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# The Effects of Focused Deterrence Strategies on Crime: A Systematic Review and Meta-Analysis of the Empirical Evidence

Anthony A. Braga<sup>1,2</sup> and David L. Weisburd<sup>3,4</sup>

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## Abstract

**Objective.** Focused deterrence strategies are increasingly being applied to prevent and control gang and group-involved violence, overt drug markets, and individual repeat offenders. Given the growing popularity of this approach, a systematic review and meta-analysis of the extant evaluation evidence is needed to determine the crime reduction benefits of the approach. **Methods.** Our examination of the effects of focused deterrence strategies on crime followed the systematic review protocols and

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conventions of the Campbell Collaboration. As a preliminary examination of the effects of focused deterrence strategies on crime, the authors used a vote counting procedure. In our closer examination of program effects, meta-analyses were used to determine the size, direction, and statistical significance of the overall impact of focused deterrence strategies on crime. Results. We identified 10 quasi-experimental evaluations and 1 randomized controlled trial. Our meta-analysis suggests that focused deterrence strategies are associated with an overall statistically significant, medium-sized crime reduction effect. However, the strongest program effect sizes were generated by evaluations that used the weakest research designs. Conclusion. The authors conclude that this approach seems very promising in reducing crime but a more rigorous body of evaluation research needs to be developed. While the results of this review are very supportive of deterrence principles, the authors believe that other complementary crime control mechanisms are at work in the focused deterrence strategies described here that need to be highlighted and better understood.

**Keywords**

deterrence, problem-oriented policing, gang violence, repeat offenders, drug markets

**Introduction**

Deterrence theory posits that crimes can be prevented when the costs of committing the crime are perceived by the offender to outweigh the benefits (Gibbs 1975; Zimring and Hawkins 1973). Most discussions of the deterrence mechanism distinguish between “general” and “special” deterrence (Cook 1980). General deterrence is the idea that the general population is dissuaded from committing crime when it sees that punishment necessarily follows the commission of a crime. Special deterrence involves punishment administered to criminals with the intent to discourage them from committing crimes in the future. Much of the literature evaluating deterrence focuses on the effect of changing certainty, swiftness, and severity of punishment associated with certain acts on the prevalence of those crimes (see, e.g., Apel and Nagin 2011; Blumstein, Cohen, and Nagin 1978; Cook 1980; Nagin 1998; Paternoster 1987).

In recent years, scholars have begun to argue that police interventions provide an effective approach for gaining both special and general deterrence against crime. A series of experimental and quasi-experimental studies have shown that the police can be effective in preventing crime (Braga

2001, 2005; Skogan and Frydl 2004; Weisburd and Eck 2004) and that such crime prevention benefits are not offset by displacement of crime to areas near to police interventions (Braga 2001; Weisburd et al. 2006). Durlauf and Nagin have drawn from this literature to argue that “(i)ncreasing the visibility of the police by hiring more officers and by allocating existing officers in ways that heighten the perceived risk of apprehension consistently seem to have substantial marginal deterrent effects” (2011:14). Indeed, they conclude that crime prevention in the United States would be improved by “shifting resources from imprisonment to policing” (2011:9-10).

A recent innovation in policing that capitalizes on the growing evidence of the effectiveness of police deterrence strategies is the “focused deterrence” framework, often referred to as “pulling-levers policing” (Kennedy 1997, 2008). Pioneered in Boston as a problem-oriented policing project to halt serious gang violence during the 1990s (Kennedy, Piehl, and Braga 1996), the focused deterrence framework has been applied in many U.S. cities through federally sponsored violence prevention programs such as the Strategic Alternatives to Community Safety Initiative and Project Safe Neighborhoods (Dalton 2002). Focused deterrence strategies honor core deterrence ideas, such as increasing risks faced by offenders, while finding new and creative ways of deploying traditional and nontraditional law enforcement tools to do so, such as directly communicating incentives and disincentives to targeted offenders (Kennedy 1997, 2008). The basic principles of the focused deterrence approach have also been applied to overt drug market problems (Kennedy 2009) and repeat offending by substance-abusing probationers (Hawken and Kleiman 2009) with positive crime control gains reported.

The evaluation of the best-known focused deterrence strategy, Boston’s Operation Ceasefire (Braga et al. 2001; Piehl et al. 2003), has been greeted with both a healthy dose of skepticism (Fagan 2002; Rosenfeld, Fornango, and Baumer 2005) and some support (Cook and Ludwig 2006; Morgan and Winship 2007). The National Academy of Sciences’ recent report on fire-arms data and research concluded that the Ceasefire quasi-experimental evaluation was “compelling” in associating the intervention with a 63 percent reduction in youth homicide in Boston (Wellford, Pepper, and Petrie 2005:10); however, the report also stated that the lack of a randomized controlled trial left some doubt over how much of the decline was due to Ceasefire relative to other rival causal factors.

Given the uncertainty over the crime control benefits associated with this approach, and its growing popularity, a rigorous review and synthesis of the existing published and nonpublished empirical evidence on the effects of focused deterrence strategies on crime is warranted. In this article, we begin

by briefly describing three different types of focused deterrence strategies in the existing literature and how these strategies have been located within deterrence theory. We then describe the methods of our Campbell Collaboration systematic review and the results of our synthesis of the available empirical evidence. We conclude that focus deterrence strategies do seem to generate noteworthy crime control gains, but more rigorous evaluations are necessary.

## **Locating Focused Deterrence Strategies within Deterrence Theory**

The seminal Boston Operation Ceasefire focused deterrence strategy was designed to prevent violence by reaching out directly to gangs, saying explicitly that violence would no longer be tolerated, and backing up that message by “pulling every lever” legally available when violence occurred (Kennedy 1997; Kennedy et al. 1996). The chronic involvement of gang members in a wide variety of offenses made them, and the gangs they formed, vulnerable to a coordinated criminal justice response. The authorities could disrupt street drug activity, focus police attention on low-level street crimes such as trespassing and public drinking, serve outstanding warrants, cultivate confidential informants for medium- and long-term investigations of gang activities, deliver strict probation and parole enforcement, seize drug proceeds and other assets, ensure stiffer plea bargains and sterner prosecutorial attention, request stronger bail terms (and enforce them), and bring potentially severe federal investigative and prosecutorial attention to gang-related drug and gun activity.

Simultaneously, youth workers, probation and parole officers, and later churches and other community groups offered gang members services and other kinds of help. These partners also delivered an explicit message that violence was unacceptable to the community and that “street” justifications for violence were mistaken. The Ceasefire Working Group delivered this message in formal meetings with gang members (known as “forums” or “call-ins”), through individual police and probation contacts with gang members, through meetings with inmates at secure juvenile facilities in the city, and through gang outreach workers. The deterrence message was not a deal with gang members to stop violence. Rather, it was a promise to gang members that violent behavior would evoke an immediate and intense response. If gangs committed other crimes but refrained from violence, the normal workings of police, prosecutors, and the rest of the criminal justice

system dealt with these matters. But if gang members hurt people, the Working Group concentrated its enforcement actions on their gangs.

In addition to any increases in certainty, severity, and swiftness of sanctions associated with youth violence, the Operation Ceasefire strategy sought to gain deterrence through the *advertising* of the law enforcement strategy, and the personalized nature of its application. The effective operation of general deterrence is dependent on the communication of punishment threats to the public. As Zimring and Hawkins (1973) observe, “the deterrence threat may best be viewed as a form of advertising” (p. 142). A key element of the strategy was the delivery of a direct and explicit “retail deterrence” message to a relatively small target audience regarding what kind of behavior would provoke a special response and what that response would be. Beyond the particular gangs subjected to the intervention, the deterrence message was applied to a relatively small audience (all gang-involved youth in Boston) rather than a general audience (all youth in Boston), and operated by making explicit cause-and-effect connections between the behavior of the target population and the behavior of the authorities. Knowledge of what happened to others in the target population was intended to prevent further acts of violence by gangs in Boston.

There have been subsequent replications of the Boston “pulling levers” focused deterrence strategy centered on preventing serious violence by gangs and criminally active groups, such as U.S. Department of Justice-sponsored research and development exercises in Los Angeles, California (Tita et al. 2004) and Indianapolis, Indiana (McGarrell et al. 2006). Consistent with the problem-oriented policing approach, these cities have tailored the approach to fit their violence problems and operating environments. While the intervention experienced some implementation difficulties, Operation Ceasefire in the Hollenbeck area of Los Angeles was framed to “increase the cost of violent behavior to gang members while increasing the benefits of nonviolent behavior” (Tita et al. 2004:10). In the wake of the federal prosecution of a very violent street gang, the Indianapolis Violence Reduction Partnership used face-to-face “lever-pulling” meetings with groups of high-risk probationers and parolees to communicate a deterrence message that gun violence would provoke an immediate and intense law enforcement response; at the meetings, targeted groups of probationers and parolees were also urged to take advantage of a range of social services and opportunities including employment, mentoring, housing, substance abuse treatment, and vocational training (McGarrell et al. 2006:319).

There have also been examples of focused deterrence strategies applied to individual repeat offenders. A variation of the Boston model was applied

by Papachristos, Mearns, and Fagan (2007) in Chicago, Illinois, as part of the U.S. Department of Justice-sponsored Project Safe Neighborhoods initiative. Gun- and gang-involved parolees returning to selected highly dangerous Chicago neighborhoods went through “offender notification forums” where they were informed of their vulnerability as felons to federal firearms laws with stiff mandatory minimum sentences; offered social services; and addressed by community members and ex-offenders. The forums were designed “to stress to offenders the *consequences* should they choose to pick up a gun and the *choices* they have to make to ensure that they do not reoffend” (Papachristos et al. 2007:231). In addition to encouraging individual deterrence, the Chicago forums were explicitly designed to promote positive normative changes in offender behavior through an engaging communications process that offenders would be likely to perceive as procedurally just rather than simply threatening.

Hawaii Opportunity with Probation Enforcement (HOPE) intervention was a community supervision program aimed at substance-abusing probationers (Hawken and Kleiman 2009). The program relied on a mandate to abstain from illicit drugs, backed by swift and certain sanctions for drug test failures, and preceded by a clear and direct warning by the sentencing judge. Each positive or missed drug test results in an immediate, brief jail stay. Probationers were sentenced to drug treatment only if they continued to test positive for drug use, or if they requested a treatment referral. Hawken and Kleiman (2009:9) suggest that HOPE is well supported by basic tenets of deterrence theory and research: increasing the severity of sanctions to prevent criminal behavior is outperformed by “the use of clearly articulated sanctions applied in a manner that is certain, swift, consistent, and parsimonious.”

The Hawaii experience is often linked to an application of focused deterrence generally referred to as the “Drug Market Intervention” (DMI) strategy (see, e.g., Boyum, Caulkins, and Kleiman 2011). In High Point, North Carolina, a focused deterrence strategy was aimed at eliminating public forms of drug dealing such as street markets and crack houses by warning dealers, buyers, and their families that enforcement is imminent (Kennedy 2009). With individual “overt” drug markets as the unit of work, the project employed a joint police–community partnership to identify individual offenders; notify them of the consequences of continued dealing; provide supportive services through a community-based resource coordinator; and convey an uncompromising community norm against drug dealing.

The DMI seeks to shut down overt drug markets entirely (Kennedy 2009). Enforcement powers are used strategically and sparingly, employing

arrest and prosecution only against violent offenders and when nonviolent offenders have resisted all efforts to get them to desist and to provide them with help. Through the use of “banked” cases,<sup>1</sup> the strategy makes the promise of law enforcement sanctions against dealers extremely direct and credible, so that dealers are in no doubt concerning the consequences of offending and have good reason to change their behavior. The strategy also brings powerful informal social control to bear on dealers from immediate family and community figures. The strategy organizes and focuses services, help, and support on dealers so that those who are willing have what they need to change their lives. Each operation also includes a maintenance strategy.

The available research suggests that deterrent effects are ultimately determined by offender perceptions of sanction risk and certainty (Nagin 1998). As described above, focused deterrence strategies are targeted on very specific behaviors by a relatively small number of chronic offenders who are highly vulnerable to criminal justice sanctions. The approach directly confronts offenders and informs them that continued offending will not be tolerated and how the system will respond to violations of these new behavior standards. Face-to-face meetings with offenders are an important first step in altering their perceptions about sanction risk (Horney and Marshall 1992; Nagin 1998). As McGarrell and his colleagues (2006) suggest, direct communications and affirmative follow-up responses are the types of new information that may cause offenders to reassess the risks of committing crimes.

In their recent essay on the limits of severity-based policies that mandate lengthy prison stays to deter crime, Durlauf and Nagin (2011:40) suggest that “strategies that result in large and visible shifts in apprehension risk are most likely to have deterrent effects that are large enough not only to reduce crime but also apprehensions.” The focused deterrence strategies described here are identified by Durlauf and Nagin (2011) as having this characteristic. Moreover, they suggest that these “carrot and stick approaches” to crime prevention creatively use positive incentives, such as social services and job opportunities, to reward compliance and facilitate nonviolent behavior. Durlauf and Nagin (2011) conclude their discussion of the promise of focused deterrence strategies with a call for additional research and evaluation on the crime reduction benefits of these new approaches. While there is narrative evidence across a group of studies that the focused deterrence strategy is promising, in this article we apply systematic review methods and meta-analysis to draw general conclusions regarding the direction and size of the impacts of these approaches on crime.

## **Method**

Our examination of the effects of focused deterrence strategies on crime followed the systematic review protocols and conventions of the Campbell Collaboration. It is important to note here that, given limited space, this article focuses on our examination of the crime reduction benefits associated with focused deterrence strategies. We encourage readers interested in a broader range of program operation and evaluation issues to consult our Campbell review (Braga and Weisburd, 2011).

Meta-analysis is a method of systematic reviewing and was designed to synthesize empirical relationships across studies, such as the effects of a specific crime prevention intervention on criminal offending behavior (Wilson 2001). Meta-analysis uses specialized statistical methods to analyze the relationships between findings and study features (Lipsey and Wilson 1993; Wilson 2001). The “effect size statistic” is the index used to represent the findings of each study in the overall meta-analysis of study findings and represents the strength and direction (positive or negative) of the relationship observed in a particular study (e.g., the size of the treatment effect found). The “mean effect size” represents the average effect of treatment on the outcome of interest across all eligible studies in a particular area and is estimated by calculating a mean that is weighted by the precision of the effect size for each individual study.

### *Criteria for Inclusion and Exclusion of Studies in the Review*

To be eligible for this review, interventions had to be considered a focused deterrence strategy as described above. Only studies that used comparison group designs involving before and after measures were eligible for the main analyses of this review. The comparison group study had to be either a randomized controlled trial or a quasi-experimental evaluation with comparison groups (Campbell and Stanley 1966; Cook and Campbell 1979). The units of analysis could be areas, such as cities, neighborhoods, or police beats, or individuals. Eligible studies had to measure the effects of the focused deterrence intervention on officially recorded levels of crime at places or crime by individuals. Appropriate crime measures included crime incident reports, citizen emergency calls for service, and arrest data. Particular attention was paid to studies that measured crime displacement effects and diffusion of crime control benefit effects (Clarke and Weisburd 1994; Reppetto 1976). The review considered all forms of displacement and diffusion reported by the studies.

## *Search Strategies for Identification of Studies*

Several strategies were used to perform an exhaustive search for literature fitting the eligibility criteria. First, a keyword search<sup>2</sup> was performed on 15 online abstract databases.<sup>3</sup> Second, we reviewed the bibliographies of past narrative and empirical reviews of literature that examined the effectiveness of focused deterrence programs (Kennedy 2008; Skogan and Frydl 2004; Wellford et al. 2005). Third, we performed forward searches for works that have cited seminal focused deterrence studies (Braga et al. 2001; Kennedy et al. 1996; McGarrell et al. 2006). Fourth, we searched bibliographies of narrative reviews of police crime prevention efforts (Braga 2008a; Sherman 2002; Weisburd and Eck 2004) and past completed Campbell systematic reviews of police crime prevention efforts (Braga 2007; Mazerolle, Soole, and Rombouts 2007; Weisburd et al. 2008). Fifth, we performed hand searches of leading journals in the field.<sup>4</sup> These searches were all completed between May 2010 and September 2010.

After finishing the above searches and reviewing the studies as described later, we e-mailed the list of studies meeting our eligibility criteria in September 2010 to leading criminology and criminal justice scholars knowledgeable in the area of focused deterrence strategies. These 90 scholars were defined as those who authored at least one study that appeared on our inclusion list, anyone involved with the National Academy of Sciences reviews of police research (Skogan and Frydl 2004) and firearms research (Wellford et al. 2005), and other leading scholars identified by the authors (available upon request). This helped us identify unpublished studies that did not appear in conventional databases or other reviews. Finally, we consulted with an information retrieval specialist at the outset of our review and at points along the way in order to ensure that we used appropriate search strategies to identify the studies meeting the criteria of this review.<sup>5</sup>

## *Statistical Procedures and Conventions*

As a preliminary examination of the effects of focused deterrence strategies on crime, we used a vote counting procedure. In this rudimentary approach, each study metaphorically casts a vote for or against the effectiveness of treatment. In our closer examination of program effects, meta-analyses were used to determine the size, direction, and statistical significance of the overall impact of focused deterrence strategies on crime by weighting program effect sizes based on the variance of the effect size and the study sample size (Lipsey and Wilson 2001). We used the standardized mean

difference effect size (also known as Cohen's *d*; see Cohen 1988; Rosenthal 1994) and employed the Effect Size Calculator, developed by David B. Wilson and available on the Campbell Collaboration's Web site, to calculate standardized mean difference effect sizes for reported outcomes in each study. We then used Biostat's Comprehensive Meta Analysis Version 2.2 to conduct the meta-analysis of effect sizes.

One problem in conducting meta-analyses in crime and justice is that investigators often do not prioritize outcomes examined. This is common in studies in the social sciences in which authors view good practice as demanding that all relevant outcomes be reported. However, the lack of prioritization of outcomes in a study raises the question of how to derive an overall effect of treatment. For example, the reporting of one significant result may reflect a type of "creaming" in which the authors focus on one significant finding and ignore the less positive results of other outcomes. But authors commonly view the presentation of multiple findings as a method for identifying the specific contexts in which the treatment is effective. When the number of such comparisons is small and therefore unlikely to affect the error rates for specific comparisons such an approach is often valid.

We analyze the studies using three approaches. The first is conservative in the sense that it combines all reported outcomes reported into an overall average effect size statistic. The second represents the largest effect reported in the studies and gives an upper bound to our findings. It is important to note that in some of the studies with more than one outcome reported, the largest outcome reflected what authors thought would be the most direct program effect. Finally, we present the smallest effect size for each study. This approach is the most conservative and likely underestimates the effect of focused deterrence on crime. We use it here primarily to provide a lower bound to our findings.

## **Findings**

Search strategies in the systematic review process generate a large number of citations and abstracts for potentially relevant studies that must be closely screened to determine whether the studies meet the eligibility criteria (Farrington and Petrosino 2001). The screening process yields a much smaller pool of eligible studies for inclusion in the review. The four search strategies produced 2,473 distinct abstracts. The contents of these abstracts were reviewed for any suggestion of an evaluation of focused deterrence interventions. About 93 distinct abstracts were selected for closer review

and the full-text reports, journal articles, and books for these abstracts were acquired and carefully assessed to determine whether the interventions involved focused deterrence strategies and whether the studies used randomized controlled trial designs or nonrandomized quasi-experimental designs. Eleven eligible studies were identified and included in this review:

1. Operation Ceasefire in Boston, Massachusetts (Braga et al. 2001)
2. Indianapolis Violence Reduction Partnership in Indianapolis, Indiana (McGarrell et al. 2006)
3. Operation Peacekeeper in Stockton, California (Braga 2008b)
4. Project Safe Neighborhoods in Lowell, Massachusetts (Braga et al. 2008)
5. Cincinnati Initiative to Reduce Violence in Cincinnati, Ohio (Engel, Corsaro, and Skubak Tillyer 2010)
6. Operation Ceasefire in Newark, New Jersey (Boyle et al. 2010)
7. Operation Ceasefire in Los Angeles, California (Tita et al. 2004)
8. Project Safe Neighborhoods in Chicago, Illinois (Papachristos et al. 2007)
9. Drug Market Intervention in Nashville, Tennessee (Corsaro and McGarrell 2009)
10. Drug Market Intervention in Rockford, Illinois (Corsaro, Brunson, and McGarrell Forthcoming)
11. Hawaii Opportunity with Probation Enforcement in Honolulu, Hawaii (Hawken and Kleiman 2009)

The 11 selected studies examined focused deterrence interventions that were implemented in small, medium, and large U.S. cities. Four of the eligible evaluations (Cincinnati, Honolulu, Nashville, and Newark) were not published at the time the review of abstracts was completed.<sup>6</sup> All 11 evaluations were released after 2000 and 8 were completed after 2007. Six studies evaluated the crime reduction effects of focused deterrence strategies on serious violence generated by street gangs or criminally active street groups (Boston, Cincinnati, Indianapolis, Los Angeles, Lowell, and Stockton). Two studies evaluated strategies focused on reducing crime driven by street-level drug markets (Nashville and Rockford) and three evaluated crime reduction strategies that were focused on individual repeat offenders (Chicago, Honolulu, and Newark).

Ten eligible studies used quasi-experimental designs to analyze the impact of focused deterrence strategies on crime. Seven evaluations used quasi-experimental designs with nonequivalent comparison groups (Boston,

Cincinnati, Indianapolis, Lowell, Nashville, Rockford, and Stockton). The comparison units used in these evaluations were selected based on naturally occurring conditions, such as other cities or within-city areas that did not receive treatment, rather than through careful matching or randomization procedures to ensure comparability with treatment units. Two evaluations used quasi-experimental designs with near-equivalent comparison groups created through matching techniques (Chicago and Newark). The Los Angeles evaluation used a quasi-experimental design that included both nonequivalent and near-equivalent comparison groups; for the Los Angeles study, we included only the effects from the more rigorous matched comparison group analysis in our meta-analysis. Only one randomized controlled trial, the evaluation of the HOPE program in Honolulu, was identified. Table 1 provides a brief summary of the treatments, units of analysis, research designs, and results reported by the 11 eligible studies.

Three studies examined possible immediate spatial crime displacement and diffusion of crime control benefits that may have been generated by the focused deterrence interventions (Los Angeles, Nashville, and Newark). The Los Angeles study also examined the criminal behavior of rival gangs socially connected to the targeted gang. Only one study noted potential threats to the integrity of the treatment. Tita et al. (2004) reported that the Los Angeles intervention was not fully implemented as planned. The implementation of the Ceasefire program in the Boyle Heights neighborhood of Los Angeles was negatively affected by the well-known Ramparts LAPD police corruption scandal and a lack of ownership of the intervention by the participating agencies.

### *Vote Counting Analysis of the Effects of Focused Deterrence Strategies on Crime*

Of the eleven evaluations of focused deterrence strategies, 10 reported noteworthy crime reduction effects associated with the approach (Table 1). Only the evaluation of Newark's Operation Ceasefire did not report any significant crime prevention benefits generated by the violence reduction strategy. Two of the three studies that measured possible crime displacement and diffusion effects reported noteworthy diffusion of crime control benefits associated with the focused deterrence intervention; none reported significant crime displacement effects. To test the statistical significance of the observed vote counting distribution of crime reduction effects reported by the 11 eligible studies, we used an application of the binomial distribution known as the sign test (Blalock 1979). This simple test examines the

**Table 1. Eligible Focused Deterrence Evaluations**

Study	Treatment	Units of Analysis	Research Design	Crime Outcomes
Operation Ceasefire Boston, Massachusetts Braga et al. (2001)	Strategy focused on reducing serious violence by street gangs 24 month postintervention period (June 1996 to May 1998) No threats to integrity of treatment noted during program implementation	Citywide intervention Outcome measures included monthly counts of citywide youth homicide incidents, citywide gun assault incidents, citywide shots fired calls for service, and youth gun assault incidents in one high-risk district	Nonequivalent quasi-experiment comparing youth homicide trends in Boston relative to youth homicide trends in 39 other U.S. cities and 29 New England cities Count-based regression models controlling for trends and seasonal variations used to estimate impact of intervention on time series	Statistically significant 63 percent reduction in youth homicides, 25 percent reduction in gun assaults, 32 percent reduction in shots fired calls for service, and 44 percent reduction in youth gun assaults in one high-risk district Displacement/diffusion effects not measured
Indianapolis Violence Reduction Partnership Indianapolis, Indiana McGarrell et al. (2006)	Strategy focused on reducing serious violence by street gangs 27 month postintervention period (April 1999 to June 2001) No threats to integrity of treatment noted during program implementation	Citywide intervention Outcome measure was the monthly count of citywide homicides	Nonequivalent quasi-experiment comparing homicide trends in Indianapolis relative to homicide trends in six cities selected based on population and Midwestern location ARIMA models controlling for trends and seasonal variations used to estimate impact of intervention on time series	Statistically significant 34 percent reduction in total homicide Displacement/diffusion effects not measured

(continued)

**Table 1 (continued)**

Study	Treatment	Units of Analysis	Research Design	Crime Outcomes
Operation Peacekeeper Stockton, California Braga (2008b)	Strategy focused on reducing serious violence by street gangs 65 month postintervention period (September 1997 to December 2002) No threats to integrity of treatment noted during program implementation	Citywide intervention Outcome measure was the monthly count of citywide gun homicides	Nonequivalent quasi-experiment comparing gun homicide trends in Stockton relative to gun homicide trends in eight cities selected based on population and California location Count-based regression models controlling for trends and seasonal variations used to estimate impact of intervention on time series	Statistically significant 42 percent reduction in gun homicide Displacement/diffusion effects not measured
Project Safe Neighborhoods Lowell, Massachusetts Braga et al. (2008)	Strategy focused on reducing serious violence by street gangs 39 month postintervention period (October 2002 to December 2005) No threats to integrity of treatment noted during program implementation	Citywide intervention Outcome measure was the monthly count of fatal and nonfatal gun assault incidents	Nonequivalent quasi-experiment comparing gun assault trends in Lowell relative to gun assault trends in the State of Massachusetts and eight Massachusetts cities selected based on population, demographics, and yearly numbers of gun assaults Count-based and maximum-likelihood regression models controlling for trends and seasonal variations used to estimate impact of intervention on time series	Statistically significant 44 percent reduction in gun assault incidents Displacement/diffusion effects not measured

(continued)

**Table 1 (continued)**

Study	Treatment	Units of Analysis	Research Design	Crime Outcomes
Cincinnati Initiative to Reduce Violence Cincinnati, Ohio Engel et al. (2010)	Strategy focused on reducing serious violence by criminally active street groups 37 month postintervention period (October 2007 to September 2009) No threats to integrity of treatment noted during program implementation	Citywide intervention Outcome measures were the monthly counts of citywide group member-involved and nongroup member-involved homicides	Nonequivalent quasi-experiment comparing group-member-involved homicide trends relative to nongroup-member-involved homicides Count-based regression models controlling for trends and seasonal variations used to estimate impact of intervention on time series Near-equivalent quasi-experiment comparing gunshot wound trends in the targeted area relative to gunshot wound trends in a comparison area selected based on similar levels of gun violence, geographic size, and demographic characteristics ARIMA models controlling for trends and seasonal variations used to estimate impact of intervention on time series Used dual kernel density spatial analyses to examine the distribution of gunshot wound hot spots around target and comparison zones before and after the intervention was implemented	Statistically significant 35 percent reduction in group member-involved homicides Displacement/diffusion effects not measured
Operation Ceasefire Newark, New Jersey Boyle et al. (2010)	Violence reduction strategy targeting individual gang members described as a "hybrid" between the Boston Ceasefire pulling levers strategy and the Chicago Ceasefire street worker program 85 week postintervention period (May 11, 2005 to December 31, 2006) No threats to integrity of treatment noted during program implementation	Intervention implemented in two square mile area that experienced elevated levels of gun violence Outcome measure was the weekly number of gunshot wound incidents		No statistically significant reduction in gunshot wound victims in target zone The results of the displacement/diffusion analysis were inconclusive

(continued)

**Table 1 (continued)**

Study	Treatment	Units of Analysis	Research Design	Crime Outcomes
<p>Operation Ceasefire Los Angeles, California Tita et al. (2004)</p>	<p>Strategy focused on reducing serious violence by criminally active street groups Six month postintervention period (October 2000 to February 2001) Evaluation team reported that integrity of the treatment was undermined due to a lack of commitment to the strategy by working group members and the unintended consequences of a police corruption scandal</p>	<p>Intervention was implemented in a target area within the Boyle Heights neighborhood of Los Angeles Outcome measures were monthly counts of violent crime incidents, gang crime incidents, and gun crime incidents</p>	<p>Quasi-experimental evaluation used two nonequivalent comparisons (the target area relative to the remainder of Boyle Heights; Boyle Heights relative to the surrounding larger Hollenbeck community) and one near-equivalent comparison (Census block groups matched via propensity score analyses) A variety of regression-based models were used to estimate the impact of the intervention on the distribution of monthly counts of the key outcome variables for six month pre-intervention, four-month suppression, and two-month deterrence time periods Examined immediate spatial displacement and diffusion effects in 11 Census block groups surrounding targeted Census block groups and gang crime committed by nontargeted gangs that were "socially tied" to targeted gangs</p>	<p>In Boyle Heights, gang crime decreased significantly compared with other regions of Hollenbeck during the suppression period of the intervention, and violent, gang, and gun crime all decreased significantly in the deterrence period In the five targeted police reporting districts, violent crime decreased significantly in comparison with the rest of Boyle Heights in the suppression and the deterrence periods, and gang crime decreased significantly in the suppression period In the Census block groups overlapping the targeted reporting districts, violent crime decreased significantly compared with the matched blocks Analyses suggested strong diffusion of crime control benefits into Census block groups immediately surrounding targeted area and a reduction in gang crime associated with the "socially tied" gangs</p>

(continued)

**Table 1 (continued)**

Study	Treatment	Units of Analysis	Research Design	Crime Outcomes
Project Safe Neighborhoods Chicago, Illinois Papachristos et al. (2007)	Gun violence reduction strategy comprised of four interventions: (1) increased federal prosecutions for convicted felons carrying or using guns, (2) lengthy sentences associated with federal prosecutions, (3) supply-side firearm policing activities, and (4) social marketing of deterrence and social norms messages through offender notification meetings	Intervention was implemented in two adjacent policing districts that experienced very high levels of homicide  Outcome measures were monthly and quarterly counts of homicides, gun homicides, gang homicides, and aggravated assault and battery incidents	Quasi-experimental evaluation comparing trends in targeted policing districts to trends in near-equivalent policing districts matched via propensity score analysis  Hierarchical generalized linear growth curve regression models used to estimate impact of intervention on time series	Statistically significant 37 percent reduction in total homicides reported in targeted police districts  Statistically significant reductions in gun homicides and aggravated assaults in targeted districts also reported  No statistically significant reduction in gang homicides in targeted police districts  Displacement/diffusion effects not measured
Drug Market Intervention Nashville, Tennessee Corsaro and McGarrell (2009)	Strategy focused on reducing crime driven by street-level drug market  14 month postintervention period (March 2008 to April 2009)  No threats to integrity of treatment noted during program implementation	Intervention was implemented in the McFerrin Park neighborhood of Nashville  Outcome measures were monthly count of violent crime incidents, property crime incidents, illegal drug possession incidents, illegal drug equipment incidents, and total calls for service	Nonequivalent quasi-experimental design comparing trends in the intervention neighborhood to trends in the remainder of Davidson County  ARIMA models controlling for trends and seasonal variations used to estimate impact of intervention on time series  Examined immediate spatial displacement and diffusion effects in areas contiguous to the targeted neighborhood	Statistically significant 55 percent reduction in illegal drug possession offenses, 37 percent reduction in drug equipment offenses, and 28 percent reduction in property crimes reported in targeted neighborhood  No significant decreases reported in violent crime incidents and total calls for service  Analyses suggested significant diffusion of crime control benefits into contiguous areas

(continued)

**Table 1 (continued)**

Study	Treatment	Units of Analysis	Research Design	Crime Outcomes
Drug Market Intervention Rockford, Illinois Corsaro et al. (Forthcoming)	Strategy focused on reducing crime driven by street-level drug market  14 month postintervention period (May 2007 to June 2008)  No threats to integrity of treatment noted during program implementation	Intervention was implemented in the Delancey Heights neighborhood of Rockford  Outcome measures were monthly count of violent crime incidents and nonviolent crime incidents	Nonequivalent quasi-experimental design comparing trends in the intervention neighborhood to trends in the remainder of Rockford  Hierarchical generalized linear growth curve regression models used to estimate impact of intervention on time series	Statistically significant 22 percent reduction in nonviolent offenses  No significant decreases reported in violent offenses  Displacement/diffusion effects not measured
Hawaii Opportunity with Probation Enforcement Honolulu, Hawaii Hawken and Kleiman (2009)	Community supervision strategy for substance-abusing probationers featuring mandatory drug testing and swift and certain sanctions  12-month intervention period (October 2007 to September 2008)  No threats to integrity of treatment noted during program implementation	Intervention was implemented by the Integrated Community Sanctions Unit in Honolulu  Outcome measures were missed probation appointments, positive urine tests for illicit substances, new arrests, probation revocations, jail-days served, and prison-days sentenced	Randomized controlled trial comparing outcomes for treatment probationers to outcomes for control probationers  Intent-to-treat design with regression analyses to estimate impact of intervention on treatment probationers relative to control probationers	Only 21 percent of HOPE probationers were rearrested as compared to 47 percent of control probationers  Statistically significant reductions in missed probation appointments, positive urine tests for illicit substances, new arrests, probation revocations, and prison-days sentenced for HOPE probationers relative to control probationers  Displacement/diffusion effects not measured

probabilities of getting an observed proportion of successes from a population of equal proportions of successes and failures. Of the 11 studies, 10 (90.9 percent) reported noteworthy crime reductions associated with the focused deterrence approach. According to the sign test, this result was statistically significant (exact binomial two-tailed probability = .0117).

### *Meta-Analysis of the Effects of Focused Deterrence Strategies on Crime*

Our main meta-analysis of the effects of focused deterrence strategies was limited to the 10 studies that evaluated the impact of these interventions on crime outcomes at the area level. As described by Lipsey and Wilson (2001), it is problematic to combine effect sizes from studies with very different units of analysis (such as combining studies focused on people with studies focused on places). As such, we do not include the Hawaii HOPE evaluation, which included individuals as the units of analysis, in our main meta-analysis. However, as appropriate, we do report the mean effect sizes when Hawaii HOPE is included in our meta-analysis. It is important to note here that, while the impacts of the focused deterrence programs were measured at larger areal units (city, policing area, targeted zone, census unit), these interventions were highly focused on a small number of risky individuals and risky groups that tend to commit their crimes at a relatively small number of high-crime places within those larger areas. Focused deterrence strategies are highly targeted interventions that are not broadly diffused across large populations or large areas.

Using the mean effect criterion for all eligible studies, the forest plot in Figure 1 shows the standardized difference in means between the treatment and control or comparison conditions (effect size) with a 95 percent confidence interval plotted around them for all eligible studies. Because the studies vary in their contexts and approaches, which is indicated by a significant  $Q$  statistic ( $Q = 41.752$ ,  $df = 9$ ,  $p < .05$ ), we used a random effects model to estimate the overall mean effect size. The meta-analysis of effect sizes suggests a strongly significant effect in favor of focused deterrence strategies. The overall effect size for these studies was .604 (see Cohen 1988) and, when Hawaii HOPE was included, it was .617. This is above Cohen's standard for a medium effect of .50 and below that of a large effect at .80 (Cohen 1988). Nonetheless, the overall effect size is relatively large compared to assessments of interventions in crime and justice work more generally (e.g., see Lipsey 2000; MacKenzie and Hickman 1998; Weisburd 1993; Weisburd et al. 2008).

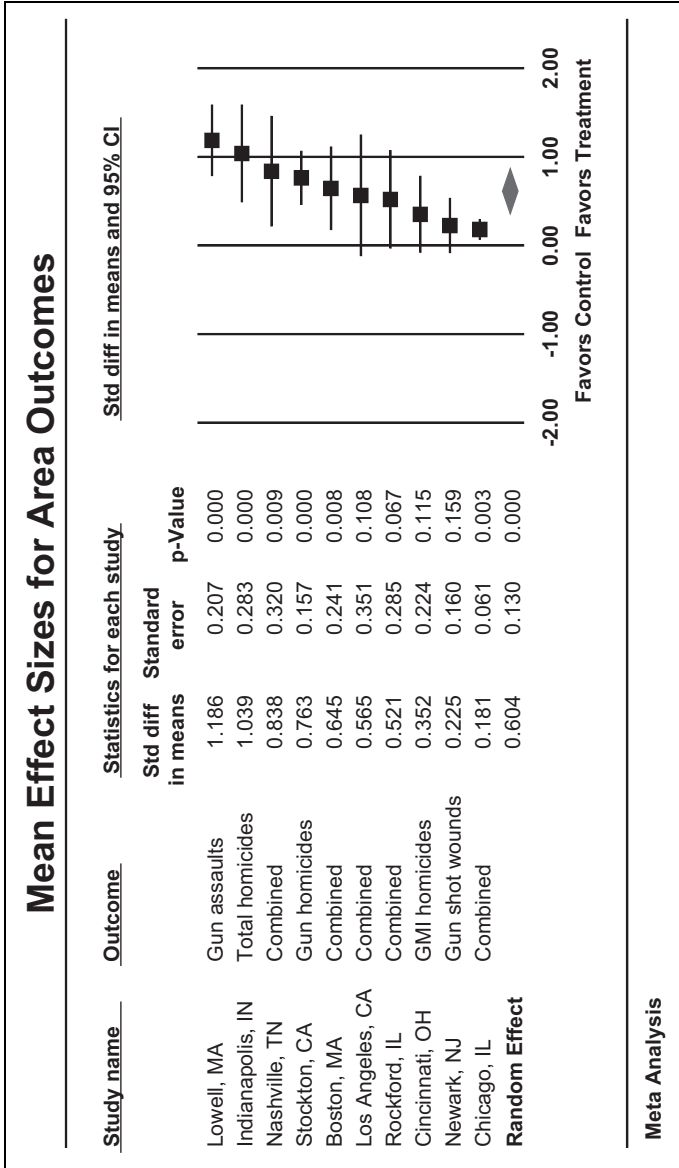


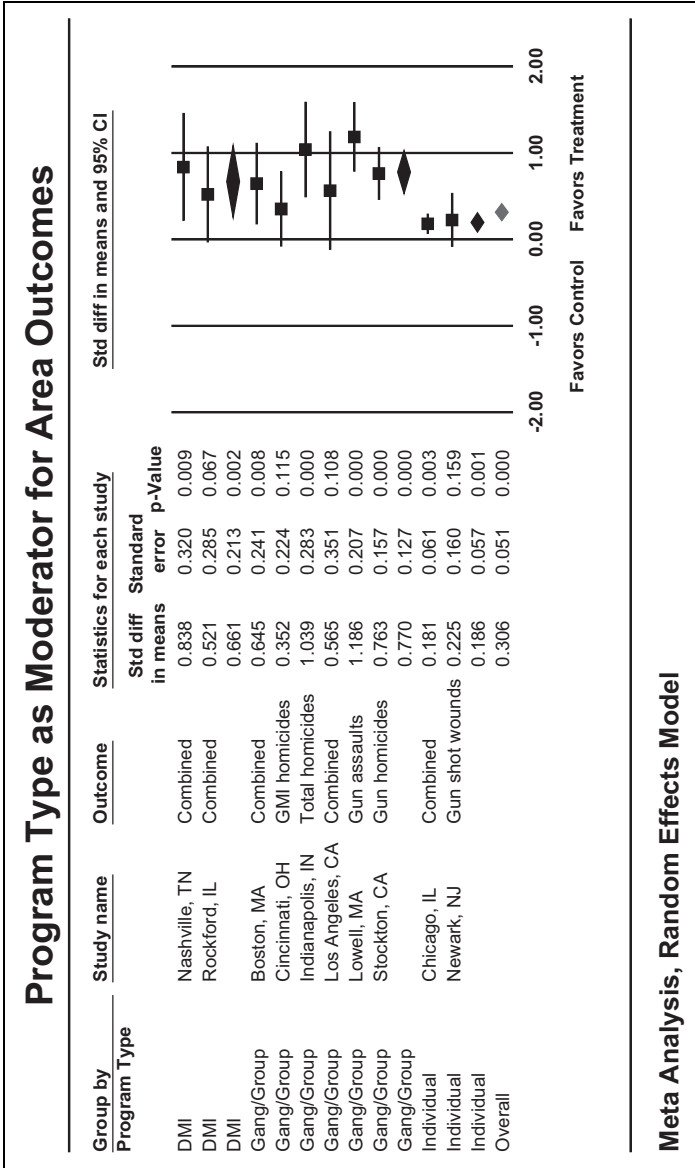
Figure 1. Mean effect sizes for area outcomes.

All studies reported effect sizes that favor treatment conditions over control conditions, with the Cincinnati, Los Angeles, Newark, and Rockford studies not reporting statistically significant effect sizes. The Lowell (1.186) and Indianapolis (1.039) studies reported the largest statistically significant effect sizes while the Chicago study (.181) reported the smallest statistically significant effect size. As described earlier, we conducted additional meta-analyses of the largest and smallest effect sizes reported for each study.<sup>7</sup> For the largest effect size meta-analysis, the overall standardized mean difference effect size was large (.806) and statistically significant at the  $p < .05$  level. For the smallest effect size meta-analysis, the overall standardized mean difference effect size was medium (.474) and statistically significant at the  $p < .05$  level.

### *Program Type and Research Design as Effect Size Moderators*

Focused deterrence strategies have been directed at reducing crime by street gangs and criminally active groups, overt drug markets, and high-risk individuals. These programs represent differing applications of focused deterrence strategies to control distinct types of problems. The inclusion of moderator variables, such as program and research design types, help explain and understand differences across studies in the outcomes observed (Lipsey 2003). Figure 2 presents a random effects model examining the mean effect sizes for the three different program types. It is important to note that the  $Q$ -statistic associated with the between-group variation was large and statistically significant ( $Q = 20.436$ ,  $df = 2$ ,  $p < .05$ ), suggesting that program type was influential in determining effect sizes. The gang/group intervention programs were associated with the largest within-group effect size (.770,  $p < .05$ ), followed by the DMI programs (.661,  $p < .05$ ) and the high-risk individuals programs (.186,  $p < .05$ ). When program type was included as a moderator, the meta-analysis estimated a more modest overall effect size (.369,  $p < .05$ ).

Focused deterrence strategies directed at high-risk individuals in high-crime areas generated a smaller within-group effect size when compared to the DMI and gang/group intervention strategies. These smaller effect sizes may, in part, stem from methodological decisions to analyze outcomes at the area level rather than the individual level. In a supplemental unpublished paper, the Chicago PSN quasi-experimental evaluation conducted additional Cox regression analyses of the effects of the intervention on individual recidivism patterns (Fagan et al. 2008). As noted, the Hawaii HOPE randomized controlled experiment also examined the effects of the



### Meta Analysis, Random Effects Model

Figure 2. Program type as moderator for area outcomes.

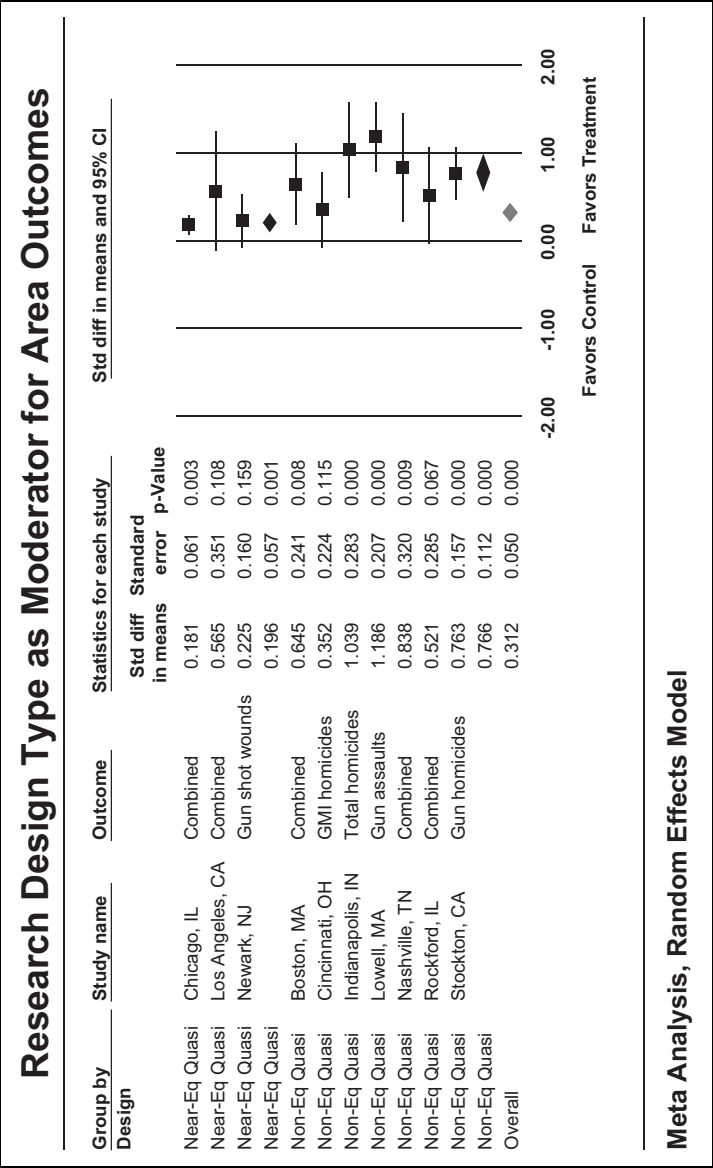
treatment on individual recidivism patterns in Honolulu. We calculated effect sizes for the Chicago (.434,  $SE = .050$ ,  $p < .05$ ) and Honolulu (.666,  $SE = .115$ ,  $p < .05$ ) studies.<sup>8</sup> When the effect sizes for these studies were combined via a fixed effects meta-analysis model, the overall effect size was medium and statistically significant (.471,  $SE = .046$ ,  $p < .05$ ), suggesting a program impact similar to area-level impacts generated by the DMI and gang/group interventions.

Given the important distinction in methodological quality between the nonequivalent and near-equivalent quasi-experimental studies, we also examined research design as a moderator variable. Figure 3 presents a random effects model examining the two different classes of quasi-experimental designs included in this review. It is important to note that the  $Q$ -statistic associated with the between-group variation was large and statistically significant ( $Q = 31.039$ ,  $df = 2$ ,  $p < .05$ ), suggesting that research design was influential in determining effect sizes. Consistent with prior research suggesting that weaker designs are more likely to report stronger effects in crime and justice studies (Weisburd, Lum, and Petrosino 2001; Welsh et al. 2011), the nonequivalent quasi-experimental designs were associated with a much larger within-group effect size (.766,  $p < .05$ ) relative to the near-equivalent quasi-experimental designs (.196,  $p < .05$ ). When research design type was included as a moderator, the meta-analysis estimated a more modest overall effect size (.312,  $p < .05$ ).

Lipsey (2003) cautions that analyses that include single moderator variables can be misleading as these types of analyses can be confounded by the absence of other relevant variables. In this analysis, “research design type” is highly correlated with “program type.” Unfortunately, the number of studies in this review is too small to run a controlled analysis on the moderators. Five of the six gang/group intervention studies used nonequivalent quasi-experimental designs to analyze program effects. With the noteworthy exception of the Los Angeles evaluation, the five gang/group intervention programs attempted to influence ongoing feuds among gangs and groups in conflict networks that spanned the urban landscape. For instance, the authors of the Boston Ceasefire evaluation reported that, given the nature of their intervention and the dynamics of the problem, it was not possible to set aside within-city control gangs or comparison areas (Braga et al. 2001).

### **Publication Bias**

Publication bias presents a strong challenge to any review of evaluation studies (Rothstein 2008). As reported in our formal Campbell review, we



**Meta Analysis, Random Effects Model**

**Figure 3.** Research design type as moderator for area outcomes.

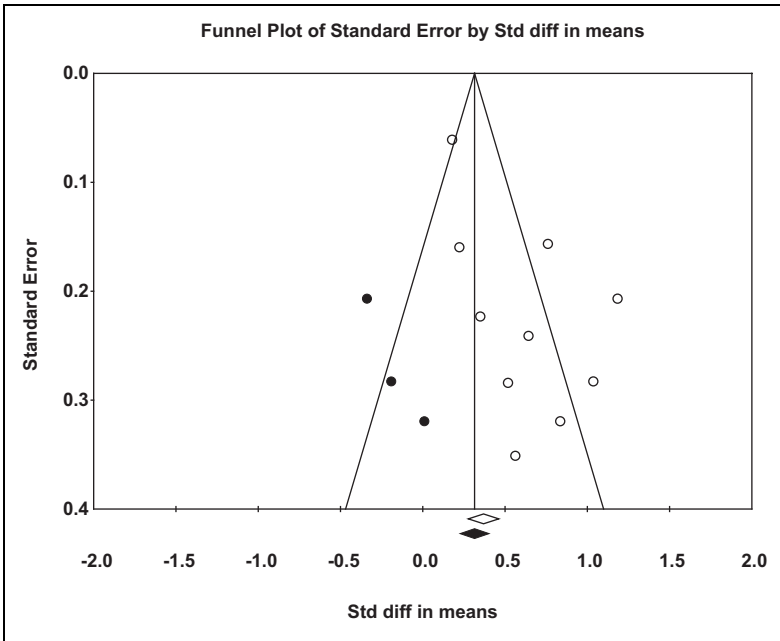
used several methods to address the potential effects of publication bias on our analyses. In our primary investigation, we used the trim-and-fill procedure (Duval and Tweedie 2000) to estimate the effect of potential data censoring, such as publication bias, on the outcome of the meta-analyses. The diagnostic funnel plot is based on the idea that, in the absence of bias, the plot of study effect sizes should be symmetric about the mean effect size. If there is asymmetry, the trim-and-fill procedure imputes the missing studies, adds them to the analysis, and then recomputes the mean effect size.

A visual inspection of the resulting funnel plot indicated some asymmetry with more studies with a large effect and a large standard error to the right of the mean than the left of the mean. The trim-and-fill procedure determined that three studies should be added to create symmetry. The funnel plot with imputed studies is presented in Figure 4. These additional studies modestly altered the mean effect size estimate. The mean random effect decreased from 0.604 (95 percent CI = [0.349, 0.859]) to 0.437 (95 percent CI = [0.200, 0.637]). Indeed, the 95 percent confidence intervals overlap, suggesting that the mean effect sizes may actually be the same.

## Discussion and Conclusion

The available scientific evidence on the crime reduction value of focused deterrence strategies has been previously characterized as “promising” but “descriptive rather than evaluative” (Skogan and Frydl 2004:241) and as “limited” but “still evolving” (Wellford et al. 2005:10) by the U.S. National Research Council’s Committee to Review Research on Police Policy and Practices and Committee to Improve Research Information and Data on Firearms, respectively. Our systematic review identified 11 evaluations of focused deterrence strategies; nine of these evaluations were completed after the National Research Council reports were published. A better-developed base of scientific evidence now exists to assess whether crime prevention impacts are associated with this approach.

The basic findings of our review are very positive. Of the 11 eligible studies, 10 reported strong and statistically significant crime reductions associated with the approach. Nonetheless, we are concerned with the lack of rigorous randomized experimental evaluations of this promising approach. While the biases in quasi-experimental research are not clear (e.g., Campbell and Boruch 1975; Wilkinson and Task Force on Statistical Inference 1999), recent reviews in crime and justice suggest that weaker research designs often lead to more positive outcomes (e.g., see Weisburd et al. 2001; Welsh et al. 2011). This does not mean that nonexperimental



**Figure 4.** Funnel plot for all eligible studies with imputed studies from trim-and-fill analysis. Note: Empty circles are the original studies. Filled-in circles indicate imputed studies from the trim-and-fill analysis.

studies cannot be of high quality, but only that there is evidence that non-experimental designs in crime and justice are likely to overstate outcomes as contrasted with randomized experiments. In his review of situational crime prevention evaluations, Guerette (2009) finds that the conclusions of randomized evaluations were generally consistent with the majority conclusion of the nonrandomized evaluations. While our vote counting review is consistent with Guerette’s (2009) conclusion, our calculated effect sizes reveal that less rigorous focused deterrence evaluation designs were associated with stronger reported effects. As such, we think that caution should be used in drawing conclusions regarding population effect sizes for the pulling levers intervention.

At the same time, the effects observed in the studies reviewed were often very large, and such effect sizes are evidenced as well in those studies using strong comparison groups (e.g., Papachristos et al. 2007) and in the sole randomized controlled trial (Hawken and Kleiman 2009). Our review provides

strong empirical evidence for the crime prevention effectiveness of focused deterrence strategies. Even if we assume that the effects observed contain some degree of upward bias, it appears that the overall impact of such programs is noteworthy. These findings are certainly encouraging and point to the promises of this approach.

We certainly believe that the positive outcomes of the present studies indicate that additional experimental evaluations, however difficult and costly, are warranted. The potential barriers are real, especially in regard to identifying valid treatment and comparison areas. But existing evidence is strong enough to warrant a large investment in multisite experiments (Weisburd and Taxman 2000). Such experiments could solve the problem of small numbers of places in single jurisdictions and would also allow for examination of variation in effectiveness across contexts.

Despite our concerns over the lack of randomized experiments, we believe that the findings of eligible focused deterrence evaluations fit well within existing research suggesting that deterrence-based strategies, if applied correctly, can reduce crime (Apel and Nagin 2011). The focused deterrence approach seems to have the desirable characteristic of altering offenders' perceptions of sanction risk. Our findings are also supported by the growing body of scientific evidence that suggests police departments, and their partners, can be effective in controlling specific crime problems when they engage a variety of partners, and tailor an array of tactics to address underlying criminogenic conditions and dynamics (Braga 2008a; Weisburd and Eck 2004). Indeed, our study suggests that Durlauf and Nagin (2011) are correct in their conclusion that imprisonment and crime can both be reduced through the noteworthy marginal deterrent effects generated by allocating police officers, and their criminal justice partners, in ways that heighten the perceived risk of apprehension.

While the results of this review are very supportive of deterrence principles, we believe that other complementary crime control mechanisms are at work in the focused deterrence strategies described here that need to be highlighted and better understood (see Weisburd 2011). In Durlauf and Nagin's (2011) article, the focus is on the possibilities for increasing perceived risk and deterrence by increasing police presence. Although this conclusion is warranted by the data and represents an important component of the causal mechanisms that have increased the effectiveness of focused deterrence strategies, we believe it misses an important part of the story. In the focused deterrence approach, the emphasis is not only on increasing the risk of offending but also on decreasing opportunity structures for violence, deflecting offenders away from crime, increasing the collective

efficacy of communities, and increasing the legitimacy of police actions. Indeed, we suspect that the large effects we observe come precisely from the multifaceted ways in which this program influences criminals.

A number of scholars have focused on the mechanism of “discouragement” when discussing crime prevention benefits of interventions (see, e.g., Clarke and Weisburd 1994). Discouragement emphasizes reducing the opportunities for crime and increasing alternative opportunity structures for offenders. In this context, situational crime prevention techniques are often implemented as part of the core pulling levers work in focused deterrence strategies (Braga and Kennedy 2012; Skubak Tillyer and Kennedy 2008). For instance, the Cincinnati Initiative to Reduce Violence used civil forfeiture techniques to close down a highly problematic bar that generated recurring serious violence (Engel, Corsaro, and Skubak Tillyer 2010). Extending guardianship, assisting natural surveillance, strengthening formal surveillance, reducing the anonymity of offenders, and utilizing place managers can greatly enhance the range and the quality of the varying enforcement and regulatory levers that can be pulled on offending groups and key actors in criminal networks (see, e.g., Welsh and Farrington 2009). The focused deterrence approach also seeks to redirect offenders away from violent crime through the provision of social services and opportunities. In all the gang/group interventions reviewed here, gang members were offered job training, employment, substance abuse treatment, housing assistance, and a variety of other services and opportunities.

Aspects of “broken windows” theory may also be relevant for our understanding of how and why focused deterrence programs reduce crime (Wilson and Kelling 1982). Broken windows theory argues that intensive efforts by police to reduce social and physical disorder can reverse the breakdown of community social controls that accompanies untended and unrestrained violations of social order. Thus, crime is reduced in part because of efforts by the police and in part because of increased vigilance by community members. Kleiman and Smith (1990:88) describe the potential benefits of an intensive police effort to reduce drug crime and disorder by noting “a dramatic police effort may call forth increased neighborhood efforts at self-protection against drug dealing activity; given police resources such self-defense may be essential to long-run control of drug dealing.”

Sampson, Raudenbush, and Earls (1997) emphasize the capacity of a community to realize common values and regulate behavior within it through cohesive relationships and mutual trust among residents. They argue that the key factor determining whether crime will flourish is a sense

of the “collective efficacy” of a community. A community with strong collective efficacy is characterized by “high capacities for collective action for the public good” (St. Jean 2007:3). Focused deterrence enhances collective efficacy in communities by emphasizing the importance of engaging and enlisting community members in the strategies developed. The High Point DMI strategy, for example, drew upon collective efficacy principles by engaging family, friends, and other “influential” community members in addressing the criminal behaviors of local drug dealers (Kennedy 2009).

Finally, the focused deterrence approach takes advantage of recent theorizing regarding procedural justice and legitimacy. The effectiveness of policing is dependent on public perceptions of the legitimacy of police actions (Skogan and Frydl 2004; Tyler 1990, 2004). Legitimacy is the public belief that there is a responsibility and obligation to voluntarily accept and defer to the decisions made by authorities (Tyler 1990, 2004). Recent studies suggest that when procedural justice approaches are used by the police, citizens will not only evaluate the legitimacy of the police more highly, they will also be more likely to obey the law in the future (see, e.g., Paternoster et al. 1997). Advocates of focused deterrence strategies argue that targeted offenders should be treated with respect and dignity (Kennedy 2008, 2009), reflecting procedural justice principles. The Chicago PSN strategy, for instance, sought to increase the likelihood that the offenders would “buy in” and voluntarily comply with the prosocial, anti-violence norms being advocated by interacting with offenders in ways that enhance procedural justice in their communication sessions (Papachristos et al. 2007).

In closing, we think it is important to recognize that focused deterrence strategies are a very recent addition to the existing scholarly literature on crime control and prevention strategies. While the evaluation evidence needs to be strengthened and the theoretical underpinnings of the approach needs further refinement, we believe that jurisdictions suffering from gang violence, overt drug markets, and repeat offender problems should add focused deterrence strategies to their existing portfolio of prevention and control interventions. The existing evidence suggests these new approaches to crime prevention and control generate noteworthy crime reductions.

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The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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## Notes

1. A "banked" case refers to a potential prosecution for narcotics sales, supported by audio and video evidence usually obtained through a controlled buy that is held in inactive status unless the subject of the prosecution continues dealing, at which point an arrest warrant is issued and prosecution proceeds.
2. The following search terms were used: focused deterrence, deterring violent offenders, pulling levers AND police, problem-oriented policing, police AND repeat offenders, police AND gangs, police AND guns, gang violence prevention, strategic gang enforcement, crackdowns AND gangs, enforcement swamping, and drug market intervention.
3. The following 15 databases were searched: Criminal Justice Periodical Index, Sociological Abstracts, Social Science Abstracts (SocialSciAbs), Social Science Citation Index, Arts and Humanities Search (AHSearch), Criminal Justice Abstracts, National Criminal Justice Reference Service (NCJRS) Abstracts, Educational Resources Information Clearinghouse (ERIC), Legal Resource Index, Dissertation Abstracts, Government Publications Office, Monthly Catalog (GPO Monthly), Google Scholar, Online Computer Library Center (OCLC) SearchFirst, CINCH data search, and C2 SPECTR (The Campbell Collaboration Social, Psychological, Educational and Criminological Trials Register).
4. These journals were: *Criminology*, *Criminology & Public Policy*, *Justice Quarterly*, *Journal of Research in Crime and Delinquency*, *Journal of Criminal Justice*, *Police Quarterly*, *Policing*, *Police Practice and Research*, *British Journal of Criminology*, *Journal of Quantitative Criminology*, *Crime & Delinquency*, *Journal of Criminal Law and Criminology*, and *Policing and Society*. Hand searches covered 1979 to 2010.
5. Ms. Phyllis Schultze of the Gottfredson Library at the Rutgers University School of Criminal Justice executed the initial abstract search and was consulted throughout on our search strategies.
6. During the development of this report, the Newark study was accepted for publication at *Justice Research and Policy* and the Nashville study was accepted for publication at *Evaluation Review*.

7. Random effects models were used to estimate the overall standardized mean effect sizes. For the largest effect size meta-analysis,  $Q = 57.002$ ,  $df = 9$ ,  $p = 0.000$ . For the smallest effect size meta-analysis,  $Q = 46.952$ ,  $df = 9$ ,  $p = .000$ .
8. Both studies measured recidivism as a new arrest by treatment and control individuals. A fixed effects model was used to calculate an overall effect size for these two studies ( $Q = 3.391$ ,  $df = 1$ ,  $p = .066$ ).

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