

Dr. David Chen's research focuses on firearm violence prevention and intervention, and the impact of community violence exposures on health. His research emphasizes both physical injuries and trauma, mental health consequences, and other social implications of firearm violence in affected communities.

The Challenge

Firearm violence is a major public health problem in the United States, injuring more than **68,000 individuals** and killing over **20,000 individuals** annually. Firearm homicides are the leading cause of death for persons 1-19 years of age. In addition, males are more likely to be victims of firearm homicides than females. In 2022, the firearm homicide rate was **24 times higher** among Black males ages 15-34 compared to same age white males.

The Approach

Chen's research focuses on establishing reliable firearm violence estimates; developing and testing innovative interventions; engaging community members in all research phases to improve contextual understanding and practical application; and modeling community violence exposure and its effects on factors such as:

- mental and physical health,
- structural violence,
- employment and educational opportunities, and
- health-related quality of life in Wilmington, DE.

The Impact

Chen's research has resulted in clinical, community, economic, and policy benefits through:

- **Hospital-based firearm violence intervention** programs that focus on individuals at the highest risk of victimization, incorporate intensive wraparound-style social service programming and case management and improve screening and referrals.
- **Community-based violence prevention and intervention** through building awareness of risk factors associated with firearm violence, training physicians on firearm prevention and intervention strategies, and training Community Health Workers on firearm trauma exposure.
- **Healthcare Data Analysis** advancements for epidemiologic detection of violent injury and healthcare utilization.

The investigator:

Dr. Chen is a hospitalist at Christiana Care (CC) and a physician scientist with the CC's Institute for Research on Equity and Community Health. He holds a bachelor's degree in electrical engineering from Princeton University and an MD and MPH from Rutgers Robert Wood Johnson Medical School in New Jersey; he completed his combined internal medicine-pediatrics residency program at Christiana Care, Jefferson Medical College, and Nemours/Alfred I. duPont Hospital for Children.

Find out more:

<https://explore.de-ctr.org/profiles/david-d-chen-md-mph>

RESEARCH HIGHLIGHTS

Chen's Firearm Violence research has resulted in:

- Increased awareness among policymakers and community members of the critical need to address firearm violence.
- A greater number of Delawareans referred to and participating in hospital and community-based firearm violence interventions.
- More trained street participatory action research (PAR) associates conducting community-based research across the State of Delaware.

Key Benefits



CLINICAL

Launched Empowering Victims of Lived Violence (EVOLV), a hospital-based violence prevention program.



CLINICAL

Improved methods for screening the impact of violence on health and increased access to treatment



COMMUNITY

Developed inter-institutional and organizational partnerships for referrals and care of victims of violence.



ECONOMIC

Reduced economic and social costs of acute or chronic disease associated with delay of health care.



POLICY

Influenced congressional allocation of funds towards violence prevention and interventions in the City of Wilmington.

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