed nations, and it is found that the U.S. has a significantly higher rate of firearm homicides due to easy access to firearms and weak regulation in this area³. Historical and comparative studies between the U.S. and other high-income nations show the uniqueness of the public health issue that is gun violence in the United States.

Gun violence in a public health context uses epidemiological approaches to discover how injuries are distributed, which risk factors exist, and where there may be opportunities for interventions. Similarities have been found by Mozaffarian et al., between efforts to reduce injury from firearms and other successful public health initiatives (e.g., road traffic safety)¹. Each of these areas also share an emphasis on reducing the population's exposure to the hazard, making communities safer and setting up a policy based on the best available scientific evidence. Research has shown that effective prevention strategies can include limiting access to dangerous weapons, enforcing safe weapon storage practices, and providing community education programs. It is also important to target at risk populations (i.e., children who are exposed to weapon violence; people living in high crime areas) to achieve maximum prevention benefits.

Social determinants are an important addition to this framework as they can be understood from sociological viewpoints. Neighborhood level factors, such as social cohesion, opportunities for individuals economically and collective efficacy of a neighborhood, all affect

the risk for gun violence. Research by Cunningham, Walton and Carter has shown that adolescents who live in neighborhoods with high levels of collective efficacy have lower rates of being exposed to firearm homicide, which shows that social networks and community involvement act as a protective factor for these youth⁴. Anderson and Flores also show how long-term exposure to gun violence in low-income communities generates increased stress and fear; however, it also reduces social trust among residents of those communities, and further illustrates the interdependent relationship between crime, mental health, and community stability⁵. Collectively, this research shows that gun violence cannot solely be attributed to either individual behaviors or criminal activities but is a result of the interactions of a few structural and environmental conditions.

Methodology Analysis

The study of gun violence employs a variety of research methods, each with its own set of pros and cons. Quantitative research is most used to study gun violence; especially within the field of public health, as researchers use epidemiology to review trends in the frequency of injuries, deaths, and exposures related to guns. Crifasi has reviewed and assessed many datasets (including the Gun Violence Archive) and official law enforcement reports to find their positive and negative aspects⁶. The Gun Violence Archive holds detailed incident level information for the U.S.; however, it also has several challenges that limit its consistency and validity such as inconsistent reporting, lack of geographic extensiveness of incidents in rural areas, and underreporting of incidents. In addition to those challenges, these same issues can also have

consequences about the overview of results based on this dataset and further emphasize the need to use data from a variety of sources to determine results.

Hoffman and Li demonstrate how linking probabilistic records can improve data quality by combining datasets from different sources, such as law enforcement reports and stories from the public/witnesses⁷. This method allows researchers to cross-validate incidents, reduce repetition, and identify trends that might have been missed. These approaches illustrate the collaboration between data science, public health, and police reports, where advanced statistical methods enhance the strength of public health research. However, even some of these advanced methods cannot fully address underreporting due to biases in law enforcement or non-fatal injuries not stated in official records.

Qualitative methodologies, such as examining reviews and data research, match the approaches by capturing lived experiences and social context. Anderson and Flores engage in a qualitative scoping review to explore the experiences of residents in low-income neighborhoods affected by gun violence⁵. This methodology shows how repeated exposure to violence shapes people's perceptions of safety, their trust in authorities, and mental health outcomes. Similarly, Powell and Martinez use content analysis to examine how local news spread the news of firearm violence, revealing that media representation can influence both the public view and the police⁸. Integrating qualitative and quantitative methods allows for a more rounded understanding of gun violence, capturing both measurable outcomes and social dynamics that may not be shown in statistical data alone. Other methodological factors include the limitations of cross-sectional studies, which can't establish any type of connection, and the ability of measuring long-term

mental health impacts of gun violence exposure. Some studies are advised to track both direct and indirect consequences over time, although these designs require extensive resources and participant recalling strategies. Combining mixed-methods research with long-term targets represents the most comprehensive approach for understanding firearm violence in its social and health context.

Synthesis of Findings

Public Health Outcomes

Exposure to gun violence has a strong impact on people's physical and mental well-being. Research by Reinhold and Smiths illustrates that black adults who have experienced firearm violence often report higher rates of suicidal thoughts and depressive symptoms⁹. Furthermore, Hemingway emphasizes that communities with easier access to firearms and less restrictive gun control policies tend to see an increase in injuries, suicides and lasting psychological harm³. Data from emergency departments revealed that nonfatal firearm injuries are a major source of long-term health issues usually leading to chronic pain disability or ongoing emotional trauma¹. To add on, gun violence affects heavily communities that are already struggling. Factors like poverty, unstable housing, and systematic racism contribute significantly to both exposure to this violence and its enduring consequence. To address inequalities in health outcomes, public health interventions must tackle these structural issues alongside individual risk factors.

Social Determinants and Community Factors

Studies show that the community where a person lives significantly impacts their experiences and future. For instance, research indicates that neighborhoods with strong social

bonds and mutual support help reduce the effects of gun violence on teenagers. Furthermore, in low-income areas, there is constant exposure to violence. This creates stress, causing people to withdraw from others, and damages trust. Unfortunately, this keeps the cycle of violence going. Some programs designed to encourage community involvement and to offer mentorship have proven effective in reducing these negative impacts. This shows that local help can eventually support broader public health strategies.

Policy and Legislative Implications

Government laws are very important in using a public health approach to stop firearm violence. Studies shows that areas with stricter gun laws, Such as background checks, usually have fewer firearm injuries and deaths. However, these laws only work when people follow them and use their firearm the right way. Research suggests that merging these public health laws with community education about firearms leads to a lower statistic in gun violence. This proves that people need many different methodologies to make a change.

Media Influence

Powell and Martinez show that the presentation of gun violence in local news heavily effects the public's view and their emotions on gun violence⁸. Covering stories caused by a firearm can lead to the public having distorted view of the situation, while let's see statisticians can you use this to add structural interventions. This shows the value of self-research can provide an insight That can help data, showing how these stories can shape a response from the community.

Patterns, Agreements, and Gaps

There is a consistent pattern that emerges: gun violence is a health and social problem that is influenced by the environment, by policy and the other factors that our community level. Quantitative studies see the connection between firearms and injury rates, while qualitative studies go more in depth by sharing lived experiences of those that are affected. However, there were still some gaps. Limitations in data, which include under reporting and inconsistency, impede longitudinal analysis⁶. There are a few studies that fully cover mental health outcomes, the dynamics of the community, and policy frameworks. These studies can also help with future researchers by letting them fill in the gaps.

Interdisciplinary Reflections

Combining public health, sociology, and Policy Research can provide a better understanding of gun violence. Public health studies quantify risk can guide interventions¹, while sociological research goes more in depth with social networks, lived experiences, and its neighborhoods⁵. Policy researchers connect these insights, which later help them create laws that can make a neighborhood feel safer. Together, these three approaches show patterns of inequality and reveal gaps that can be filled in by future studies. This interdisciplinary approach also Points out the need of statistical and content analysis, and qualitative studies that complement one another to provide a better understanding of their results.

Conclusion and Future Directions

Gun violence is a public health emergency that spreads through relationships between residents, state laws, and beliefs. Whenever someone shoots a gun, the damage goes beyond the victim.

Children have nightmares, neighbors begin to fear, and residents no longer trust others. People who carry guns and people who are shot later can experience anxiety, depression, or may move to a different city or country. Sociologists also state that violence mostly happens in areas where schools aren't well funded, where unemployment is at an all-time high, and policing is there but it's ineffective period. New ways of joining separate data sets - like linking ambulance reports with school attendance- let researchers test ideas with more accurate statistics as well as with stories told by local people.

Something that still needs improvement is keeping psychologists, statisticians, and residents on the same page. Some records must be wiped clean so that a person after an injury caused by gun violence can be tracked in the future. There should also not only be role models in neighborhood it's, like a therapist or a law enforcement officer. There should also be some type of models in the neighborhoods such as parks, schools, etcetera. Whenever a new law is presented, it should be checked whether it affects the neighborhood in a good or bad way. If it is stated correctly, it can lower ambulance runs and boost residents' trust between each other. Some projects must also measure the very close gaps to those who live near guns, those that go to therapy and those that have past trauma. If the law, science, and the public can communicate and be on the same page, they can eventually cut down the number of deaths caused by gun violence and boost everybody's trust in the neighborhood.

References

1. Mozaffarian, D., David Hemenway, and David S. Ludwig. "Curbing Gun Violence: Lessons from Public Health Successes." *JAMA*, vol. 309, no. 6, 2013, pp. 551–552.
<https://jamanetwork.com/journals/jama/fullarticle/1556167>.
Used to frame gun violence as a public health issue and compare it to other public health interventions.
2. Harvard School of Public Health. "Public Health Approach to Firearms Research." *Harvard T.H. Chan School of Public Health*, n.d. Accessed 24 Dec. 2025.
<https://hsph.harvard.edu/research/injury-control/firearms-research/public-health-approach>.
Provides data on firearm injuries and emphasizes population-level prevention strategies.
3. Hemenway, David. "The Impact of Firearm Ownership, Violence, and Policies on Mental Health: A Systematic Scoping Review." *PubMed*, 2022.
<https://pubmed.ncbi.nlm.nih.gov/40938688>.
Highlights correlations between firearm access, policies, and both physical and mental health outcomes.
4. Cunningham, R. M., M. A. Walton, and P. M. Carter. "Neighborhood Collective Efficacy and Environmental Exposure to Firearm Homicide among Adolescents." *Injury Epidemiology*, vol. 10, 2023, 45.
<https://injepijournal.biomedcentral.com/articles/10.1186/s40621-023-00435-8>.
Used to demonstrate how social cohesion and neighborhood collective efficacy reduce adolescent exposure to gun violence.
5. Anderson, T., and M. Flores. "A Qualitative Scoping Review of Community Firearm Violence in Low-Income Settings." *Journal of Community Health*, 2024.
<https://link.springer.com/article/10.1007/s10900-024-01419-5>.
Provides qualitative insight into lived experiences of residents in high-violence communities, including mental health outcomes.
6. Crifasi, C. K., et al. "Assessing the Gun Violence Archive and Public Police Data as Comprehensive Sources for Gun Violence." *JAMA Network Open*, vol. 6, 2023, e2829782.
<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2829782>.
Evaluates datasets used for quantitative analysis, discussing strengths, limitations, and reporting gaps.

7. Hoffman, J., and R. Li. "Probabilistic Record Linkage of Two Gun Violence Data Sets." *arXiv preprint arXiv:2503.01054*, 2025. <https://arxiv.org/abs/2503.01054>.
Explains advanced data linkage techniques to improve reliability and reduce duplication in firearm incident datasets.
8. Powell, L., and S. Martinez. "Public Health Framing of Firearm Violence on Local Television News in Philadelphia, PA, USA." *BMC Public Health*, vol. 24, 2024, 18718. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-18718-0>.
Used to show how media framing affects public perception and policy priorities around firearm violence.
9. Reinhold, J. A., and E. Smith. "Gun Violence Exposure and Suicide among Black Adults." *JAMA Network Open*, vol. 7, no. 2, 2024, e2814568. <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2814568>.
Highlights racial disparities in firearm exposure and its impact on mental health outcomes, including suicidal ideation.