



National Institute of Justice

Research Preview

Jeremy Travis, Director

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Understanding and Preventing Violence: A Public Health Perspective

Summary of a Presentation by Arthur L. Kellermann, M.D., M.P.H., Emory University

Misuse of firearms and its related violence have been the source of new challenges to the criminal justice and medical professions. Criminal justice responses to gun-related violence involve deterrence, incapacitation, and rehabilitation of perpetrators, while medicine focuses on providing emergency and trauma care as well as physical rehabilitation to injured victims. A third approach—the public health model—stresses prevention and addresses both potential victims and offenders. The three perspectives have obvious overlapping interests and expertise to share.

As part of the effort to reduce firearm violence, research projects at Emory University's Center for Injury Control feature an explicit partnership between public health and local law enforcement. Some key findings of this effort indicate:

- Firearms in the home are associated with an increased risk of suicide or homicide among family members residing there.
- Guns kept in the home do not offer substantial protection against homicide at the hands of an intruder.
- The number of individuals who are injured and require medical treatment for gunshot wounds is three to eight times the number who are killed by guns.
- Existing gunshot injury reporting systems do not link emergency department records with police reports to support criminal investigations.
- Health care providers often fail to report patients with gunshot wounds to the authorities, even in jurisdictions with mandatory reporting.
- Policy relevant research on gun-violence reduction efforts, especially in terms of youth violence, is vital to finding which aspects of such comprehensive programs as Atlanta's Project PACT* are effective.

Guns in the home: protection or peril?

Approximately half of all homes in America contain one or more firearms. Although many gun owners keep a gun in their home at least in part for self-protection, studies conducted over the past decade suggest that the risks of keeping a gun in the home outweigh the potential benefits. For example, two large population-based case control studies have found that keeping a gun is associated with an increased risk of violent death in the home.

The studies identified suicides and homicides that occurred in the home of the victim, regardless of the instrument of death. By interviewing surviving next-of-kin and identifying behavioral characteristics of the family and environmental characteristics of the household, researchers were able to develop profiles of those homes that were the scene of a violent death. Through a process of random selection, investigators then identified a neighboring household that contained an individual of the same age range, gender, and race as the case household. In each of these "control" households, an adult family member was interviewed, and a similar profile of behavioral, personal, and environmental characteristics was compiled.

By comparing the characteristics of households where a violent death occurred to those of neighboring households where a violent death did not occur, risk factors for violent death could be identified. Several behavioral factors (e.g., living alone, depression, alcoholism, illicit drug use, previous arrest history, previous family violence history) were strongly and independently linked to an increased risk of suicide or homicide in the home. However, even after these characteristics were taken into account, and case and control households were matched for age, sex, race, and neighborhood, researchers found

that homes with guns were almost five times more likely to be the scene of a suicide and almost three times more likely to be the scene of a homicide than comparable homes without firearms.

No evidence was found to indicate that keeping a gun in the home offered substantial protection from homicide, even in the subset of cases where someone forcibly entered the home. In those cases, the presence of a gun neither increased nor decreased the risk of violent death. Instead, researchers found that homes with guns were much more likely to be the scene of a homicide involving a spouse, a family member, or an intimate acquaintance.

Survey data gathered by the Bureau of Justice Statistics between 1987 and 1992 estimated that guns are used in self-defense each year approximately 82,000 times. But this figure compares to the annual toll of more than 1.5 million instances of criminal violence involving firearms. Guns probably are used infrequently in self-defense because the criminals often rely on stealth, surprise, or sudden force to achieve their goal. Few victims have sufficient time to secure a weapon.

Tracking nonfatal gun injuries

The computer systems of many medical care facilities and law enforcement agencies do not lend themselves to tracking nonfatal data. Hospital admission data bases do not include information about individuals treated and released, and law enforcement data bases—usually indexed by the type of offense—do not readily indicate whether a weapon was involved.

To fill this gap, researchers at Emory University and other institutions are studying the incidence and impact of gun-related violence in three cities: Memphis, Tennessee; Seattle, Washington; and Galveston, Texas. According to preliminary data, for every firearm homicide in Memphis, another seven patients required medical care; in Galveston, the ratio of nonfatal to fatal cases was nearly 8 to 1, while in Seattle, the ratio was close to 3 to 1. The weapon used in most cases was a handgun. In Memphis, handguns were used in 87 percent of gun-related assaults where the type of weapon was recorded. Handguns account for about one-third of all privately owned firearms in the United States.

Researchers have found they needed both hospital emergency reports and police offense reports, but gathering this information is cumbersome and slow. The Emory University team was surprised to learn that even in States where reporting is legally mandated, health care providers do not always notify police of a gunshot wound, often because they are told by the person seeking medical assistance that the police were already notified.

Whereas a law enforcement officer would view such claims with skepticism, physicians almost always take the patient at his word.

In an effort to create a fail-safe process for notifying authorities, the Georgia Bureau of Investigation has been asked to provide a single, regional, round-the-clock telephone contact number so emergency room personnel can report gun-related injuries and provide physical profiles to appropriate law enforcement officials. Emory University researchers hope to link these reports to police records to build a real-time electronic data base that will allow police and public health officials to quickly discern patterns, “hot spots,” and trends as well as identify wounded fugitives when they contact the health care system.

Educating communities about juvenile gun violence

Local government officials in the five-county greater Atlanta area have recently joined with city and community leaders under Project PACT* to forge a comprehensive community-based approach to gun violence. Designed to break the link between youths and guns, the program will involve young people as well as culturally sensitive and appropriate media messages, school-based education, neighborhood groups, and support from grassroots organizations.

In addition, under a new Georgia State law, juvenile offenders using guns will be referred to and handled by the adult court. The Emory University team is evaluating this effort with support from a consortium of Federal agencies.

*Pulling America’s Communities Together

As part of NIJ’s Research in Progress Seminar Series, Arthur L. Kellermann, M.D., M.P.H., discussed the work summarized in this document with an audience of researchers and criminal justice professionals and practitioners. Dr. Kellermann is director of the Center for Injury Control, School of Public Health, and associate professor in the Division of Emergency Medicine, School of Medicine, Emory University.

A 60-minute VHS videotape, *Understanding and Preventing Violence: A Public Health Perspective*, is available for \$19 (\$24 in Canada and other foreign countries). Please ask for NCJ 152238. Use the order form on the next page to obtain this videotape and any of the other tapes now available in the series.

Points of view in this document do not necessarily reflect the official position of the U.S. Department of Justice.

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NCJ 152235—Alfred Blumstein, Ph.D., Professor of Urban Systems and Operations Research, Carnegie Mellon University: *Youth Violence, Guns, and Illicit Drug Markets*.

NCJ 152236—Peter W. Greenwood, Ph.D., Director, Criminal Justice Research Program, The RAND Corporation: *Three Strikes, You're Out: Benefits and Costs of California's New Mandatory Sentencing Law*.

NCJ 152237—Christian Pfeiffer, Ph.D., Director of the Krimino-logisches Forschungsinstitut Niedersachsen: *Sentencing Policy and Crime Rates in Reunified Germany*.

NCJ 152692—James Inciardi, Ph.D., Director, Drug and Alcohol Center, University of Delaware: *A Corrections-Based Continuum of Effective Drug Abuse Treatment*.

NCJ 153270—Adele Harrell, Ph.D., Director, Program on Law and Behavior, The Urban Institute: *Intervening with High-Risk Youth: Preliminary Findings from the Children-at-Risk Program*.

NCJ 153271—Marvin Wolfgang, Ph.D., Director, Legal Studies and Criminology, University of Pennsylvania: *Crime in a Birth Cohort: A Replication in the People's Republic of China*.

NCJ 153730—Lawrence W. Sherman, Ph.D., Chief Criminologist, Indianapolis Police Department, Professor of Criminology, University of Maryland: *Reducing Gun Violence: Community Policing Against Gun Crime*.

NCJ 153272—Cathy Spatz Widom, Ph.D., Professor, School of Criminal Justice, State University of New York—Albany: *The Cycle of Violence Revisited Six Years Later*.

NCJ 153273—Wesley Skogan, Ph.D., Professor, Political Science and Urban Affairs, Northwestern University: *Community Policing in Chicago: Fact or Fiction?*

NCJ 153850—Scott H. Decker, Ph.D., Professor and Chair, Department of Criminal Justice and Criminology, University of Missouri—St. Louis, and Susan Pennell, Director, Criminal Justice Research Unit, San Diego Association of Governments: *Monitoring the Illegal Firearms Market*.

NCJ 154277—Terrie Moffitt, Ph.D., Professor, Department of Psychology, University of Wisconsin: *Partner Violence Among Young Adults*.

NCJ 156923—Orlando Rodriguez, Ph.D., Director, Hispanic Research Center, Fordham University: *The New Immigrant Hispanic Populations: Implications for Crime and Delinquency in the Next Decade*.

NCJ 156924—Robert Sampson, Ph.D., Professor, Department of Sociology, University of Chicago: *Communities and Crime: A Study in Chicago*.

NCJ 156925—John Monahan, Ph.D., Professor of Psychology and Legal Medicine, University of Virginia School of Law: *Mental Illness and Violent Crime*.

NCJ 157643—Benjamin E. Saunders, Ph.D., and Dean G. Kilpatrick, Ph.D., Medical University of South Carolina: *Prevalence and Consequences of Child Victimization: Preliminary Results from the National Survey of Adolescents*.

NCJ 159739—Joel H. Garner, Ph.D., Research Director, Joint Centers for Justice Studies: *Use of Force By and Against the Police*.



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