

Police Strategies for Reducing Illegal Possession and Carrying of Firearms

A Systematic Review Protocol Prepared for the Campbell Collaboration

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September 2003

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Sources of Support: The Jerry Lee Center of Criminology, University of Pennsylvania provided financial support for the preparation of this protocol.

Introduction

Criminal misuse of firearms is among the most serious crime problems faced by a number of countries. In the United States, for example, over 10,000 persons were murdered with firearms in 2000 and another 49,000 were wounded in non-fatal gun assaults (Rennison 2001; Simon et al. 2002). Gun use in crime is of great policy concern because it substantially increases the likelihood that victims will be killed. Violent crimes with guns are about 3 times as deadly as crimes committed with knives and nearly 44 times as deadly as incidents involving no weapons (Alba and Messner 1995, pp. 397-402; also see Cook 1991; Zimring 1968). Hence, gun violence is believed to contribute to particularly high levels of homicide in the United States (e.g., see Hoskins 2001; Zimring and Hawkins 1997), where the total costs of gun violence – including medical, criminal justice, and other government and private costs – are on the order of at least \$6 to \$12 billion per year and, by more controversial estimates, could be as high as \$80 billion per year (Cook and Ludwig 2000).

Gun violence is a problem for other nations as well. During the early 1990s, firearms were used in 80% of homicides in Columbia, which had an overall homicide rate more than nine times higher than that of the United States (Villaveces et al. 2000). Even in nations like Canada, France, Israel, the Netherlands, Norway, and New Zealand – countries not known for having serious gun violence problems – guns are involved in roughly a quarter to a third of homicides (calculated from Fingerhut et al. 1998, p. 18). And gun crime is rising in some places; England and Wales experienced a 50% increase in handgun crime between 1998 and 2001 (Travis 2003).

Strategies for reducing gun violence range from restrictions on the manufacture and sale of firearms to educational efforts that promote safe storage and use of firearms or discourage firearm ownership altogether. This paper presents a protocol for a systematic review of the effectiveness of selected law enforcement strategies for reducing gun violence.

Background: Law Enforcement Strategies for Reducing Gun Violence

In a recent report, the United States Office of Juvenile Justice and Delinquency Prevention (OJJDP 1999) categorized strategies to reduce gun violence in the following manner: strategies to interrupt the illegal supply of guns; strategies to deter illegal gun possession and carrying; strategies to respond to illegal gun use; education initiatives and alternative prevention strategies; and comprehensive gun violence strategies, which involve a wide range of enforcement, prosecutorial, and prevention activities undertaken in the context of collaborative, problem-solving efforts by multiple government agencies and community groups.

Federal, state, and local law enforcement agencies play integral roles in all of these strategic domains. Police respond to gun violence most commonly by arresting people for illegal possession, carrying, or use of firearms, though the scope and rigor of such enforcement varies. Typically, police handle gun crimes reactively, investigating violent gun crimes after the fact and making arrests for illegal possession or carrying if they encounter such violations in the course of other routine patrol or investigative activity.

However, police may undertake various proactive strategies to reduce gun crime. Law enforcement may attempt to disrupt the illegal supply of firearms by investigating illicit gun trafficking, gun theft, and suspicious activities by retail gun dealers. Strategies to reduce illegal possession and carrying of firearms include the use of directed patrols to detect persons carrying guns in high crime areas¹ and surveillance of probationers and parolees suspected of having guns. Police agencies are typically the focal point of comprehensive gun violence reduction strategies, and police may work closely with schools and other community groups to implement purely educational/preventive activities. An example of the latter is the Eddie Eagle Elementary Gun Safety Educational Program, a curriculum designed by the National Rifle Association (a gun rights advocacy organization in the United States) and used by law enforcement agencies throughout the United States, Canada, and Puerto Rico to teach gun safety to young children (OJJDP 1999, p. 178).

These various police strategies represent very different interventions, and it thus seems inappropriate to group them together in one systematic review. Further, there is little if any empirical evidence on the effectiveness of several of these strategies.² Accordingly, this investigator proposes to assess strategies to reduce illegal gun

¹ As noted by McGarrell et al. (2002, p. 120), “directed patrol involves assigning officers to a particular area and freeing them from responding to calls for service so they can engage in proactive investigation and enforcement of suspicious activities.”

² Based on his own collections of policing and firearms studies and searches of literature in Criminal Justice Abstracts and the National Criminal Justice Reference Service, the author is unaware of any empirical studies examining the impact of police efforts to reduce the illegal supply of firearms through gun trafficking investigations (including investigation of gun theft and retail gun dealers). Comprehensive community gun violence reduction strategies have generated much interest in recent years, but there has been only one published evaluation of such an effort (Braga et al. 2001).

possession and carrying in this review, and to examine other police gun violence reduction strategies in subsequent updates to this review.³

Deterring Illegal Possession and Carrying of Guns

Tactics used by police to detect and deter illegal possession and carrying of guns include activities such as directed patrols in high crime areas, surveillance of probationers and parolees, weapon reporting hotlines, consent searches at the homes of youths suspected of having guns illegally, and roadblock checkpoints. In recent years, there has been particular interest in the use of directed patrol to suppress illegal gun carrying. Gun carrying is a necessary element for the commission of gun crimes in public locations, and, indeed, many gun offenders carry guns on a regular basis for protection and to be prepared for criminal opportunities (Sheley and Wright 1993; Wright and Rossi 1986).

A number of published studies have examined the effectiveness of directed patrol in reducing gun crime in cities in the United States (Kansas City, Missouri; Indianapolis; Pittsburgh) and Columbia (Cali and Bogota) (Cohen 2002; McGarrell et al. 2001; Sherman et al. 1995; Villaveces et al. 2000).⁴ In these interventions, officers sought to detect and deter illegal gun carrying by increasing patrol levels and initiating greater numbers of traffic stops (in some cases, using roadblocks) and field interrogations, often focusing on particular patrol areas with high levels of gun violence (and sometimes on

³ Another argument for beginning with a systematic review of strategies to deter illegal gun possession and carrying is that, relative to other gun violence strategies, local police are arguably more familiar with these strategies and better equipped to implement them, often without the assistance of other government or non-government organizations.

⁴ Some of these studies have been described in multiple publications. For example, discussions of all or selected aspects of the Kansas City study are available in Sherman et al. (1995), Sherman and Rogan (1995), Shaw (1994, 1995), and perhaps other publications or reports of which the investigator is currently unaware. The investigator will seek out and review all publications relevant to each study. Note that an updated version of Cohen's (2002) Pittsburgh study, coauthored with Jens Ludwig, is available in Cook and Ludwig (2003).

particular high-risk persons in those places). In some cases, officers received special training in the detection of gun carrying.

For the most part, the studies have shown favorable results, indicating that focused patrol efforts can reduce gun crime. In Kansas City, for example, police initiated special nighttime gun patrols in a high-crime patrol beat for approximately six months in the latter part of 1992 (Sherman et al. 1995). The officers conducting these patrols were freed from answering calls for service and focused on proactive gun detection. Gun seizures in the target area rose 65% while total gun crime fell by nearly 50%. In contrast, there were no statistically meaningful changes in gun seizures or gun crime in a non-contiguous control beat that had levels of gun violence similar to those of the treatment beat prior to the intervention. There were no statistically meaningful changes in gun crime in patrol beats adjacent to the target beat, suggesting no clear displacement of gun crime or diffusion of benefits to other areas. After a 5-month pause, the special patrols were reinitiated, resulting in another drop in gun crime in the target area. Finally, survey evidence suggested that the program also had favorable impacts on residents' perceptions of neighborhood conditions in the target area.

However, there are ambiguities regarding the mechanism(s) by which directed patrols reduced gun crime in Kansas City, as well as in the other study locations. For example, did officers reduce gun crime by disarming and/or incapacitating key gun offenders in the area, or did heightened police visibility and aggressiveness deter would-be offenders from carrying guns more generally?

The studies in Kansas City, Indianapolis (McGarrell et al. 2001), and Pittsburgh (Cohen 2002) each included two trials via repeated interventions or interventions in

multiple locations (i.e., patrol zones). Combining these tests with those in Cali and Bogota (Villaveces et al. 2000) thus provides eight known tests of the effects of directed patrol on gun crime. One purpose of the systematic review will be to determine if there have been additional trials, particularly unpublished ones that may have shown null or adverse results. Yet even if the review uncovers no additional studies, the accumulation of evidence from the existing studies will allow for more refined assessments of the effects of these gun suppression efforts. For instance, what is the average treatment effect across studies, and how much have the effects varied across studies? Can the size of treatment effects be related to measures of implementation and effort, such as man-hours of patrol, traffic stops, field interrogations, arrests, or gun seizures? Moreover, did outcomes vary based on differences in strategy, such as whether officers sought to maximize all citizen contacts in an area (e.g., using roadblocks or a crackdown-style approach) or made contacts more selectively? Additional issues of interest include possible crime displacement and the effects of these interventions on citizens' perceptions of their neighborhoods and police.

Objectives

The objective of this review is to assess the effectiveness of police strategies to suppress gun violence by reducing illegal possession and/or carrying of firearms. In particular, the review will focus on efforts to enhance the detection and deterrence of illegal possession and/or carrying of firearms (i.e., interventions to increase the certainty of punishment for these offenses). The review seeks to quantify the impact of these

interventions on gun crime generally and determine what types of interventions are most effective.

Methodology

Criteria for Inclusion of Studies

Types of Interventions: The review will examine police interventions to reduce the illegal possession and/or carrying of firearms. Such interventions might include directed or saturation patrols, roadblock checkpoints, enhanced monitoring of probationers, parolees, and other suspected gun offenders, use of new gun (and gunshot) detection technologies (such as portable, magnetic gun detection devices),⁵ weapon reporting hotlines, searches of school lockers, and, more generally, zero tolerance/crackdown initiatives. The interventions must represent departures from normal practice (e.g., instituting new gun detection patrols), and there must be evidence to substantiate the interventions.

In order to isolate the effects of such tactics, the review will not include studies in which these interventions were combined with diverse types of interventions occurring during the same places and times, as might occur, for example, in the context of comprehensive community interventions such as Boston's Operation Ceasefire (Braga et al. 2001). Further, because the review will emphasize police action, it will not include legislative, prosecutorial, or judicial initiatives to enhance penalties for gun possession or carrying (i.e., efforts to increase the severity of punishment for these offenses), absent a

⁵ A related intervention is the institution of metal detectors in places like airports, schools, and government buildings. Although the use of metal detectors is intended to discourage weapon carrying, it is arguably a form of target-hardening with limited applicability to general police work, particularly the reduction of street crime. Consequently, the review will not include studies of fixed metal detectors.

clear effort by police to intensify enforcement. For this reason, the review will not include evaluations of Project Exile (a federally-driven, prosecutorial intervention to enhance penalties for gun violators in Richmond, Virginia), the Bartley-Fox gun carrying law that raised penalties for illegal gun carrying in Massachusetts in the mid-1970s (Deutsch and Alt 1977; Pierce and Bowers 1981), gun courts (e.g., see Gendreau and Surridge 1978), or studies of other similar efforts. Finally, the review will not include gun buy-back studies. Although these programs are intended to encourage illegal gun possessors to relinquish their firearms, they may also be viewed as supply-side efforts to reduce the availability of guns in high-risk areas. Further, gun buy-back programs have been subjected to a number of evaluations and judged to be ineffective (see review in Sherman et al. 1997).

Study Design: The review will include only studies having experimental or quasi-experimental designs (Campbell and Stanley 1963). The studies must include pre and post-intervention measurements of the outcome measure(s) for a treatment area(s) or group(s) and at least one comparison area or group without the intervention.⁶ Studies not utilizing random assignment should have comparison areas/groups of the same type (e.g., patrol zones, neighborhoods, etc.) matched to the treatment areas/groups on relevant characteristics, including pre-intervention crime rates at a minimum, or include statistical controls to account for crime-related differences in the areas/groups. To illustrate, a study comparing crime trends in a high-crime, treatment area in a city to crime trends throughout the rest of the city without statistical controls for crime-related differences

⁶ The treatment and comparison conditions may also consist of samples of occasions during which the intervention was present or not present, as in the equivalent time-samples design (Campbell and Stanley 1963, pp. 43-46).

between the areas would not be included in the review.⁷ In addition, correlational studies examining the association between gun or weapon arrests and gun crime across areas will not be included, absent a documented intervention in the treatment area(s).⁸

Outcome Measures: Studies must have at least one outcome measure that is specific to gun crime. Examples include gun homicide, shootings, gun robberies, and gun assaults. Arrests for illegal possession and carrying of guns will not be analyzed as outcomes because they are also indicative of intervention measures. However, measures of illegal gun possession or carrying obtained from sources other than arrest data (e.g., offender surveys) will be treated as outcome measures.⁹ Additional information about outcome data to be extracted from each study is provided below.

Search Strategy

Searches for relevant studies will be conducted using 16 electronic databases. These databases, which are briefly described below, cover published and unpublished social science and public policy literature from the United States and other nations. The first ten databases are commonly used in criminological research and/or are available through the Campbell Collaboration website. The remaining six databases are other potentially relevant sources accessible through the University of Pennsylvania's library system.

⁷ In this context, statistical controls could include multivariate regressions controlling for factors related to crime (e.g., demographic and other socioeconomic characteristics of the areas) or other statistical methods adjusting for different crime levels and trends in the experimental and control areas (e.g., the differences in differences in differences, or DDD, method).

⁸ Studies with weaker designs will be catalogued and noted but not discussed in any detail.

⁹ Studies that examine "weapons" or "armed" offenses without separate consideration of gun offenses will be incorporated into the review but will be examined separately, since it is conceivable that a police intervention could reduce non-gun weapon offenses without reducing gun offenses.

(1) Criminal Justice Abstracts: abstracts of an international collection of journal articles, books, government and other organizational reports, dissertations, and other unpublished reports for the period 1968-present.

(2) National Criminal Justice Reference Service Abstracts Database: abstracts of an international collection of journal articles, government reports, and other research reports on crime and criminal justice systems, dating back to at least the late 1960s.

(3) Sociological Abstracts: citations and abstracts for an international selection of serials, books, conference proceedings, and dissertations beginning in 1963 (abstracts are available only for journal articles published after 1974).

(4) Medline: abstracts and citations to an international collection of medical literature including violence and injury prevention studies, searchable electronically from at least the 1960s onward.

(5) Dissertation Abstracts: abstracts of doctoral dissertations written at North American and selected European universities from 1980 through the present.

(6) U.S. Government Printing Office, Monthly Catalog (GPO Monthly): citations to United States government documents from 1976 through the present.

(7) Legal Resource Index: searchable legal journal articles for the period 1980 onward.

(8) Educational Resources Information Clearinghouse: abstracts of education-related documents and journal articles dating back to the 1960s.

(9) C2-SPECTRE (Social, Psychological, Educational, and Criminological Trials Register): citations to over 10,000 randomized or possibly randomized studies in the social sciences (produced by the Campbell Collaboration).¹⁰

(10) United States Department of Housing and Urban Development (HUD) bibliographic database: abstracts of articles, books, research reports, and other materials on housing policy, urban planning, and other related areas (available on the Campbell Collaboration website).

(11) International Bibliography of the Social Sciences: bibliographic citations for an international collection of journals and books dating back to 1951.

(12) Current Index of Urban Documents: indexing and full text of publications on public administration and policy by government and other organizations from approximately 500 cities and counties in the United States and Canada, spanning the late 1990s onward.

¹⁰ The search will also include the *Registry of Randomized Experiments in Criminal Sanctions, 1950-1983* developed by Weisburd et al. (1990) if it is not already incorporated in the C2-SPECTRE database.

(13) Bibliography of Nordic Criminology: citations to published articles and books as well as government reports and other unpublished research reports from Sweden, Denmark, Finland, Norway, Greenland, and Iceland, covering the period 1945 through the present for Denmark and 1999 through the present for the other nations.

(14) Policyfile: abstracts of recent domestic and foreign documents from public policy think tanks and universities.

(15) Public Affairs Information Service (PAIS) International: abstracts of journal articles, books, government reports, conference proceedings, and other reports in six languages (English, Spanish, French, German, Italian, and Portuguese).

(16) Tranweb (Transportation articles file): bibliography of magazine articles, conference papers, and other materials on transportation and law enforcement dating back to at least the early 1980s.

In addition, searches will be conducted on the websites of a number of prominent police and criminal justice organizations: the Police Executive Research Forum, the International Association of Chiefs of Police, the United States Office of Community Oriented Policing Services (sponsors of the Youth Firearms Violence Initiative in the United States), and the Justice Research and Statistics Association, which maintains a database of reports by crime and justice statistical analysis centers (SACS) operated (or funded) by state governments throughout the United States.

The literature searches will be based on the following search parameters: the source must include the terms “police,” “policing,” or “law enforcement” and the terms “gun(s),” “firearm(s),” “weapon(s),” or “armed.” If available, a research assistant (to be named) will conduct the electronic searches, identify and retrieve studies that tested the impact(s) of a police intervention(s) on gun offenses, and classify the interventions and study designs. The principal investigator will determine which studies should be incorporated into the review based on the interventions and study designs.

Systematic or traditional literature reviews concerning policing and/or gun control will also be examined to identify potentially relevant studies. These include the Sherman et al. (1997) “What Works” report prepared for the Congress of the United States, policing reviews by Sherman (1990; 1992) Eck and Maguire (2000), and Braga (2001), and gun control reviews by Kleck (1991; 1997), Cook and Moore (1995), Jacobs (2002), Wright et al. (1983), the United States Office of Juvenile Justice and Delinquency Prevention (1999), Ludwig and Cook (2003), Harcourt (2003), and Reiss and Roth (1993). If available, forthcoming National Research Council (United States) reports on policing and gun violence will also be utilized. Finally, the investigator will consult leading police and firearms researchers to identify any remaining unpublished studies applicable to the review.

Assessment of Methodological Quality

As noted above, the review will include only studies having experimental or quasi-experimental designs with pre and post-intervention measurements for units with and without treatment. To facilitate synthesis of the literature, studies included in the review will be assessed on various criteria reflecting internal, construct, statistical, descriptive, and external validity (Farrington 2003). Examples of issues relevant to these criteria include the following.

Was the intervention randomly assigned to the treatment area/group? If not, how did the researchers select the comparison area/group and what methods did they use to account for differences in the areas/groups?

What sorts of implementation measures were collected for comparisons between the treatment and control conditions (e.g., patrol time, traffic stops and field interrogations, gun seizures)? Were there any indications of problems with the

integrity of the intervention (e.g., evidence of treatment being delivered to a control area or treatment decay)?

What sorts of gun and non-gun crime data were collected (i.e., what crimes were measured and were they measured through official data, self-reports, or victimization surveys), and what are the strengths and weaknesses of those measures? Does the study have direct measures of changes in gun possession and/or carrying?

Were there tests for crime displacement or diffusion of benefits?

If there were no statistically significant intervention effects, was there any consideration of whether the analysis had adequate statistical power?

Data Management and Extraction

From each study, the investigator will extract data pertaining to the research design, subject characteristics, intervention(s), and outcome measure(s). Extracted data will include the items listed below.

Research Design: type of study design (e.g., randomized experiment, quasi-experiment with non-equivalent control group); unit of observation and sample size; analytical techniques (e.g., t-tests, ARIMA interrupted time series analysis, negative binomial regression); measurement of control variables; tests for displacement; pre and post-intervention measurement periods; year of study.

Characteristics of subjects and settings: characteristics of treatment and control areas/subjects, including type of area/subject (e.g., crime hot spots, neighborhoods, cities, gun offenders) and socioeconomic characteristics (e.g., race and income levels of target and comparison neighborhoods); laws pertaining to gun possession and carrying in the study jurisdiction(s).

Intervention Data: type of intervention; temporal setting (i.e., year, months, day of week, time of day) and length of intervention; measures of implementation dosage (e.g., man-hours of patrol, traffic stops, field interrogations, arrests, gun seizures) and cost.

Outcome Data: numbers and rates of all measured gun and non-gun crimes for the treatment and control areas/subjects during the pre and post-intervention periods; absolute and percentage changes in gun and non-gun crimes from the pre to post-intervention periods under treatment and control conditions; other community or organizational outcomes, such as citizen complaints against police or trends in citizens' satisfaction with police.

Statistical Analysis / Data Synthesis

The investigator will summarize the results of each study, discussing relevant features of the intervention and research design and presenting effect sizes, 95% confidence intervals, and any assessments of crime displacement or diffusion of benefits. Furthermore, the investigator will use meta-analytic techniques to combine data from different studies where appropriate – such as when studies have common units of analysis – to estimate average impact sizes and confidence intervals across studies (e.g., see Cooper and Hedges 1994; Wilson 2001).^{11 12} For studies having multiple gun crime

¹¹ The well-known studies in this area (i.e., the directed patrol studies discussed earlier) have mostly involved interventions focused on patrol areas, though one study (Villaveces et al. 2000) examined city-wide interventions (for examples of meta analyses in area-level criminological research, see Farrington and Welsh 2002; McDowall et al. 1992). It is possible that other relevant studies will have different units of analysis, such as schools or even individuals.

outcome measures and/or repeated trials, the investigator will compute one average effect size per study prior to meta-analysis.¹³

The analysis will also relate outcomes to various characteristics of the studies and interventions such as those listed above (under Data Management and Extraction). One aim is to determine if effect sizes vary across different groups of studies, categorized according to factors like study quality, unit of analysis, and type of intervention. In similar fashion, the investigator will assess how effect sizes vary with implementation measures such as man-hours of patrol, field interrogations, and gun seizures. Such analyses can potentially reveal what types of activities are most closely associated with gun crime reduction, the elasticity of gun crime with respect to these activities, the cost effectiveness of the interventions, and whether these activities have optimal effort levels, or points of diminishing returns, beyond which increased effort has less impact.

The primary analyses discussed above will focus on main effects, i.e., differences in outcomes for the treatment and control conditions. However, the investigator will supplement those analyses with an assessment of how estimated crime impacts might change, for better or worse, when geographical crime displacement and diffusion of benefits are considered. If available, estimated displacement or diffusion effect sizes and confidence intervals can be compared to the main treatment estimates to provide

¹² Dr. John Marcotte, director of computer services for the School of Arts and Sciences at the University of Pennsylvania and a former senior statistician at the Urban Institute, will serve as a consultant to the investigator for the meta-analysis.

¹³ Depending upon the available outcome measures, this may be done using all outcomes, those considered to be most reliable (e.g., measures of gun homicides and shootings are thought to be more reliable than measures of all gun assaults), or those common to all studies.

indications of if and how intervention effects are reduced or enhanced by displacement or diffusion of benefits.¹⁴

One can also conceptualize displacement and diffusion of benefits in terms of crime type. In this context, displacement could occur if offenders were deterred from carrying firearms but increased criminal activities without guns.¹⁵ Diffusion of benefits, on the other hand, could occur if an intervention reduced both gun and non-gun offending; for example, gun suppression patrols in crime hot spots might reduce gun and non-gun crimes by heightening patrol visibility and/or incapacitating high-rate offenders who commit both gun and non-gun crimes. Accordingly, the investigator will conduct separate analyses of intervention effects on non-gun crimes to determine whether any reductions in gun crime were offset or enhanced by displacement or diffusion of benefits to non-gun crimes.

Finally, the review will examine other outcomes associated with the interventions, such as changes in citizens' fear of crime and/or satisfaction with police (e.g., see Shaw 1995). If sufficient data are available, these effects can also be examined using meta-analytic techniques. If such analyses reveal undesirable outcomes associated with the interventions, the investigator will provide at least an informal assessment of how these outcomes might offset any crime reduction benefits stemming from the interventions.

¹⁴ There are a number of subtle points that should also be considered in assessing crime displacement and diffusion. For example, was a potential displacement effect (i.e., the number of crimes prevented in a target area) large enough to be detected statistically in the area(s) examined for displacement? Also, if there is evidence of displacement, were the displaced crimes concentrated in one area or dispersed over a large number of areas, and what implications does this have for the benefits and costs of the intervention?

¹⁵ Some theorizing would even seem to suggest that a reduction in gun carrying, including that which is illegal, could prompt criminals to commit more personal crimes because they will be less concerned about the possibility of encountering armed victims (e.g., see Lott 2000).

Timeframe

The review will be conducted over a one-year period, beginning in January 2004.

January 2004 – April 2004: Literature searches and screening of studies.

March 2004 – May 2004: Data extraction.

June 2004 – September 2004: Data synthesis and statistical analysis.

October 2004 – December 2004: Preparation of draft report for review by editorial committee.

Plans for Updates to the Review

Within two years of completing this review, the investigator will prepare a protocol for an updated review.¹⁶ The new protocol will focus on a different class of police interventions for reducing gun violence. Possible topics include interventions to reduce the illegal supply of firearms (e.g., gun trafficking investigations, regulation of licensed gun dealers) or comprehensive gun violence reduction strategies. In order to maximize the utility of the next review, the investigator will consider a number of criteria in choosing the topic: interest among practitioners and scholars, the availability of studies on the intervention(s), and whether the intervention(s) has been the subject of other recent, authoritative reviews (e.g., reviews in *Crime and Justice* and/or reviews by the National Research Council or the Cochrane Collaboration).

Acknowledgements

The investigator acknowledges the financial support of the Jerry Lee Center of Criminology, University of Pennsylvania in preparing this protocol.

¹⁶ Plans for updates to this review are contingent upon available funding. If funding is unavailable, the investigator will archive the data collected for this review with the Campbell Collaboration for use by other scholars who are able to update the review.

Conflicts of Interest

The investigator has no financial or material stakes in the results of the review. The investigator has conducted, alone and with others, several studies on firearms issues and policing topics, one of which found that directed patrol affects crime and disorderly behavior at crime hot spots (the study did not examine gun crime specifically, so it will not be included in this review). Also, the director of the investigator's academic center directed one of the studies on police patrol and gun crime that will be included in the review. While the investigator's work on firearms and policing topics arguably strengthen his qualifications to conduct the review, the preceding factors could create the appearance of an intellectual conflict of interest with respect to finding results consistent with his work and that of his colleagues, particularly in regards to directed patrol. The investigator will strive to conduct an objective, unbiased review and believes that the openness and rigor of the Campbell review process (including its peer review procedures) provide further assurance of that result.

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