

Systematic Review of the Effects of Hot Spots Policing on Crime

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Title

The Effects of Hot Spots Policing on Crime

Reviewer

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Background

Place-oriented crime prevention strategies have begun to have an important role in police crime prevention research and policy (Eck and Weisburd, 1995). This idea developed from the "hot spots" of crime perspective, which suggests that crime does not occur evenly across urban landscapes; rather, it is concentrated in relatively small places that generate more than half of all criminal events (Pierce et al., 1988; Sherman et al., 1989; Weisburd et al., 1992). Even within the most crime-ridden neighborhoods, crime clusters at a few discrete locations and other areas are relatively crime free (Sherman et al., 1989). A number of researchers have argued that many crime problems can be reduced more efficiently if police officers focused their attention to these deviant places (Sherman and Weisburd, 1995; Weisburd and Green, 1995).

Beyond studies observing the *clustering* of criminal events, in their review of the research literature, Eck and Weisburd (1995) identified four other concepts that illuminate the role of place in crime. *Facilities*, such as bars, churches, and apartment buildings have been found to affect crime rates in their immediate environment depending on the type of people attracted, the

way the space is managed, or the possible crime controllers present such as owners, security, or police. *Site features* such as easy access, a lack of guardians, inept or improper management, and the presence of valuable items have been suggested to influence the decisions offenders make about the place they choose to commit their crimes. Studies of *offender mobility* suggest that offenders' target searching behavior is influenced by personal characteristics (such as gender, age, race, experience, and crime types) and the distribution of crime targets. A direct outgrowth of offender mobility patterns, research on *target selection* posits that offenders seek places with cues that indicate acceptable risks and gains, such as homes on the outskirts of affluent neighborhoods; these places are found during intentional target searches and during their daily legitimate routines.

The study of crime events at places is influenced and supported by three complementary theoretical perspectives: rational choice, routine activities, and environmental criminology. The rational choice perspective assumes that "offenders seek to benefit themselves by their criminal behavior; that this involves the making of decisions and choices, however rudimentary on occasion these choices may be; and that these processes, constrained as they are by time, the offender's cognitive abilities, and by the availability of relevant information, exhibited limited rather than normative rationality" (Cornish and Clarke, 1987, p. 933). This perspective is often combined with routine activity theory to explain criminal behavior during the crime event (Clarke and Felson, 1993). Routine activity theory posits that a criminal act occurs when a likely offender converges in space and time with a suitable target (e.g., victim or property) in the absence of a capable guardian (Cohen and Felson, 1979). Rational offenders come across criminal opportunities as they go about their daily routines and make decisions whether to take action. Environmental criminology explores the distribution and interaction of targets, offenders, and opportunities across time and space; understanding the characteristics of places, such as facilities, is important as these attributes given rise to the opportunities that rational offenders will encounter during their routine activities (Brantingham and Brantingham, 1991). The assumption is that, if victims and offenders are prevented from converging in space and time through the effective manipulation of the environment, police can reduce crime.

Hot spots policing has become a very popular way for police departments to prevent crime. A recent Police Foundation report found that 7 in 10 departments with more than 100 sworn officers reported using crime mapping to identify crime hot spots (Weisburd et al., 2001). A growing body of research evidence suggests that focused police interventions, such as directed patrols, proactive arrests, and problem solving, can produce significant crime prevention gains at high-crime "hot spots" (Sherman and Weisburd, 1995; Sherman and Rogan, 1995; Weisburd and Green, 1995; Green, 1996; Eck, 1997, 2002; Braga et al., 1999). Although several evaluations suggest place-focused policing interventions effectively prevent crime, the well-known RECAP (Repeat Call Address Policing) experiment in Minneapolis did not find problem-oriented policing to be effective in controlling addresses that generated a disproportionate amount of citizen calls for police service (Buerger, 1993). These results were probably due to the assignment of too many cases to the RECAP unit, thus outstripping the amount of resources and attention the police officers provided to each address (Buerger, 1993). Given the growing popularity of hot spots policing, as well as a conflicting result and the suggestion that the research design may have attributed to the negative findings, a systematic review of the

empirical evidence on the effects of focused police interventions on crime hot spots is necessary to assess the value of this approach to crime prevention.

Objectives

This review will synthesize the existing published and non-published empirical evidence on the effects of focused police crime prevention interventions at high-crime places and will provide a systematic assessment of the preventive value of focused police crime prevention efforts at crime hot spots. Unlike many innovations in policing, hot spots policing was primarily developed by academics responding to theoretical innovations and empirical data. As such, the proposed review will also include a literature review that sets the theoretical context for the development of hot spots policing approaches to crime prevention.

Criteria for Inclusion and Exclusion of Studies in the Review

Types of Studies

Only studies that use comparison group designs involving before and after measures will be eligible for this review. In many hot spots policing experiments (e.g. Weisburd and Green, 1995; Braga et al., 1999), the control group experiences routine police interventions (e.g., regular levels of random patrol, ad-hoc investigations, etc.). Crime places that receive the experimental intervention are compared to places that experience routine levels of traditional police service. There will be two standards for classifying the methodological rigor of prospective studies used in this research. For the Campbell Collaboration Crime and Justice Group review, the comparison group study design may be experimental or quasi-experimental (non-randomized). For the Smith Richardson Foundation Testbed review, only studies that use randomized controlled trial designs will be considered.

Types of Areas

The units of analysis are crime hot spots or high-activity crime “places.” As Eck (1997) suggests, “a place is a very small area reserved for a narrow range of functions, often controlled by a single owner, and separated from the surrounding area... examples of places include stores, homes, apartment buildings, street corners, subway stations, and airports” (7-1). All studies using units of analysis smaller than a neighborhood or community will be considered. The units of analysis in eligible studies do not have to be hot spots or high-activity crime places. Police programs that simply target a high-crime district or beat without focusing treatment on specific hot spots within the larger area will not be considered. For example, the well-known Kansas City Gun project involved the intensive enforcement of laws against illegally carrying guns in a target beat suffering from high levels of violent gun crime (Sherman and Rogan, 1995). Police enforcement operations within the targeted beat were guided by computerized hot spots analysis of official data on gun crime. This study will be included in the review as it involved focusing

police interventions on very small places within a larger beat. Under these criteria, a subsequent replication in Indianapolis would not be included in the review, as the intensive gun law enforcement activities were not guided by computerized data analysis and not directly focused on particular gun violence hot spots within larger districts (McGarrell et al., 2001).

It is important to note here that this research strategy will yield a diverse set of high-activity crime places across the identified studies. Varying methods to identify crime hot spots may lead to a variety of high-activity crime places subjected to treatment. This heterogeneity in the units of analysis across studies could have varying and policy-relevant effects on crime prevention outcomes. As such, the quality of the methodological approaches used to identify hot spots in the eligible studies will be assessed as part of the review. The review will also classify the types of high-activity crime places to ensure that the review is measuring similar findings across the potentially diverse set of crime hot spots subjected to treatment.

Types of Interventions

To be eligible for this review, interventions used to control crime hot spots will be limited to police enforcement efforts. Suitable police enforcement efforts include traditional tactics such as directed patrol and heightened levels of traffic enforcement as well as alternative strategies such as aggressive disorder enforcement and problem-oriented policing with limited situational responses and limited engagement of the public. Problem-oriented policing initiatives must engage primarily traditional policing tactics such as law enforcement actions, informal counseling and cautioning, and referrals to other agencies. Problem-oriented policing programs that involve multiple interventions implemented by other stakeholders such as community members, business owners, or resident managers, will not be considered.

Studies of police crackdown programs will also be considered (see, e.g. Sherman, 1990). However, to be included in this review, crackdown programs must be focused on very specific places and not be limited to a one-time only swamping of police resources. Some ongoing attention to crime hot spots must be a characteristic of the program whether it is a series of subsequent crackdowns or simple maintenance of the targeted area through other means (e.g. additional follow-up directed patrol). This inclusion criterion will ensure that only crackdown programs that are similar to more formal hot spots policing programs are considered.

Types of Outcome Measures

Eligible studies must measure the effects of police intervention in officially recorded levels of crime at places. Appropriate measures of crime could include crime incident reports, citizen emergency calls for service, or arrest data). Other outcomes measures such as survey, interview, social observations, physical observations, and victimization measures used by eligible studies to measure program effectiveness will also be coded and analyzed.

Particular attention will be paid to studies that measure crime displacement effects and diffusion of crime control benefit effects. Policing strategies that are focused on specific locations have

been criticized as resulting in displacement (see Repetto, 1976). More recently, academics have observed that crime prevention programs may result in the complete opposite of displacement—that crime control benefits were greater than expected and “spill over” into places beyond the target areas (Clarke and Weisburd, 1994). The quality of the methodologies used to measure displacement and diffusion effects, as well as the types of displacement (spatial, temporal, target, modus operandi) examined, will be assessed.

Search Strategies for Identification of Studies

To identify the studies meeting the criteria of this review, the following four search strategies will be used:

1. Searches of on-line databases (see below)
2. Searches of narrative and empirical reviews of literature that examine the effectiveness of police interventions on crime hot spots (e.g. Sherman, 1990, 1997; Eck, 1997, 2002; Braga 2001)
3. Searches of bibliographies of police crime prevention efforts and place-oriented crime prevention programs (e.g. Sherman 2002; Braga 2002)
4. Contacts with leading researchers

These different sources will complement each other in the identification of eligible hot spots policing studies. For example, if an eligible study exists that does not use the one of the search studies or does not appear in one of the on-line databases, contacts with leading researchers and searches of existing bibliographies are likely to discover any such study if it existed. All published and unpublished studies will be considered for this review. Each on-line database will be search as far back as possible. However, since hot spots policing is a very recent development in crime prevention, the search strategies described above should be sufficient to identify all relevant studies.

The following eleven databases will be searched:

1. Criminal Justice Periodical Index
2. Sociological Abstracts
3. Social Science Abstracts (SocialSciAbs)
4. Social Science Citation Index
5. Arts and Humanities Search (AHSearch)
6. Criminal Justice Abstracts
7. National Criminal Justice Reference Service (NCJRS) Abstracts
8. Educational Resources Information Clearinghouse (ERIC)
9. Legal Resource Index
10. Dissertation Abstracts
11. Government Publications Office, Monthly Catalog (GPO Monthly)

The following terms will be used to search the ten databases listed above:

1. Hot spot
2. Crime place
3. Crime clusters
4. Crime displacement
5. Place-oriented interventions
6. High crime areas
7. High crime locations
8. Targeted policing
9. Directed patrol
10. Crackdowns
11. Enforcement swamping

In addition, two existing registers of randomized controlled trials will be consulted. These include (1) the “Registry of Experiments in Criminal Sanctions, 1950-1983 (Weisburd et al., 1990) and (2) the “Social, Psychological, Educational, and Criminological Trials Register” or SPECTR being developed by the United Kingdom Cochrane Centre and the University of Pennsylvania (Petrosino et al., 2000).

Method of the Review

Selection of studies

The reviewer will screen abstracts and leads to potentially eligible studies and decide which full-text reports should be acquired. Only the full-text papers of titles and abstracts indicating, or potentially indicating, random or quasi-random assignment to control and treatment groups will be obtained. Studies that use quasi-experimental techniques such as matching, statistical controls, comparison groups, and the like will be considered for inclusion in the review. In cases of ambiguity, the full text of the study will be obtained in order to properly determine whether an eligible study design was used. Correlation and observational studies without control groups that examine the effects of hot spots policing on crime will be noted and appear in catalog form in an appendix to the final report. These descriptive studies will not be included in the formal analysis reporting the findings of the review.

Assessment of Methodological Quality

Studies meeting the eligibility set forth above will be coded for a range of characteristics related to methodological quality including the definition criteria used to identify the units of analysis, the statistical tests used to determine crime prevention effectiveness, the measurement of displacement, the violation of randomization procedures, case attrition from the study, and the subversion of the experiment by participants. Farrington (2002) proposes five easily understood methodological criteria to assess the methodological quality of evaluation studies. These criteria include statistical conclusion validity, internal validity, construct validity, external validity, and

descriptive validity. As appropriate and possible, the role of the various methodological factors on the observed empirical results will be assessed. However, it is important to recognize that eligible studies may not detail or even mention implementation issues. Indeed, all field experiments face implementation difficulties and care will be taken not to artificially downgrade the value of certain studies simply because study provided an open account of potential process problems.

Data Management and Extraction

The reviewer, with the help of a trained research assistant, will extract information from the full text report on the characteristics of the study using a carefully designed data extraction instrument. A content analysis will be conducted on the full text of the report and the data extraction instrument will capture data on the relevant dimensions of this review. These dimensions include: a complete description of the treatment, methods used to define and identify hot spots, research design and statistical techniques, threats to the research design, crime outcome measures, alternative outcome measures, and the measurement of displacement and diffusion effects. When important information is missing from available study reports, the original researchers will be contacted, if possible, to determine if they can supply that information.

Determination of Independent Findings

A single evaluation of a hot spots policing intervention may provide data on multiple outcome measures. For example, the Jersey City problem-oriented policing in violent places experiment presents an array of outcome measures including citizen calls for service data, crime incident data, systematic observations of social disorder, systematic observations of physical disorder, key community member perception data, and displacement/diffusion of crime data (Braga et al., 1999; Braga, 1997). Multiple outcome measures will be categorized according to the underlying phenomena they seek to measure (e.g. effects on crime, effects on disorder, effects on citizen perceptions, etc.). These categories will be used to make independent observations of the effects of hot spots policing on a wider range of outcomes. For example, a hot spots policing intervention may not result in significant crime prevention gains, but may reduce social and physical disorder and cause community members to feel safer in the treated hot spot areas. To the extent possible, this review will capture any varying effects across different types of outcome measures.

Statistical Procedures and Conventions

Analysis of outcome measures across studies will be carried out in a uniform manner and, where appropriate and possible, involve quantitative analytical methods. In the preliminary systematic review of hot spots policing interventions, only 9 studies were identified that met the inclusion criteria identified above (see Braga, 2001). The slightly expanded search strategy and time period described below may identify a few additional studies. As such, the analysis will consist

of simple descriptive statistics reporting the proportion of studies reporting significant effects on outcome measures, the size of the effect, and the direction of the effect.

Timeframe

A preliminary review of the effects of hot spots policing on crime was completed and published in 2001 (Braga, 2001). The inclusion criteria, study codes, and data collection techniques discussed above have already been piloted and refined. The formal Campbell review will include a search with three additional terms suggested by external reviewers (directed patrol, crackdowns, and enforcement swamping) and two additional years for the publications of studies (2002 and 2003 evaluations). Since most of the necessary work has already been completed and the next round of review will identify a small number of eligible studies, the formal Campbell review will be completed in an expeditious manner. The estimated timeline for a completed report includes the following benchmarks and anticipated dates:

Search for published and unpublished studies	April 2003
Relevance assessments	May 2003
Extraction of data from research reports	May 2003
Statistical analysis	May 2003
Preparation of report	June – August 2003
Submission of completed report	September 2003

Updating the Review

Once completed, the hot spots policing review will be updated once a year. Using the criteria and methodology identified above, a search for new studies will be conducted in January of each new year (i.e. after the completion of this review, the next search will be conducted in January 2004). If new studies are identified, the review will be updated.

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Conflict of Interest

With colleagues, I have conducted a randomized controlled experiment that found problem-oriented policing to be effective in controlling crime and disorder at violent crime hot spots (see Braga et al., 1999). Moreover, my colleagues (e.g., David Weisburd and Lorraine Green Mazerolle) have conducted other experimental evaluations of the effects of hot spots policing on crime. Although I don't have an ideological bias towards the effectiveness of place-focused interventions, it may be uncomfortable for me to report findings in my review that contradict the findings of my experiment or experiments conducted by my colleagues.

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