



# National Institute of Justice Centers for Disease Control and Prevention

## Research Preview

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# Predicting Criminal Behavior Among Authorized Purchasers of Handguns

*Summary of a Presentation by Garen Wintemute, University of California—Davis*

According to National Crime Victimization Survey data, approximately 1.2 million violent crimes were committed with a firearm in 1995. As one of many efforts to reduce violent crime, the Gun Control Act of 1968 bars specific groups of people from purchasing (or otherwise acquiring) firearms. The proscribed list includes those who have had a prior felony conviction or are under felony indictment, those who are addicted to narcotics, and those who are mentally ill. However, despite these denial criteria, most individuals known to have engaged in prior criminal activity are still able to purchase guns legally. For example, of the approximately 172,000 people who legally purchased a handgun in California in 1977, about 15 percent had a criminal record at the time of purchase.

The Centers for Disease Control and Prevention supported a recent study conducted by the Violence Prevention Research Program at the University of California—Davis that sought to identify better ways to predict the incidence of criminal activity among people who purchase handguns legally. Such information could be useful in further restricting access to guns by people who are at high risk for engaging in criminal activity.

## Study design

Using data from the State of California's automated handgun purchase files, the researchers designed a longitudinal study of people 50 years old and younger who legally purchased a handgun in California in 1977. They accessed the State's criminal history records for the next 15 years (through 1991) to compare the criminal activity of two groups—those who had a criminal

history at the time of the purchase (approximately 6,800 people) and those who did not (approximately 2,800 people). The size of each group was determined by the researchers to maximize statistical power. Most legal handgun purchasers in California have no criminal history at the time of purchase, even though the relative size of the samples suggests otherwise.

The researchers calculated how much more likely members of the group with a criminal history were to commit a crime than were members of the group without a criminal history ("relative risk"). They then identified and compared subgroups to isolate factors that might point to an increased risk of future criminal activity. These measures were controlled for intergroup differences in age, gender, and race or ethnicity.

## Possible risk factors for criminal activity

Within 1 year of their handgun purchase, 13 percent of the criminal history group had been arrested for a new offense, compared with less than 2 percent of the group with no criminal history at the time of the purchase. By 15 years after the handgun purchase, almost 38 percent of the criminal history group had been arrested for a new offense, compared with less than 10 percent of the group with no criminal history. Overall, the adjusted relative risk was 3.7; that is, handgun purchasers with a criminal history at the time of the purchase were 3.7 times more likely to be charged with a subsequent offense than were purchasers with no criminal history.

The researchers examined the data in several ways. Contrary to their expectations, the relative risk of a new

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offense associated with a criminal history did not decrease with age. The relative risk for people under age 30 was 3.5; for those age 30 and over, 4.1. On the other hand, the younger groups committed new offenses at a rate approximately twice that for the older groups. For example, in the first 3 years following handgun purchase, for every 1,000 people under age 30 with one offense prior to the purchase, 65 new offenses were recorded each year; among those 30 and over with one prior offense, only 38 new offenses were recorded each year for every 1,000 people.

Relative risk did not vary significantly by gender. There was, however, some variance among races. When comparing the group with a criminal history and the group with no criminal history, the researchers found that nonblacks had a greater relative risk than blacks. This was in part because blacks with no criminal history had a higher subsequent arrest rate than did nonblacks with no criminal history.

The number of prior offenses seemed to be a significant factor in determining relative risk. For example, the relative risk that those who had been arrested for only one prior offense would be arrested for another offense within 3 years was 3.9; the relative risk in the same time period for individuals with two to four offenses was 6.7; for those with five or more prior offenses, the risk was 10.4. People with a history of multiple violent crime index offenses were at particularly high risk of being charged with new offenses of all types.

The researchers found that people with a history of a particular type of criminal activity (e.g., felonies) were at no greater risk of committing a new offense of that type than were persons with criminal histories involving only other offenses. There was one exception: People with previous firearm offenses were more likely to be charged with a subsequent firearm offense than were those charged only with other types of offenses. Offenders with no history of a violent offense were more likely to commit a violent offense during the first 3 years after handgun purchase than were people with no criminal history, but that difference faded over the 15-year followup period.

## Implications for future research

Although this was a historical study, the findings are relevant to current efforts to reduce gun violence in the United States. The likelihood that a person with a criminal history would commit a subsequent offense was clearly related to the nature of that individual's criminal history, including the frequency of arrests. This principle has been well established in studies of recidivism among other populations. Although existing laws already prohibit certain groups from purchasing guns, further research might lead to an empirically based definition of a high-risk population: people who, by virtue of their criminal records, could be legally denied access to firearms.

This Research Preview is based on a presentation by Garen Wintemute, M.D., M.P.H., a practicing emergency medicine physician and Director of the Violence Prevention Research Program at the University of California–Davis. As part of NIJ's Research in Progress Seminar Series, Dr. Wintemute discussed his CDC-sponsored study (grant #R49/CCR903549) with an audience of researchers and criminal justice professionals and practitioners. A 60-minute VHS videotape, *Predicting Criminal Behavior Among Authorized Purchasers of Handguns*, is available for \$19 (\$24 in Canada and other countries). Please ask for NCJ 165585. 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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This publication is the result of collaboration between the Centers for Disease Control and Prevention and the National Institute of Justice. The effort represents a coming together of health and justice to address the critically important problem of violence. CDC funded the research for this study, and NIJ is disseminating it via this Research Preview and the accompanying video. Both agencies believe this collaboration will lead to greater effectiveness in tackling issues that are a concern from the public health and the public safety perspectives.



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**NCJ 164725**—Ronald Huff, Ph.D., Professor, Ohio State University, *Criminal Behavior of Gang Members*.

**NCJ 164726**—James Austin, Ph.D., Executive Vice-President, National Council on Crime & Delinquency, *Sentencing Guidelines: A State Perspective*.

**NCJ 165585**—Garen Wintemute, M.D., Director, Violence Prevention Research Program, University of California–Davis, *Predicting Criminal Behavior Among Authorized Purchasers of Handguns*.

**NCJ 167027**—Lorraine Green Mazerolle, Ph.D., Director, Center for Criminal Justice Research, University of

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