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Effectiveness of Street Gang Control Strategies
A Systematic Review and Meta-Analysis of Evaluation Studies

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Effectiveness of Street Gang Control Strategies: 
A Systematic Review and Meta-Analysis of Evaluation Studies

By:
Jennifer Wong
Jason Gravel
Martin Bouchard
Carlo Morselli
and
Karine Descormiers

prepared for
Research and National Coordination
Organized Crime Division
Law Enforcement and Policy Branch
Public Safety Canada

The views expressed herein are those of the authors and do not necessarily reflect those of the Department of Public Safety Canada.

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Abstract

This systematic literature review and meta-analysis of evaluation studies on street gang control strategies focused on articles and reports from multiple bibliographic databases. The database search resulted in a total of 2,060 hits. Of the 297 studies that were examined, only 38 were retained for the systematic review after all screening procedures and inclusion criteria were applied. This list of studies was classified into a typology of five broad categories of street gang control strategies, including: 1) prevention, 2) gang activity regulation, 3) justice system based intervention, 4) comprehensive, and 5) holistic. A quantitative synthesis of program outcomes could not be undertaken because of the difficulty in pooling together studies that were incommensurate; it was considered substantively meaningless to produce a summary effect. Instead, a systematic review was undertaken. The systematic review of street gang control strategy evaluation studies revealed that findings in regard to effectiveness were not encouraging, especially for studies evaluating general prevention, and gang membership prevention programs. Overall, it was found that the more specific the targeted population, the more evaluations tended to show signs of effectiveness. Gang activity suppression programs was the only category of approaches in which evaluations found consistent positive outcomes. It was also found that the more chronic the gang problem, the more effective gang activity suppression approaches. None of the evaluations of comprehensive and holistic programs produced any strong evidence in terms of effectiveness. Probably the most surprising finding in this report concerned the Spergel Model, which was shown to be ineffective mostly due to implementation fidelity. Three major recommendations concerning gang control strategies were discussed: the need for consistent independent evaluations applying scientific methodologies; programs should be built on empirical research findings and not intuition or common sense; and evaluations should be an integral part of the implementation process of a program.
Executive Summary

This report is the result of a systematic literature review and attempted meta-analysis of evaluation studies focused on street gang control strategies. A narrative synthesis of study findings was undertaken instead of a meta-analysis for reasons described herein. By gang, the authors concur closely with Klein and Maxson’s definition: “a street gang is any durable, street-oriented youth group whose involvement in illegal activity is part of its group identity” (2006, 4). The general objective of this study is to bring some order to the field, a field in which few program implementation designs plan for a rigorous outcome evaluation. This objective allows the authors to address what strategies are most effective in reducing or preventing gang-related crime and delinquency? The specific aims are to: create a database of the key features and main quantitative results of the evaluation studies; conduct a systematic review of gang program evaluation studies from 1980 to the present; conduct a meta-analysis synthesizing the results of the included sample of rigorous evaluation studies; and outline a series of recommendations on best practices in regards to policy responses to street gangs.

Based on procedures set forward by the lead researchers in the field, the authors scanned articles and reports across multiple bibliographic databases with an English and French keyword (and synonym) search of different concepts.

The database search resulted in a total of 2,060 hits. A total of 326 articles/reports were selected for full document retrieval and 297 were subsequently retrieved. In addition to this database search, and to ensure that unpublished or “gray” literature was included by the search process, the authors also reviewed the curricula vitae of 30 key gang researchers, the reference lists of retrieved studies, the websites of organizations conducting research on gangs, and key journals. Of the 297 studies that were examined, 38 were retained after all screening procedures and inclusion criteria were applied. The most common reason for exclusion was that the study failed to provide sufficient numerical or graphical data to allow for the computation of an effect size. The vast majority of the evaluations relied on qualitative research designs that are not amenable to meta-analytic synthesis. Even though efforts were made to include as many Canadian studies as possible, only one Canadian study by Diplacido et al. (2006) met the inclusion criteria and was retained for analysis. The study describes a prison based treatment program that was successful in lowering recidivism rates for treated gang members.

This list of studies was classified in a typology of gang prevention or intervention approaches comprised of the four traditional categories of approaches in this area of research: suppression, prevention, intervention, and comprehensive. A model was also created to account for two existing theoretical perspectives on gang strategies: the Spergel Model and a general model designed by Sivili et al. (1996). The proposed typology in this report incorporates both the Spergel Model and the Sivili et al. model and is based on the population served (from general population to convicted gang members) and the objective of the intervention (from preventive awareness to relapse prevention). The typology is divided into five broad categories, with three comprised of subcategories: prevention (preventive awareness and gang membership prevention); gang activity regulation (gang activity prevention and gang activity suppression); justice system based intervention (prison based intervention and probation intervention); comprehensive; and holistic.
The set of 38 rigorous gang prevention/intervention strategy evaluations identified via the systematic review raised a series of important challenges for meta-analysis. It is difficult, and can be methodologically inappropriate, to pool together studies that are incommensurate. It is substantively meaningless to produce a summary effect and establish a consistent analysis in terms of concepts, study designs, and statistical modelling in this case. After implementing an exhaustive, thorough data extraction and coding process, the authors determined that a quantitative synthesis of program outcomes is simply not possible given the current body of literature on gang prevention/intervention. This is likely the principal reason why no published meta-analysis on street gangs exists.

Instead of a complete meta-analysis of gang prevention and intervention evaluation research, an alternative method was employed: a narrative synthesis of study findings. All five classifications were addressed. The prevention strategy literature showed that there is no single cause for gang membership, and no easily pinpointed factor that could be identified and eliminated.

There is a consensus that, in order to prevent gang membership causing delinquency, prevention strategies for gang membership causing delinquency should begin as early as possible in a youth’s life.

In terms of success, programs focusing on offering alternatives to gang activity were not found to be effective. On the other hand, programs focusing on stopping gang-related crimes before they occur show signs of effectiveness. Also, targeting a specific problem should be considered: the research demonstrated that the more specific the targeted population, the more the evaluations showed signs of effectiveness. Evaluations of preventive awareness programs that targeted a universal population, on the other hand, showed little sign of effectiveness.

Gang activity suppression programs are the only category in which evaluations found consistent positive outcomes, and much like the gang activity prevention programs, the more specific the target population of the strategy, the more the evaluations yielded positive results. Also, the more chronic the gang problem, the more effective gang activity suppression approaches—such a situation generally calls for pulling-levers strategies that reach out directly to gang offenders and direct (or threaten) them to reduce the more problematic features of their behaviour (e.g., violence).

Evaluations of comprehensive and holistic approaches did not produce any strong evidence in terms of effectiveness. Probably the most surprising finding in this report concerns the drawbacks of the highly reputed Spergel Model, including implementation fidelity (i.e., the degree to which a program is implemented following the initial program design), particularly at the community level.

The systematic review provided important and informative conclusions regarding the current status of the field of literature on approaches to gang prevention/intervention. On gang control strategies in general, three major recommendations were discussed: the need for more evaluations applying scientific methodologies; that programs should be built on empirical research findings, not intuition and common sense; and that evaluations should be planned from the inception of a program and used to readjust strategies as necessary.
1.0 Introduction

There are many different philosophies available for designing policy responses to gangs, but little is known about the effectiveness of these street gang control strategies. Few program implementation designs plan for a rigorous outcome evaluation to be conducted with valid pre- and post- indicators and appropriate comparison groups. Evaluations are infrequently conducted, which means that failures are rarely documented and published. Existing evaluations vary widely in terms of methodology and findings and have yet to be integrated into a common framework amenable for systematic analysis of the effectiveness of gang prevention/intervention strategies. Finally, there are many different approaches for assessing the diversity of programs that are implemented to confront street gang problems, and while many of these programs have been evaluated, results generally vary and often conflict. In the face of such inconsistencies in evaluation efforts and disparate research findings, the present study aims to bring some order to this field and assess which approaches are best suited for the control of street gangs. More specifically, this research aims to create a database of the key features and main quantitative results of the evaluation studies; conduct a systematic review of gang program evaluation studies from 1980 to the present; conduct a meta-analysis synthesizing the results of the included sample of rigorous evaluation studies; and make recommendations on best practices in regards to policy responses to street gangs.

2.0 Methodology

The proposed approach for the current project involves two components: a systematic literature review and a meta-analysis. A systematic literature review differs from a traditional narrative literature review in that it is considerably more structured and objective with respect to data collection procedures. More specifically, the determination of which studies to include in a systematic review requires the articulation of explicit a priori criteria for study eligibility – decision rules are determined ex ante with respect to study “qualifications” for inclusion. A narrative review often does not implement inclusion criteria ahead of time, or may select studies by convenience; for example, studies which are already familiar to the author, are easy to retrieve (electronically), or have been selectively chosen because they support a particular hypothesis. As such, it is hardly surprising that independent authors conducting narrative reviews on the same general topic often include a different set of studies and reach different summative conclusions when presenting their overview of the body of literature (Judd, Smith, and Kidder 1991).

Furthermore, the explicit, transparent criteria set out for a systematic review limits hidden biases and assumptions, and enables straightforward replication of the research by others (Lipsey and Wilson 2001). In other words, armed with the identical inclusion/exclusion criteria and sources for study identification (such as the bibliographic databases and CVs to be searched), independent researchers could replicate the findings of the original study with relative ease. If two systematic reviews on the same topic produced different sets of studies for inclusion, it would be possible to examine the study protocols to determine exactly why they differed.

The methodological approach undertaken in the current study includes a systematic review of evaluations of the effectiveness of strategies to prevent/intervene with street gangs, allowing for
an up-to-date and comprehensive assessment of the current state of the literature so that informed recommendations can be made concerning best practices for prevention and intervention.

The second component of the proposed methodology is a meta-analysis. First developed by Glass (1976; Smith and Glass 1977), meta-analysis is a quantitative literature review technique that statistically analyzes and synthesizes study results across a body of literature. In a meta-analysis each individual study is considered a data point, much like a single respondent to a survey questionnaire, and results are integrated across a set of data or data points. This type of analysis uses data from each study in a relatively raw format, abstracted in a standardized process, and ignoring individual conclusions and analysis procedures. The algorithm used to statistically combine study results takes into consideration sample size and precision of data when combining findings across the set of studies.

The next sections of the current report present a detailed description of the methods used for article selection, database development, and the results from our meta-analysis. These results led the authors to a classification of gang interventions that focus on the variety of preventive, repressive, and hybrid approaches that have been implemented across time and diverse contexts.

The report is completed with an assessment of the important challenges of applying meta-analysis in the area of gang intervention programs, a narrative review of those studies that were suited to such an analysis, and a series of conclusions and recommendations to guide future research and practices in this area.

2.1 Article Selection

In August 2010, the Campbell Collaboration released an updated guide to information retrieval for systematic reviews (Hammerstrom, Wade, and Jorgenson 2010). Among other suggestions, the guide specifies that systematic literature searches should be conducted in multiple bibliographic databases, that different search concepts should be kept to a minimum but a large number of synonyms should be used within each concept, and that less common search methods, such as hand searches of key journals, should be used in addition to traditional electronic database searches. The strategy designed and implemented in our systematic literature review follows this protocol.

2.2 Database Searches

Twenty-two English language databases and three French language databases were searched using the keywords in a Boolean abstract search (see Appendix A). The set of keywords chosen reflects the wider definition of gangs that is necessary given the purpose of this project. The vast majority of the studies retrieved use the term "gang" but do not explicitly define this term. A rigid approach to gang definitions would not make this project possible.

1 The Campbell Collaboration (www.campbellcollaboration.org) is an international research network that produces systematic reviews and meta-analyses of the effects of social interventions.
There have been many attempts to define what a gang is, but this field of research is still far from achieving a uniform conceptualization of the central problem at hand. As with other areas of research, gang definitions range from the overly specific in which too many conditions are included to the all-encompassing definitions which are not restrictive enough and fail to distinguish between gangs and more common troublesome youth groups.

Despite these definitional challenges and controversies, the authors nonetheless approached this project with a working definition that follows Klein and Maxson who offer a broader, more minimalist (but not all-encompassing) definition that was established in the Eurogang research program: "a street gang is any durable, street-oriented youth group whose involvement in illegal activity is part of its group identity" (2006, 4). This definition is designed around three conditions. First, durability refers to the survival of the gang, regardless of the turnover of its members (most groups identified as gangs do not last more than a few months). Second, youths could include adults in their 20s and, to some extent, 30s – what is important is that the gang itself is comprised primarily of youths. Third, illegality is the key here – a group that is simply bothersome is not considered a gang. A final point that should be retained from Klein and Maxson's (2006) work is that other conditions often associated with gangs (e.g., leadership, cohesiveness, ethnicity, gender, argot, clothing, tattoos, hand signs, violence, intimidation, and the control of criminal activities) cannot be included as definitional criteria – they are, instead, characteristics that help establish variations between gangs. A useful overview of the debate over gang definitions relevant for the Canadian context can be found in Wortley (2010).

The database search resulted in a total of 2,060 hits. Two team members independently reviewed this list of abstracts (or article/report titles for the few cases where abstracts were not available) and selected those articles believed to possibly contain an evaluation of a type of policy or intervention with reference to gangs. A total of 326 articles/reports were selected for full document retrieval and 297 were retrieved electronically or ordered through inter-library loan.

2.3 Hand Searches

In order to ensure that unpublished or “gray” literature was included by the search process, the curricula vitae of key gang research authors were reviewed for additional potential articles (30 curricula vitae in total, see Appendix B), reference lists of retrieved studies were reviewed, and searches of websites of organizations conducting research on gangs (e.g., US National Institute of Justice, Office of Juvenile Justice and Delinquency Prevention), as well as key journals were undertaken (e.g., Journal of Gang Research).

Two team members independently reviewed the 297 full documents retrieved during the systematic review and selected a study for preliminary inclusion in the meta-analysis if it met the following criteria:

- it evaluated some type of strategy for reducing or preventing gang membership or gang-related delinquency/crime;

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2 Twenty-nine studies were not retrieved because they were not published or publically available.
• it reported on at least one quantitative outcome related to crime, delinquency, victimization, or gang membership (e.g., changes in police- or victim-reported crime in a community, estimated number of gang members, self-reported initiation of gang membership, self-reported gang behaviours or criminal activities, and so forth);
• it included sample(s) with at least 20 subjects;
• it was written in English or French;
• it was published between 1980 and 2011;
• it was conducted in Canada, the United States, Australia, or a European country; and
• it provided sufficient numerical or graphical data to allow for the computation of an effect size with respect to treatment impact.

The most common reason for exclusion was that the study failed to provide sufficient numerical or graphical data to allow for the computation of an effect size. The vast majority of the evaluations relied on qualitative research designs that were not amenable to meta-analytic synthesis. Many identified evaluations were unpublished reports not available online or in libraries and were not retrievable despite extensive efforts on the part of the research team. A total of 38 studies were retained after all screening procedures and inclusion criteria were applied to the 297 retrieved evaluations. Even though efforts were made to include as many Canadian studies as possible, only one Canadian study met the inclusion criteria and was subsequently retained for analysis (Diplacido et al. 2006).

3.0 Classification and Typology of Gang Prevention/Intervention Approaches

Traditionally, policy responses to gangs are classified into four categories of approaches: suppression, prevention, intervention, and comprehensive. These categories comprise strategies that are meaningfully different from one another. For example, prevention strategies might target risk factors leading youths to gang membership or they might target youths already involved in gangs. Furthermore, strategies might strive to prevent gang membership or they might seek to prevent gang-related crimes. These differences are important in the context of a systematic review and meta-analysis because the evaluations of these strategies focus on fundamentally different participants, program/policy inputs, and outcome measures that may not necessarily be commensurate for pooling (either qualitatively or quantitatively). As a result, our approach begins with the development of a sophisticated and comprehensive typology of strategies to address street gangs. This typology has been developed based on the results of the systematic review and reflects the nature and content of the evaluations included in our analysis.

The model employed for the purposes of this report is based on two existing theoretical perspectives on gang strategies; each strategy contains strengths but also gaps that the authors were successfully able to address and surmount. First, the Spergel Model, developed by Irving A. Spergel in the United States, involves a comprehensive approach to gangs. This approach stipulates that in order to effectively address the gang problem, different types of strategies must be used concurrently in a community setting.

This model “focuses on the formation of partnerships between local private and public agencies (including law enforcement) to provide educational, emotional, and treatment services for youth at
risk of or already involved in gangs” (Fearn et al. 2006, 316; see also Spergel 1995). However, Spergel et al. (2005) found that certain programs claimed to use comprehensive approaches yet did not implement all components of the Spergel Model; these missing components may be crucial to the success or failure of such programs.

A strategy implementing a prevention program for the general population and a suppression approach for known gangs in the community will probably not have the same impact as a strategy implementing a prevention program for the general population, a suppression approach, and a gang exit component. While both of these strategies could be considered “comprehensive,” they differ in the populations they target and in the number of strategies they use. In order to form valid conclusions with respect to impact, it is desirable to be able to compare programs that are similar in approach, target similar populations, and implement the same types of strategies.

Second, the typology was developed based on the evaluation-oriented typology of gang interventions designed by Sivili et al. (1996). Using a program’s stated objectives, Sivili and colleagues developed a typology with which they classified gang strategies into six different types of interventions (community development, primary prevention, gang membership prevention, early intervention, gang suppression, and special supervision). However, this classification scheme did not allow for the creation of mutually exclusive categories as some of these classes of strategies are very similar and would allow a single program to be classified in multiple categories. Moreover, this classification scheme does not allow for an assessment of the comprehensiveness of an approach.

The typology of gang strategies allows for an assessment of the comprehensiveness of a program to be made independently from the claims of program developers/administrators/evaluators. The typology incorporates both the Spergel Model and the Sivili model, and was created based on the population served (from general population to convicted gang members) and the objective of the intervention (from preventive awareness to relapse prevention). The typology was also designed to show the community-level of perceived risk for youth, using a continuum, for each strategy.

The higher a strategy is categorized in the model, the more a gang problem is deemed to be serious in that particular community. The lower categories in the model address the possibility that youths might encounter gangs, whereas the higher categories recognize that there has been a gang problem and that this problem persists. (See Figure 1.)

Figure 1- Gang Intervention Typology
The model is divided into five broad categories, three of which have sub-categories. The categories include: prevention (preventive awareness and gang membership prevention; gang activity regulation (gang activity prevention and gang activity suppression); justice system based intervention (prison based intervention and probation intervention); comprehensive; and holistic. Each gang strategy was categorized exclusively in one of the eight categories/subcategories of the typology that is described in more detail below.

3.1 Prevention Strategies

3.1.1 Preventive Awareness

Preventive awareness strategies aim to reduce at-risk conditions. These strategies are targeted at a general population and their primary objective is to increase participants’ knowledge and help them develop skills that will allow them to deal with at-risk situations. While these strategies might reach at-risk participants, no specific efforts are made to target such individuals. Examples of activities for preventive awareness strategies include school-based curricula, information sessions, after-school activities in a community centre, and late night sports programs.

3.1.2 Gang Membership Prevention

Gang membership prevention strategies target at-risk populations, such as young delinquents, youths with low socioeconomic status (SES), school dropouts, youths living in at-risk neighbourhoods, or youths with other explicit or specific at-risk conditions (e.g., other than simply age or gender). The primary purpose of these strategies is to prevent at-risk youths from joining gangs. This type of strategy requires community awareness regarding the potential danger of vulnerable adolescents joining gangs. The activities offered by programs included in this category resemble the ones in preventive awareness, but they are more sensitive to the factors leading to gang recruitment (e.g., outreach to youths in gang-dominated neighbourhoods, availability of activities at times where certain youths might be at greater risk).

3.2 Gang Activity Regulation

3.2.1 Gang Activity Prevention

Gang activity prevention strategies target youths already involved in gangs. These strategies focus on existing gang members in order to minimize their impact on the community, help get individuals out of gangs, and/or give them a legitimate occupation outside of gang membership. When a community implements this type of strategy, it recognizes that gang activity is a problem, and attempts to use a harm reduction approach to address the problem.

The activities carried out within this approach include: employment programs; outreach to gang members to give them the option to opt out of the gang lifestyle; police beats or social worker (sometimes involving reformed gang members) presence in selected neighbourhoods to disarm potentially explosive situations; nuisance abatement regulations or anti-gang bylaws (e.g.,
preventing the display of gang colours, signs, or clothing in bars); bar watch programs; and gun exchange programs.

While many of these activities are carried out by police officers, the primary purpose of this type of strategy is not to arrest gang members. Under the gang activity prevention model, arrest represents a “last resort” attempt by community members to enable gang members to lead prosocial lives and choose to quit the gang lifestyle.

3.2.2 Gang Activity Suppression

Gang activity suppression strategies also target gang members. These programs are based on deterrence-based strategies, and use a “crackdown” approach on gang criminality. At this stage, the community realizes that the gang problem is getting out of hand and that the best solution is to remove certain individuals from the street. The activities and provisions included within these strategies involve intelligence gathering, police activities aimed at disorganizing gang activities by making arrests, and special prosecution provisions for gang members. The difference between gang activity prevention strategies and gang activity suppression strategies is that the former attempts to deter further gang-related crime by removing gang members from the street, and the latter attempts to prevent further gang-related crime by removing gang members from their gangs.

3.3 Justice System Based Intervention

3.3.1 Prison Based Interventions

Prison based interventions target gang members in institutions and aim to reduce institutional misconduct and diminish gang membership. The activities included in these strategies range from cognitive-behavioural interventions to educational programs. The objective of all such programs is to prepare the offender to lead a law-abiding, non-gang-affiliated life once released from the institution.

3.3.2 Probation Interventions

Probation interventions also target convicted gang members, but aim to reduce gang membership, build on rehabilitation efforts started in institutions, prevent recidivism, and provide opportunities for individuals to stay out of gangs. The activities typically carried out within these strategies include employment programs, referrals to gang membership prevention programs or gang activity prevention programs, and intensive supervision programs.

3.4 Comprehensive Approaches

In order to classify a strategy as being comprehensive, two criteria must be met. First, a program must include at least three strategies from the prevention and gang activity regulation categories (see Figure 1). Second, the strategies described must be overseen by the same group or organization or program manager. Inter-agency communication is crucial to allow an operational continuity between the different actors in the program. Continuity between the components of a
program is paramount to a comprehensive approach. Relying solely on resources already in place without a strategic collaboration is not sufficient to deem a program comprehensive. See Appendix D for a list of the comprehensive programs included in the analysis and the categories covered by each.

### 3.5 Holistic Approaches

In order to classify a strategy as being holistic, three criteria must be met. First, a program must include at least four strategies, including one from each of prevention, gang activity regulation, and justice system based intervention. This ensures that all three levels of intervention are included. Second, the program must include two of the three following strategies: preventive awareness, gang membership prevention, or gang activity prevention. This ensures that real efforts are being made in a community to address the gang problem before youths are arrested. Third, much like in a comprehensive approach, strategies must be overseen by the same organization or be in close contact with the organizations that are in charge of each strategy. Since a holistic approach will include a prison based intervention program and/or a probation intervention, which are managed by custody-based entities independently from other community-based strategies, a holistic approach will probably not be overseen by the same entity. In order to be considered holistic, constant communication is necessary and program continuity should be ensured when strategies are overseen by different organizations. See Appendix C for a list of the Holistic programs included in the analysis and the categories covered by each.

Appendix D lists the 38 evaluations in terms of their classification in the typology. Appendix E provides narrative reviews of the 38 programs, arranged by the eight categories/subcategories specified in the gang prevention/intervention typology.

### 4.0 Methodological Challenges to Implementing Meta-Analysis

The present study was designed to answer the following question: *What strategies are most effective in reducing or preventing gang-related crime and delinquency?* Following completion of a systematic review and identification of a set of 38 rigorous gang prevention/intervention strategy evaluations, the team set out to conduct a meta-analysis of the set of studies identified via the systematic review.

The most frequent criticism of meta-analysis is that analyses may pool together studies that are incommensurate – often dubbed "mixing apples with oranges" (Glass 2000; Lipsey and Wilson 2001). In other words, while technically possible, it is substantively meaningless to produce a summary effect for studies that are conceptually dissimilar.

Another criticism of meta-analysis is the possibility of combining studies of differing methodological quality without accounting for the impact of research design on the observed outcomes. One approach to addressing this issue is to empirically test whether differences in study design impact the meta-analytic outcomes. Another approach is to limit the meta-analysis inclusion criteria to those studies that meet a minimum level of methodological rigour in research design, such as studies that incorporate pre-test measures, or studies that use random assignment.
to treatment or matched comparison groups. The drawback to requiring a high level of methodological rigour is that the number of studies eligible for inclusion in the analysis is likely to be reduced, sometimes substantially.

As shall be discussed below, some of these drawbacks could not be overcome for the purposes of this project. These difficulties may also explain why no published meta-analysis on street gangs exists – in other words, why no summative analysis has been successfully completed to date. The authors begin by reviewing some of the logic and procedures of meta-analysis as context for the discussion of challenges faced in the current project.

4.1 Comparability of Study Outcomes

The raw data in a meta-analysis consists of the individual results from independent studies, which are abstracted in a standardized format. Since the analysis involves pooling data across studies, it is essential that the individual study outcomes be comparable with respect to conceptual nature, study design, and statistical form (Lipsey and Wilson 2001).

4.1.1 Comparability on a Conceptual Model

First, the collection of studies in the meta-analysis must examine the same relationship. While the studies need not be pure replications of each other, the more alike they are the more compelling the case for claiming the comparison is of "apples to apples." In the biological sciences, it is often straightforward to make such a claim, e.g., when combining a set of studies assessing the effects of a specific medicine on disease outcome. In the social sciences it is common, however, for studies to assess the same relationship in a broader sense – such as the effectiveness of delinquency prevention programs (which use a variety of approaches) on adolescent recidivism rates (Lipsey 1999). The initial step in ensuring a comparison of apples to apples is implementing specific inclusion and exclusion criteria during the selection of studies to incorporate in the meta-analysis. This process allows for the body of literature to be limited to studies that are comparable with one another with respect to characteristics such as method of treatment (prevention versus suppression), location of intervention (school-based versus prison based), risk status of participants (general population versus known gang members), and so on. While some degree of heterogeneity among included studies should be expected, too much between-study variability may lead to flawed conclusions, if incompatible studies are pooled.

4.1.2 Comparability With Respect to Research Design

Second, it is generally not considered appropriate to pool findings from studies that use substantially different experimental designs to address the same basic research question. The concern is that studies that use different experimental designs may be estimating different population parameters (Morris and DeShon 2002). For example, it would be inappropriate to pool findings from a study that used a prospective randomized control design to assess the effects of a gang prevention program with an observational study in which current gang members were interviewed in regard to their past exposure to gang prevention activities at school. While both of these studies would in principle assess the relationship between gang prevention efforts and gang
membership, their differences with respect to research design would lead to expected disparities in the nature and interpretation of findings. In this case, the preferred method of analysis would be to limit study inclusion to one type of design only, or to conduct separate meta-analyses on sets of studies from each evaluation design type (see Lipsey and Wilson 2001).

4.1.3 Comparability With Respect to Statistical Form: The Effect Size

Third, it is also not appropriate to combine study findings which appear in different statistical forms, e.g., beta coefficients, means, percentages, $F$-statistics, $p$-values. For one thing, because test statistics and $p$-values are a function of sample size, they are not useful as stand-alone measures for the purpose of aggregation. Two studies demonstrating the same size of effect could produce quite different $p$-values based on differences in sample size. For inclusion in a meta-analysis, all study findings are first transformed into the same format: the effect size. Pioneered by Jacob Cohen in 1962, an effect size is a standardized index that represents both the magnitude and direction of the outcome, in other words, how large of an effect the study found and whether the effect was positive or negative. Based on the concept of statistical standardization, each study produces an effect size statistic (or multiple effect sizes) derived from the particular quantitative outcomes presented in the research report. The derivation of each study's effect size allows for a consistent interpretation of findings over the range of measures and variables employed across the set of included studies. This is similar in concept to standardizing test scores on a $Z$-distribution to allow for comparison to $Z$-scores from a different test of the same construct (Lipsey and Wilson 2001).

Each effect size has a known distribution with an associated variance, important because characteristics of the sampling distribution (such as bias and sampling variance) are necessary to conduct a meta-analysis. The meta-analytic algorithm for the pooled effect size uses weighting; weights are determined by the inverse of the sampling variance. Sampling variance is a function of sample size, with larger studies contributing relatively more weight due to having smaller standard errors and thus providing more precise estimates about the effect of interest (Hedges and Olkin 1985; Lipsey and Wilson 2001). Standard errors are also necessary to estimate confidence intervals around the effect size statistic, as well as for other meta-analysis-related tests such as the $Q$-statistic for homogeneity.

As noted by Morris and DeShon (2002), effect sizes should all be scaled in the same metric, and even the use of a standardized effect size across studies does not ensure that scaling is comparable.

For example, effect sizes can be computed using different standard deviations (e.g., the standard deviations of pre-test scores versus post-test scores versus pooled pre-test post-test scores), and effect sizes will only be comparable if the standard deviations are adjusted to a common metric. Several types of effect size measures exist, and each typically has more than one method of computation. Commonly used effect size measures include the standardized mean difference (such as Cohen's $d$ or Hedges’ $g$), the odds-ratio, the correlation coefficient, the proportion difference, and the relative risk. The choice of effect size measure depends on both the research question of interest, as well as the data reported in the study. Extracting the relevant data from
primary research reports to compute effect sizes may prove challenging, as authors rarely present
identical types of information and may not provide the requisite data to derive effect size
estimates. When dealing with this scenario, meta-analysts typically attempt to estimate the data
from other information in the report (e.g., Borman, Hewes, Overman, and Brown 2002); certain
assumptions about omitted pieces of information are often made in order to generate the required
data.

4.2 Comparability of Study Outcomes Across the Set of 38
Included Evaluations

As previously reviewed in the discussion of typology, each of eight categories of programs
represents an approach type that is substantively and theoretically different from those in the other
categories; they are classified primarily by the target of the approach – e.g., convicted gang
member, active gang member, at-risk youth, general student population. In other words, a
prevention approach to the gang problem, such as a classroom-based curriculum for seventh-grade
students, is remarkably different from a holistic approach to the gang problem, which may involve
community, law-enforcement, education, and probation components working simultaneously to
address the problem from multiple angles. As such, pooling of results across the different
categories of programs/approaches would not be recommended, as the approaches could certainly
not be considered commensurate – i.e., the assumption of “apples to apples” would not be met.
Therefore, analysis was undertaken separately for each category of gang strategy.3

After categorization of the studies, the next step in synthesizing study outcomes was to
amalgamate studies that analyzed the same type of outcome measures. In other words, an
assessment of gang membership status should only be pooled with another assessment of gang
membership status; homicide events should be pooled only with other measures of homicide (as
opposed to drug use), and so forth. Within each category of program, studies were coded as to the
outcomes assessed by each study; studies were permitted to contribute effects across one or
multiple outcome areas.

This variability in outcome measures presented further challenges to the analysis procedure, as the
sets of studies falling into the same approach category and measuring the same outcomes were
often quite small in number. For example, only two studies in the Preventive Awareness category
assessed drug use. Technically, two is the minimum number of studies required for a meta-
analysis; theoretically, the analyst must ask what value such an analysis would hold.

In other words, does pooling together the results from a set of 2 or 3 studies provide any
additional value or insight into the question of interest beyond looking at the results from the
individual studies themselves? The answer to this is no; without at least a handful of similar
studies addressing the same research question (perhaps 10 or so), quantitative pooling does not
provide much additional benefit. Throughout the coding process, it became patently clear that

3 See Appendix F for the categorization of the 38 studies included in the analysis and a brief description of program approaches
there is a significant problem of incommensurability in evaluations of gang prevention/intervention approaches, with respect to study approaches, research design, and outcome measures.

4.3 Calculation of Effect Sizes

Yet another challenge presented by the existing body of research on gang prevention/intervention approaches is a frequent lack of data necessary to calculate study effect sizes.

As mentioned previously there exist many different methods to calculate effect sizes, and numerous effect size conversion formulas are available for use based on the type of data presented in original study reports. For example, if a report does not provide means, standard deviations, and sample sizes for treatment and comparison groups, it may still be possible to compute an effect size for the treatment if the authors present sample sizes and a $t$-statistic for the comparison of group means.

After implementing an exhaustive, thorough data extraction and coding process the authors (albeit reluctantly) determined that a quantitative synthesis of program outcomes is simply not possible given the current body of literature on gang prevention/intervention. This analytical roadblock was unanticipated due to the sheer number of studies the authors originally located during the systematic review, and the fairly sizeable set of 38 studies that met inclusion criteria and were initially selected for full coding and analysis. Unfortunately, the process of a meta-analysis requires a heavy up-front workload for the development of study protocol, systematic review, and coding of studies before the process of calculating effect sizes can be undertaken. It was not until this step in the procedure that the authors were able to conclude that quantitative pooling of study outcomes was not possible in most cases, and not substantively useful in others.

As an example of the latter, three of the studies in the gang membership prevention category assessed the outcome of gang membership and presented the requisite data necessary to calculate an effect size; none of these studies reported statistically significant treatment effects. Table 1 displays a basic pooled analysis of the three study effect sizes; showing a non-significant pooled effect of $-0.253$ ($Z=0.71$, $p=0.477$).

<table>
<thead>
<tr>
<th>Study</th>
<th>Treatment group sample size</th>
<th>Control group sample size</th>
<th>Effect size</th>
<th>95% Conf. Interval</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbreton (2002)</td>
<td>202</td>
<td>188</td>
<td>-0.354</td>
<td>-1.006</td>
<td>0.297</td>
</tr>
<tr>
<td>Cohen (1995)</td>
<td>258</td>
<td>265</td>
<td>0.144</td>
<td>-0.386</td>
<td>0.675</td>
</tr>
<tr>
<td>Thompson (1988)</td>
<td>74</td>
<td>43</td>
<td>-2.013</td>
<td>-4.239</td>
<td>-0.212</td>
</tr>
<tr>
<td>DerSimonian and Laird pooled ES</td>
<td></td>
<td></td>
<td>-0.253</td>
<td>-0.949</td>
<td>0.443</td>
</tr>
</tbody>
</table>

Figure 2 presents the meta-analysis in a forest plot, with each study’s effect size represented by the grey square, the horizontal lines representing confidence intervals, and the diamond showing the pooled treatment effect across the set of three studies.
This exercise demonstrates that although it is technically possible to conduct a meta-analysis on a set of three studies, given the small set of included studies the results are not particularly illuminating beyond what can be seen from a narrative/qualitative assessment of study outcomes. If the authors had access to a larger set of studies assessing treatment impact on gang membership, the results from a meta-analysis would likely prove more useful. Unfortunately, a larger set of studies does not currently exist.

Figure 2. Forest Plot of Meta-Analysis on Gang Membership Status

<table>
<thead>
<tr>
<th>Author (year)</th>
<th>ES (95% CI)</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbreton (2002)</td>
<td>-0.35 (-1.01, 0.30)</td>
<td>42.64</td>
</tr>
<tr>
<td>Cohen (1995)</td>
<td>0.14 (-0.39, 0.67)</td>
<td>48.80</td>
</tr>
<tr>
<td>Thompson (1988)</td>
<td>-2.01 (-4.24, 0.21)</td>
<td>8.56</td>
</tr>
<tr>
<td>Overall (I-squared = 52.7%, p = 0.121)</td>
<td>-0.25 (-0.95, 0.44)</td>
<td>100.00</td>
</tr>
</tbody>
</table>

NOTE: Weights are from random effects analysis

5.0 Narrative Synthesis of Study Findings

Given that a quantitative synthesis of study results was not possible for the great majority of outcome measures (and not desirable for others given very small sets of commensurate studies), a narrative synthesis of study findings follows. This analysis is grouped by the eight categories/sub-categories of approaches as outlined in the typology. Note that Appendix E provides a more detailed review of the programs listed below.

5.1 Prevention Strategies

Table 2 (see Appendix F) outlines the five studies falling into the preventive awareness category, the outcome measures assessed by each, information regarding study research design, and the overall evaluation findings. Four of these five studies were evaluations of school-based gang prevention programs, while the Thurman et al. (1996) study evaluated the Neutral Zone program, an approach that provided recreational activities, counselling, and social activities for youths on weekend nights. The evaluation of Neutral Zone assessed the outcome of weekend calls for service to police; a measure incommensurate with the outcomes assessed by the other gang prevention approaches. Across the remaining four studies, the only significant treatment effect found was for lower rates of gang membership in the evaluation of the GREAT II program (Esbensen et al. 2011). None of the assessments of treatment effects on delinquency outcomes
demonstrated any significant, positive (or negative) effect for the gang preventive awareness approaches.

Table 3 (see Appendix F) outlines the five studies categorized as gang membership prevention strategies. Across the five gang membership prevention program evaluations, no significant treatment effects were found for gang membership, arrests, or drug use – other than a lower rate of alcohol use in one of the cohorts assessed in Sivili et al.’s (1996) evaluation of the Youth Development Workers program (YDW).

This program provided outreach to at-risk youths, including psychological and substance abuse counselling, tutoring, employment training, gang prevention education, and recreational activities. The only other significant effect seen across the gang membership prevention programs was a lower rate of gang involvement found in the evaluation of the Logan Square Prevention project (LSP; Godley et al. 1998). The LSP project involved a coalition of agencies providing school and community-based prevention services to youths with a focus on reducing substance use and gang involvement.

5.2 Gang Activity Regulation Strategies

Gang activity regulation strategies also target gang members, using a “crackdown” approach on gang criminality. At this stage, the community realizes that the gang problem has gotten out of hand and that the best solution is to remove certain individuals from the street.

5.2.1 Gang Activity Prevention

Table 4 (see Appendix F) summarizes the seven studies falling into the Gang activity prevention category. Seven studies were categorized as evaluations of gang activity prevention approaches, and these approaches ranged from employment assistance to gang members (Gang Employment Program, GEP), to implementing street barriers (Operation Cul-de-Sac), to enforcing nuisance abatement laws in multi-unit dwellings (Municipal Drug and Gang Enforcement; MDGE). Most of the outcomes assessed by the program evaluations were not statistically significant, although a few promising findings were reported. The study by Fritsch et al. (1999) of the Dallas Anti-Gang Initiative (AGI) reported mixed findings, with a significant decrease in gang-related violence in some control and some target areas. The Dallas AGI used aggressive curfew enforcement, aggressive truancy enforcement, and saturation patrols in neighbourhoods with violent gang problems. In addition, the evaluation of Operation Cul-de-Sac (Lasley et al. 1998) found that the number of violent crimes fell significantly during the program and rose after the program ended. Last, Spergel et al. (1986), in their evaluation of a gang conflict mediation program (Crisis Intervention Services Project, CRISP), found that rates of increase in violent gang crimes and property crimes were significantly lower in the target areas versus the comparison areas.

5.2.2 Gang Activity Suppression

Table 5 (see Appendix F) outlines the 10 evaluations categorized as gang activity suppression strategies. Of the 10 studies in the gang activity suppression category, evaluation results were
mixed. Anthony Braga’s evaluations of Operation Ceasefire Boston, Operation Peacekeeper, and Project Safe Neighborhoods Lowell – all problem-oriented policing approaches using “pulling levers” strategies -- found the interventions to be significantly associated with a reduction in homicides, gun homicides, and assaultive gun incidents (Braga et al. 2001; Braga 2008; Braga et al. 2008). Furthermore, the evaluation of another problem-oriented policing “pulling levers” approach (Indianapolis Violence Reduction Partnership; IVRP) by Corsaro and colleagues (2009) found a significant decrease in gang homicides following the intervention, while Tita et al.’s (2003) evaluation of Operation Ceasefire Hollenbeck found a reduction in gang crime in the targeted neighbourhood.

Although concerns with respect to comparison groups and isolation of treatment impact are warranted, taken together, these results suggest promising findings for certain suppression approaches to gang crime. Whether these typically costly programs are cost-effective is an issue that remains outside the scope of this report.

5.3 Justice System Based Interventions

5.3.1 Prison Based Gang Interventions

Prison based gang interventions target gang members in institutions and aim to reduce institutional misconduct and reduce gang membership. Only two programs were selected by the methodology: Saskatoon’s Regional Psychiatric Centre (RPC) programs and the Arizona Department of Corrections’ Security Threat Group Program. The evaluation of the three RPC interventions for gang members (Diplacido et al. 2006) found that treated gang members who recidivated committed less serious offences than did untreated gang members. The study also found that untreated gang members had significantly higher rates of major institutional offences than did treated gang members. However, Fisher et al.’s (2002) study of the Arizona Department of Corrections Security Threat Group program found that while the approach was effective at incapacitating gang members and reducing certain institutional problem behaviours and violations (e.g., assaults and rioting, drug and threat violations), the program was linked to a sharp increase in the rates of other types of violations (e.g., weapons, violent, and property-related).

5.3.2 Probation Gang Interventions

Probation gang interventions also target convicted gang members (including those released from institutions). Only a single probation program was identified in the comprehensive search of the literature, the Riverside Comprehensive Community-Wide Approach to Gang Prevention, Intervention, and Suppression. The evaluation of the Riverside program by Spergel et al. (2005) did not find the program to have any significant positive treatment impacts on arrests of any type; furthermore, the study reported a higher rate of drug arrests for the treatment group than for the comparison group.
5.4 Comprehensive Approaches

The five comprehensive approaches to gang prevention/intervention identified include a range of different components (see Appendix C), and studies found mixed results on outcomes of criminality. For example, Papachristos et al. (2007) found significant treatment effects on homicides, gun homicides, and aggravated assaults/batteries. Skogan et al. (2009) evaluated Operation CeaseFire in four sites; CeaseFire was associated with distinct and statistically significant declines in shots fired that ranged from 17 to 24 percent. Spergel (2005), in Mesa, found that control youth were significantly less likely to have new property offence arrests than were comparison youth (although both groups experienced a decrease from pre-test to post-test).

5.5 Holistic Approaches

The eighth and final category in the typology consists of holistic approaches. The Gang Reduction Program (GRP) was the only holistic approach selected by the methodology. It was implemented in four cities (Los Angeles, Milwaukee, North Miami Beach, and Richmond). Cahill et al. (2008) evaluated the four sites of the GRP. While they were part of the same initiative, it should be noted that the program was implemented somewhat differently across cities (see Appendix G). No significant treatment effects were found in the North Miami Beach or Milwaukee treatment sites. In the Los Angeles site, the evaluators found a significant decrease in the target area over time for calls for shots fired and a decrease in gang-related crimes; no concurrent significant decrease in the comparison area was observed. In the Richmond site, for drug-related incidents, no change in the target area was seen, but a significant increase in the comparison area was observed. Substantial increases in the target area for gang-related crimes were also observed, although there were not enough incidents that took place in the comparison area to allow for analysis. In addition, an increase in serious violence in the target area during the five-year period was observed, with a concurrent significant decrease shown in the comparison area.

6.0 Discussion

In the present study, the authors sought to examine the existing body of literature on gang prevention/intervention strategies, determine the overall effectiveness of current approaches to addressing the street gang problem, and provide recommendations for best policies and practices.

The findings can be summarized in four points:

1) Prevention strategies showed little signs of effectiveness, which can be explained by an overly broad approach to gang prevention which includes the majority of youth who will never consider gangs in the first place.

2) Gang activity regulation strategies showed some signs of effectiveness, especially for ‘pulling lever’ suppression programs. Programs strictly focused on providing prosocial alternatives to gang members were found to be less effective than those focused on preventing gang delinquency itself.
3) Comprehensive and holistic strategies, despite their promises, have not been shown to be consistently effective at reducing gang activity where implemented. For the Spergel Model specifically, lack of guidance on implementation, unrealistic expectations regarding stakeholder partnerships, and reliance on a one-size-fits-all approach may have hindered such programs. However, comprehensive programs such as Project Safe Neighborhoods in Chicago, combining a pulling lever strategy with community outreach, have shown clear signs of effectiveness.

4) Justice system based programs were few in number, which prevents strong conclusions from being drawn. The one program (RPC programs) that showed signs of effectiveness was based on a Canadian study (Diplacido et al. 2006) that is worth replicating in more settings.

The typology developed herein was designed to classify programs by their target population. With each change in category the target population changed, creating a continuum of strategies based on the individual’s level of involvement in gangs.

Figure 3 was created by the authors to illustrate the pattern of effectiveness that is found throughout the different types of programs of the first two categories (prevention and gang activity regulation), which spans over four types of programs, from the least to the most specific: preventive awareness, gang membership, gang activity prevention, and gang activity suppression. When observing the results of the evaluations included in this analysis, a relationship between the targeted population and the effectiveness of the program is observed.

The more specific the targeted population, the more the evaluations tended to show signs of effectiveness. When considering preventive awareness programs (targeting a universal population), evaluations show little signs of effectiveness. On the other hand, the more specific gang activity suppression programs (which target active gang members who engage in criminal activity) have demonstrated effectiveness. As shall be discussed further below, general patterns in the delivery of programs may explain why one program might fare better than another in terms of meeting program goals.

**Figure 3. Continuum of Effectiveness: Prevention and Gang Activity Regulation Strategies**

- **Prevention**
  - Preventive awareness
  - Gang membership prevention

- **Gang activity regulation**
  - Gang activity prevention
  - Gang activity suppression

- **Not involved in gangs**
- **Involved in gangs and committing crimes**
- **No proven effectiveness**
- **Some success**
- **Demonstrated success**

- **Offering alternatives to gang activity** (e.g., job placement, education, supervised activities with positive peers)
- **Stopping gang activities before they occur** (e.g., enhanced police presence, getting youths off the streets in vulnerable time for victimization or committing crimes, mediation of conflicts, restricting access to housing and gathering places)
- **Policing strategies confined to certain neighbourhoods/areas or carried out by specific units or patrol bears.**
- **"Pulling-levers" strategies implemented city-wide and throughout a whole police department with the support of all criminal justice agency.**
The following discussion concentrates on potential explanations for the findings of this study listed above. It also provides recommendations for future evaluation and implementation of Canadian-based gang intervention programs.

6.1 Prevention Strategies: Why are They Not Effective?

A very salient pitfall in criminology is the reliance on conventional wisdoms. Klein and Maxson (2006) define conventional wisdoms as “untested assumptions and relatively unchallenged facts that we normally take to represent the truth” (90). The use of conventional wisdoms in gang prevention and intervention is not a new phenomenon. In the 1950s and 1960s the conventional wisdom was that criminal gangs with proper guidance could be turned into prosocial organizations.

As such, street workers held meetings with the gang “to teach democratic values, procedural mechanisms, and activity planning and to reach the mass of youngsters with the program’s messages concerning useful attitudes and behaviour” (Klein 1969, 145). Unfortunately, subsequent evaluations of these programs found that they serve to increase gang delinquency and strengthen the bond between the members of the gang, making the gang better organized (Klein 1969).

This systematic review on recent gang prevention/intervention strategies suggests that another conventional wisdom may have hindered the effectiveness of the Gang Resistance Education and Training (G.R.E.A.T.) program. G.R.E.A.T. was built on a strikingly similar and very popular program, Drug Abuse Resistance Education (DARE). Using rigorous scientific methods DARE, in its original formulation, was proven to be ineffective (Rosenbaum et al. 1994). One of the major findings of the evaluation of DARE is that while the program is widely supported and filled with good intentions, most of the program content focused on issues that are not related to evidence-based strategies for the prevention of substance use (Rosenbaum et al. 1994).

Given its DARE foundation, it should thus not be surprising that most evaluations of G.R.E.A.T. have failed to see a significant impact of the program on gang membership and delinquency. According to Klein and Maxson (2006), G.R.E.A.T. was built with the conventional wisdom that universally-targeted, school-based programs delivered by police officers are effective. G.R.E.A.T. also relied on the unproven (and in fact, disproven) concept that the attractiveness of gangs to certain individuals is solely based on poor life skills and attitudes. Much like DARE, G.R.E.A.T. covers some proven risk factors for gang membership (e.g., peer pressure and unfavourable attitudes towards the law) but fails to address the complexity of the road to gang membership and spends a great deal of its relatively short curriculum focusing on risk factors that have been proven as unrelated to gang membership (e.g., low self-esteem, unsafe schools).

Another conventional wisdom that seems to be pervasive throughout gang prevention programs is that gangs and delinquency will be prevented by “getting kids off the streets.” Yet, the process of joining a gang is extremely complex and cannot be reduced simply to a lack of supervision or boredom alone. Granted, research has consistently shown that lack of supervision is related to gang membership (Howell and Egley 2005; Klein and Maxson 2006). However, after-school
programs or weekend recreational centers, such as Neutral Zone and Gang Prevention Through Targeted Outreach (GPTTO), are operating under the rationale that providing a place to “hang out,” and providing positive role models, will be enough to prevent gang membership and delinquency. This has not proven to be case, suggesting the need for prevention programs that are more closely targeted to research-based risk factors for gang membership.

The prevention strategies reviewed in this study may simply be too general to be effective. The vast majority of youths do not join gangs. Thus, delivering a program to an entire school in hopes of reaching a few or a handful of youths at true risk for gang membership is akin to the ubiquitous search for the needle in the haystack – and might be considered a waste of time and money. Gang membership prevention strategies, on the other hand, specifically target at-risk youths – the reasons why those programs may not be effective are different.

The authors of this report hypothesize that the lack of effectiveness may be explained by a) the programs not targeting the most salient risk factors associated to gang membership, and/or b) the programs intervening when it is too late, or when too many risk factors are already present. Klein and Maxson (2006) synthesized results from 20 studies meeting strict methodological criteria found the following seven major risk factors for gang membership that have received consistent or considerable support:

- importance of delinquent friends;
- non-delinquent problem behaviours;
- series of negative life events;
- favourable attitudes about breaking the law;
- lack of parental supervision;
- lack of parental monitoring; and
- commitment to negative peers.

Few of the studies reviewed evaluated interventions targeting more than a few of these factors, if at all. For example, the Logan Square Program (LSP), the one program that showed effectiveness in this category, relied on a multi-pronged approach in targeting at-risk youth as early as grade 5, providing education to both the youths and their families. On the other hand, the Broader Urban Involvement and Leadership Development (BUILD) program, which targeted at-risk youths based on “the extent to which youth associated with known gang members, the manner in which they dressed and on personal knowledge of the youngsters’ private lives” (Thompson and Jason 1988, 328), showed no significant effect on gang involvement. BUILD offered a school-based prevention program followed by an after-school program for targeted eighth grade students, which consisted of organized sports, pizza parties, educational assistance and a job skills training workshop. While both programs focused on providing services to at-risk youths, LSP targeted younger youths than BUILD. Eighth grade might be too late as youths might already be involved in gangs (as suggested by the types of risk factors they used). Also, LSP used a culturally specific approach over a long period (5 years, from grade 5 to grade 8). As opposed to BUILD, LSP adjusted its program to the youths in the region they were serving and was able to rally local organizations behind a culturally sensitive and comprehensive program that favoured long-time exposure over a short-term intervention which enabled the youths to be followed through a period where they were vulnerable to gang membership.
6.1.1 Lessons Learned from Preventive Awareness and Gang Membership Prevention Programs

1. In many cases, delinquency prevention programs should be implemented over gang membership prevention programs. Prior delinquency is the most important risk factor for joining gangs. This recommendation does not imply that gang membership prevention programs should not be developed, but instead that much can be achieved by intervening on delinquency reduction programs that already proved to be effective (e.g. Wilson, Gottfredson, and Najaka 2001; Wilson and Lipsey 2007). The effect of these programs on gang membership should be assessed systematically.

2. Use the growing research on risk factors for gang membership and target program delivery and dosage to those who are most at risk. Klein and Maxson (2006) and Thornberry et al. (2003) suggest that the use of a screening tool built from the research on risk factors for gang membership could be extremely useful in targeting prevention efforts to those most at risk of gang membership.

3. Implement a methodologically strong evaluation process from the inception of a program. This is vital both for assessment of program effectiveness and for understanding of dynamics of delinquency and gang membership in order to improve services.

4. Early prevention is needed, as early as age nine. Youths tend to join gangs around grades 8 to 10 (Thornberry et al. 2003). Acting past this window of opportunity might be counter-productive considering the dynamic of group process outlined in the Enhancement Model. Also, the fewer the risk factors already encountered by the youth, the easier it is to intervene.

6.2 Gang Activity Regulation Programs

While the conclusions and recommendations about prevention programs were generalized to most programs, the analysis of gang activity regulation programs is most enlightening when considering these programs within the framework of a continuum, as in Figure 3 above. Gang activity prevention and gang activity suppression are discussed separately below.

6.2.1 Gang Activity Prevention

Two different philosophies are observed within the types of programs classified under gang activity prevention. The first philosophy is based on the idea that offering alternatives to gang activity will help gang members behave in more prosocial behaviours. The strategies usually employed by these programs include job placement, education, recreational programs, and other supervised activities with positive peers. The second philosophy is focused on stopping gang activities before they occur. These programs use strategies such as enhanced police presence, providing an environment designed to get youths off the streets at night time and during the weekend when they are most likely to be victimized and to commit crimes, engaging in conflict mediation between gangs, as well as restricting the movements and gathering of gang members in criminogenic areas. While employing different underlying principles, both these philosophies seek to reduce delinquency of gang members.
In terms of success, programs focusing on offering alternatives to gang activity were not found to be effective. These programs failed to reduce delinquency and arrests at either the individual or neighbourhood levels. On the other hand, programs focusing on stopping gang activities before they occur showed signs of effectiveness. It should be noted here that the effectiveness seen is modest and could be affected by many methodological considerations (e.g., the use of self-reported data versus the use of official crime data). Nevertheless, some hypotheses can be drawn from these observations.

For the most part, these programs base their interventions on balance of choice. Programs that focus on alternatives to gang activity offer prosocial options to gang members to fulfill unmet needs that are satisfied by being in a gang. Therein lies another assumption regarding the reasons for joining a gang: these programs assume that a youth decides to join a gang because of boredom, lack of legitimate income, lack of motivation or success at school, or lack of supervision.

In other words, these programs assume that given a proper education, a job, and a prosocial place to “hang out,” these youths would not be in a gang. Hence, these programs seek to fulfill certain unsatisfied needs. While this is a laudable effort, these strategies are supported by assumptions that, although seemingly commonsense, are not strongly backed by research. For example, Klein and Maxson (2006, 159) state that the most common reasons to join gangs given by gang members include:

- protection;
- having a territory;
- feeling a sense of belonging;
- getting money or other things;
- friend was a member;
- family member was a member;
- feeling important;
- doing illegal activities; and
- getting money from drugs.

Moreover, there is likely more than one reason for which a youth might join a gang. It seems unlikely that simply providing a job, helping a youth to finish high school, or supplying a basketball court on Friday night will be enough to fulfill the range of needs apparently satisfied by gang membership.
Programs that focus on stopping gang activity before it occurs rely on the assumption that youths will be deterred from engaging in criminal activity. On the continuum of strategies (Figure 3), these programs are the very first to use specific deterrence. However, these deterrence strategies are more or less passive. At this stage in the continuum of strategies, the deterrent effect is attempted by enhanced police presence in specific neighbourhoods and the targeting of situational aspects that might trigger criminal activity (e.g., curfew and truancy enforcement, building laws in known criminogenic dwellings, blocking easy access to crime-prone areas, and de-escalation tactics in developing conflicts). The seemingly higher threat of punishment is assumed to trigger a decisional process, where the gang member will decide whether or not they should carry out their criminal activity. Another assumption here is that gang criminal activity is situational and that by minimizing the opportunities for crime (or victimization), gang members will not engage in criminal activity.

Note that these strategies aim to reduce delinquency in general, which it is hoped, includes gang delinquency. Perhaps what is shown by the data is the effectiveness of a general delinquency program using routine activity theory (Cohen and Felson 1979) as its underpinning, not necessarily as an effective gang activity prevention program. Given the lack of methodological rigour of these studies, it is impossible to know for sure.

6.2.2 Gang Activity Suppression

Gang activity suppression programs are the only category in which evaluations found consistent positive outcomes. These programs constitute the end of the continuum of programs displayed in Figure 3.

Much like the gang activity prevention programs, the more specific the strategy in its target population, the more the programs yielded positive results. Similar to gang activity prevention programs, two different types of strategies were observed within this category: a) targeted policing and b) pulling lever strategies.

The first strategy focuses on targeted policing strategies confined to certain neighbourhoods or areas of a city. The activities carried out in these strategies are implemented by specific patrol beat units or specialized gang units which focus solely on their neighbourhoods and specific gang-related crimes. Gang activity suppression aims at deterrence, pure and simple, and focuses on arrests to create the deterrent effect. While these strategies are close to certain gang activity prevention strategies (specifically the ones using the second philosophy, “stopping gang activities before they occur”), they seem to be less effective than the gang activity prevention strategies. One reason why that might be the case may be that the targeted policing strategy attacks the group itself, something that may reinforce the group processes that lead to delinquency in the first place (e.g., Bouchard and Spindler, 2010; Decker, 1996; Klein and Maxson, 2006; Thornberry, 2003). The oppositional culture of a gang, created by complex group processes, creates an “us versus them” mentality (Klein and Maxson 2006). In other words, the street culture in itself may render strict police attacks against specific gangs or specific neighbourhoods counter-productive, reinforcing the cohesiveness of the gang and members’ reliance upon each other for defence. Hence, gang members understand a “war against gangs” as a direct threat to their ideals and identity as a group. Gang activity prevention, on the other hand, uses a more indirect message and
does not directly target the integrity of the gang. This could explain why simple police presence and enforcement of regulations that minimizes the chances of crime occurring seem to yield more positive results than targeted and specialized policing aimed at deterrence.

The second type of gang activity suppression programs consist of strategies implementing what are called “pulling-levers” strategies. These strategies involve “…deterring violent behaviour by chronic gang offenders by reaching out directly to gangs, saying explicitly that violence would no longer be tolerated, and backing that message by 'pulling every lever' legally available when violence occurred” (Braga, Kennedy, Waring, and Piehl 2001, 199). These strategies have received many positive evaluations of their effectiveness and have been tested in many cities (Braga et al. 2001; Braga 2008; Braga et al. 2008; Corsaro and McGarrell 2009; McGarrell et al. 2006).

Throughout the set of studies included in this analysis, these strategies have the most consistently positive results. Many characteristics set these approaches apart from other gang activity regulation strategies and might explain their increased levels of effectiveness.

First, as opposed to the first type of gang activity suppression programs, these strategies are implemented city-wide and are usually implemented throughout the entire city’s police department. This allows for a better flow of information and continuity in the interventions since the initiative is not restricted to a single unit, such as a gang unit. Second, this initiative does not target and directly attack gangs as a structure. The initiative basically lays out the message that while crime will never be tolerated (and will be enforced by regular police work), gun violence will be targeted to the fullest extent of the law. Here, unlike the first type of suppression programs, firearm-related violence is targeted, as opposed to general gang-related crime. Also, while it is understood that gang members are the population most prone to engage in gun violence and that police will use gang affiliations as sources for intelligence, the gang itself is not threatened – gun violence is. With this shift in focus, it is possible that because the gangs are not specifically targeted, pulling-levers strategies do not reinforce the gang identity as targeted policing might do. Third, the continuity of the intervention throughout the police department might actually have a deterrent effect on the choice of firearms when gang crimes are committed. The hands-on approach of the “pulling-levers” strategy allows gang members to follow a fairly simple causal relation: use a gun and you (and your associates) will go to jail. Police officers go out of their way to reach out to gang members and explain what they have done so far, whom they have put in jail, and why they have been put in jail. Gang members are presented directly with hard facts, not through the ambiguous increased presence of police officers.

“Pulling-levers” strategies have the most specific targeted population and are the most consistently effective solution to gang-related delinquency. However, these strategies only target violent gun delinquency, and gang delinquency includes many other types of crimes. The state of the gang literature so far, as also found in this review, shows that no program has proven to be particularly effective at reducing gang delinquency in general. Perhaps a gradual approach to gang delinquency would be a better strategy. The application of “pulling-levers” concepts in many cities has proven that gun crimes can be effectively reduced. Once gun violence has been reduced, it might be easier to deal with lower-level offences, such as assaults. Furthermore, a
reduction in gun violence might mean a reduction in inter-gang hostilities, which in turn might weaken gang cohesiveness, following the logic behind the group processes discussed earlier.

6.2.3 Lessons Learned From Gang Activity Regulation Programs

1. Group processes are key to criminal gang activity. An effective suppression strategy needs to consider these processes if it is to be successful. Gang activity regulation programs appear to show more promising results when they target specific activities rather than the gang itself. Targeting specific gangs might actually reinforce gang cohesiveness and be counter-productive.

2. Moreover, targeting specific crimes, such as gun crimes, appears to be more efficient than targeting gang crimes in general.

3. Much like for preventive approaches, empirically-validated approaches should be implemented over commonsense strategies. This review seems to point towards the use of pulling-levers strategies as an effective strategy.

4. When implementing theory-based approaches, a close cooperation between academics, policy-makers and police departments is needed. This would ensure the strategies implemented truly reflect theory and would allow for a dynamic adjustment of the strategies to reach stated objectives.

5. Gang activity regulation strategies need to focus on the continuity of the intervention. Executing a program throughout a police department as opposed to restricting it to specific units might foster greater cooperation and unity towards the achievement of a specific goal. By doing so, it ensures that the intervention is carried out throughout a city with greater consistency.

6.3 Justice System Based Programs

Based on this systematic review, it appears that methodologically strong evaluations of prison based and probation-based programs are lacking. In total, only three evaluations were found that met the set criteria. While it is impossible to pull tentative conclusions on what works, the most important lesson to take from this lack of existing evaluations is that there is a pressing need for more work on programs for probation-based and prison-based populations. This is especially true if suppression approaches are being implemented. Prison gangs are a real concern and a security threat (Fischer 2002). Arresting and incarcerating gang members does not amount to dealing with the causes and underlying factors behind gang membership. Prison and probation programs present a good opportunity to deal with these issues; however, a number of different obstacles to treatment can be encountered, especially in prison-based programs. For example, DiPlacido et al. (2006) explain that gang members being treated can be perceived negatively by other gang members, creating an obstacle to treatment. In order to understand what works and what does not, more methodologically sound evaluations are needed.

6.4 Comprehensive and Holistic Programs

At the outset of the current project, it was hypothesized that comprehensive and holistic programs would be the most effective programs of all at preventing and reducing street gangs. This
hypothesis made sense since these programs address the problem on multiple fronts at a time and focus on a collaboration of agencies. However, when studied closely, these approaches have shown nothing more than anecdotal evidence of effectiveness.

A paper by Public Safety Canada classified the Comprehensive Community-wide Approach to Gang Prevention, Intervention and Suppression Model as a “promising approach” stating that “despite the various limitations and challenges that have been identified, there are many lessons learned for those considering replicating this model” (Linden 2010, 3). As will be discussed later, despite modifications and adaptations, more recent applications of what is also known as the Spergel Model have been disappointing.

The U.S. Department of Justice’s Office of Juvenile Justice and Delinquency Prevention (OJJDP) first implemented and evaluated the Spergel Model in Little Village, a neighbourhood of Chicago. While this approach could be characterized as comprehensive, when the strategies were examined more closely, this particular implementation was classified as a gang activity suppression program because of its predominant focus on the suppression aspect of the program.

According to Spergel (2002), this focus has been instigated by strong pressure from the Mayor’s office on program coordinators. Regardless, the Little Village initiative was deemed a success before it was properly evaluated and the model was expanded to five other sites (Tucson, Mesa, Bloomington-Normal, Riverside, and San Antonio).4 According to Klein and Maxson (2006), three and a half years after the implementation, the Spergel Model was clearly formulated with the intent of exporting the Little Village project to other communities.

One of the main issues to consider with the Spergel model is the notion of implementation fidelity. Implementation fidelity refers to the degree to which a program is implemented following the initial program design. The importance of high implementation fidelity is twofold. First, it ensures that the effect observed following implementation can be attributed to the program. A program design should have a theoretical framework that will link program activities with desired outcomes. The focus of evaluation is to assess whether the activities carried out have the desired effect on outcomes. If the activities are not carried out in the field the way they were initially planned, it becomes impossible for evaluators to properly evaluate the program and decipher which strategies are effective and which strategies are not. Second, high implementation fidelity is crucial in order to replicate outcomes of a program in a different setting. In a perfect world, effective programs would be replicated to perfection from one site to another. However, different communities have access to different resources, and in practice the same program in two different cities is likely to have differences. Nevertheless, it is important when replicating a program that major components of the initial design adhere to the theoretical foundation of the program. Moreover, implementing a program in different settings, when high implementation fidelity is attained, can inform about the portability of a program and can inform of the effectiveness of certain strategies above and beyond local characteristics. However, such comparisons and extrapolations are contingent on the implementation fidelity from one site to another. In the case

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4 The evaluation of the Tucson site was ultimately removed from the sample due to the fact that the program components were not detailed enough to understand what type of strategies were implemented.
of the Spergel Model, the low implementation fidelity from one site to another, with programs so different they were classified in different categories of gang interventions, renders conclusions about the Model as a whole questionable. While the Spergel Model was not intended to be an exact replica in every city, the Spergel Model is typically discussed as a definitive “model” that has been replicated in many communities. When examining the evaluations of different applications of the Spergel Model, it is easy to recognize that the approach in Bloomington-Normal, for example, is entirely different than the approach in Mesa. Hence, to say that the Spergel Model has been evaluated in different setting is misleading; due to poor implementation fidelity, this model has, in effect, resulted in the implementation of fundamentally different programs.

With regards to gang outcomes, none of these program evaluations produced any strong evidence that the OJJDP initiative was effective. In fact, many of the long evaluation reports were unclear and cumbersome – which, based on sheer volume, might lead an uninformed reader to believe that these approaches were successful. The truth is that they were mostly not.

6.4.1 Why is the Spergel Model Not Working?

There are many hypotheses that might explain why a seemingly commonsense idea has not been effective, but one of the most important refers to the lack of implementation fidelity from one site to another. According to OJJDP (2011) the Spergel Model consists of five strategies:

1. Community Mobilization: Involvement of local citizens, including former gang members and community groups and agencies, and the coordination of programs and staff functions within and across agencies.
2. Opportunities Provision: The development of a variety of specific education, training, and employment programs targeting gang-involved youth.
3. Social Intervention: Youth-serving agencies, schools, street outreach workers, grassroots groups, faith-based organizations, law enforcement agencies, and other criminal justice organizations reaching out and acting as links between gang-involved youth and their families, the conventional world, and needed services.
4. Suppression: Formal and informal social control procedures, including close supervision or monitoring of gang youth by agencies of the criminal justice system and also by community-based agencies, schools, and grassroots groups.
5. Organizational Change and Development: Development and implementation of policies and procedures that result in the most effective use of available and potential resources to better address the gang problem.

These strategies are to be implemented by a community with funding from OJJDP. While these strategies might appear to make sense, no clear guidelines are given as to how to implement them. It is left up to city counsels or other organizations (often police departments) to choose what program to implement, fund, and manage. Depending on the given elements selected and the manner in which they are implemented, it should not be surprising that this laissez-faire approach may result in more or less a combination of ineffective strategies. While this is certainly a concern, there are other much more important weaknesses to the approach.
In order for the model to be implemented, everyone in the community had to be “on the same page” (Klein and Maxson 2006, 122). Schools, police departments, employment agencies, grassroots organizations, community-based youth agencies, prosecution, probation agencies, and others had to be brought together in order to work towards the same goal. In total, 11 categories of participants had to work under the same principles and toward the same goals. This objective is laudable, but intrinsically naïve. This strategy alone has proven to be the cause of program cessation at many sites, creating in most communities a complete organizational failure and disarray, with every agency fighting for the interests of their particular organization. Not only was it impossible to meet all the stakeholders on common ground, it often caused many components of the initiatives to fall apart before and throughout implementation of the program.

As a result, most communities were unable to follow the model set by OJJDP, leading Spergel and his colleagues to conclude many of their evaluations with comments such as the following:

The Bloomington-Normal program did not follow the OJJDP model. It emphasized a suppression approach. It did not include grassroots groups, and did not develop an adequate outreach youth-worker approach. Little attention was paid to an appropriate mix of strategies for different youth, to the modification of the roles of the different types of workers, and to how different agency workers were to function together to create an improved, interorganizational, street-level-worker structure and process to meet the interests and needs of gang youth, and the needs of the community within the framework of the Model. (2001, 17.14)

The Gang Reduction Program (GRP) is another initiative of OJJDP. Much like the Comprehensive Community-wide Approach to Gang Prevention, Intervention and Suppression programs discussed earlier, GRP relied on the Spergel Model. And, much like its prior counterpart, GRP was fraught with implementation issues throughout their sites, despite efforts to guide the program application.

One of the conclusions regarding the application of the Spergel Model was that “a number of strategic planning committee members and those responsible for implementation found OJJDP’s basic GRP five-prong model too rigid and not adaptable to local problems and issues” (Cahill et al. 2008, 361). Once again, this is an indication that a one-size-fits-all approach might not be realistic in practice. Some positive outcomes were found in one GRP site regarding gang-related outcomes: the Los Angeles GRP found a decrease in gang-related crimes. However, when incidents of gang-related serious violence were observed, a significant decrease was observed in the comparison area but not in the targeted area (Cahill et al. 2008).

A lot of money has been invested in the GRP and according to OJJDP’s website; indeed, the approach was implemented in more than 20 other communities. Much like G.R.E.A.T., this holistic approach to gangs has gained much media attention and provides politicians with a strong and comforting message to deliver to the citizens they serve. It sounds great, it looks great; in reality was based on a failing approach and proves to be of modest effectiveness, despite the extensive resources needed to implement GRP.
6.4.2 Promising Comprehensive Programs: Safe Neighborhoods and CeaseFire Chicago

Two Chicago-based comprehensive initiatives have shown promising results. Project Safe Neighborhoods (PSN) relied on strategies similar to “pulling-levers” strategies. It targeted individuals at-risk of engaging in gun violence and increased federal prosecution of gun cases, as well as focusing resources towards gun-related offences. What makes PSN a comprehensive strategy compared with other policing tactics described earlier is its community outreach component, which consisted of providing gun violence education and prevention in schools, and its offender notification forums.

These forums were in the form of roundtable sessions with offenders and law enforcement personnel designed to clearly explain the consequences of gun violence and the choices that offenders need to make in order to stop their offending. This strategy was research-based and dynamic. Papachristos et al. (2007, 229) notes:

Importantly, the PSN researcher role differs from the more common laissez faire approach to program evaluation in that the PSN research partner is expected to actively use available data and research both to help guide program efforts and evaluate program effectiveness as opposed to simply evaluating the policy intervention after the fact.

This kind of attitude towards evaluation and, more importantly, the application of evaluation results, should constitute a model for future intervention. The specific-target population of this approach combined with a strong evidence-based design and a clear program structure makes PSN an ideal model as far as structure and approach to intervention. It should come as no surprise then that the evaluation of PSN in Chicago showed a significant treatment effect on homicides, gun homicides, and aggravated assaults/batteries. However, with respect to gang homicides, no significant effects were observed. It should be noted that gang homicides were not particularly targeted by the program.

Another Chicago-based comprehensive program is CeaseFire. Despite having the same name as Operation Ceasefire, a “pulling-levers” strategy, CeaseFire more closely resembles the comprehensive initiatives of the Spergel Model, or what a fully-implemented Spergel Model would look like. The difference here is that goals were tailored to the specific targeted population and that the program logic model was designed before the start of the program, with tangible targets and objectives. The idea behind CeaseFire is to treat gun violence as medicine treats infectious disease (Austin 2003). The founder of CeaseFire, an epidemiologist, based the program on a public health model. The public health model is user-friendly because the general public is usually familiar with its use in HIV-prevention or lung cancer prevention (Egley and Howell 2005). Contrary to the Spergel Model, CeaseFire clearly specifies where to input strategies in order to obtain a desirable outcome. The clarity and simplicity of CeaseFire ensured that this theory-based program was implemented with good fidelity. Perhaps this could explain its significant impact on shots fired as well as shootings in the targeted neighbourhoods. CeaseFire also emphasizes the need for an approach tailored to the community in which it is implemented (as opposed to a one-size-fits all approach), and for theory-based programs.
6.4.3 Lessons Learned from Comprehensive and Holistic Approaches

The Spergel Model has been heavily criticized in this report. However, it should be noted that when advocating for theory-based approaches, one should applaud the efforts of applying a theoretical model to gang prevention, intervention and suppression. In defence of the Spergel Model, it has never really been tested considering it has never really been properly implemented and was not even properly formulated in Little Village, the original and most promising site. Despite this, it may be time to move forward and learn from the failures of the past.

While the Spergel Model is based on theory and a lifetime of research by Irving Spergel and his colleagues, it is simply too difficult to implement and might not be suitable for settings other than where it was originally conceived (i.e., Chicago). But it is not advocated here to dismiss a failed attempt as a whole, as it includes valuable components for future attempts. OJJDP has attempted to apply a theoretical model, based on the available research on gangs, to prevention, intervention and suppression efforts. This in itself is something to build on for the future; throughout this report, it was observed that research-based programs fare better (with respect to effectiveness) than programs based on conventional wisdoms. Now the challenge is to bridge the gap between ivory tower academic theorists and ground-level practitioners implementing the programs – a gap which the Spergel Model was unfortunately unable to connect. Using simpler, yet scientifically proven methods, such as the public health model used in CeaseFire might be a better option, rather than relying on vague concepts created by academics and left to ad-lib interpretation from policymakers.

Another lesson from comprehensive and holistic approaches is that less might be more. While it is an admirable goal to tackle a problem on every front, all at once, it requires tremendous organization and the simultaneous commitment from numerous – sometimes very numerous – stakeholders. This is simply not realistic. Targeting the most pressing issue (e.g., gun violence) and focusing resources on a smaller problem might lead to increased effectiveness and might rally a community behind small victories in order to expand to greater victories.

Targeting gang crime and gang membership might be too ambitious, impractical, and might require considerable lag time to yield results. Confidence in the program might fade and funding might be terminated if short-term outcomes are not perceived. Such is the reality in the public arena. Thus, building on small victories to further expand interventions might ensure public support, and, therefore, financial support.

Also, adapting the program to the population it will serve seems crucial to its effectiveness. This is especially relevant in the Canadian context. As Totten argues, the composition of youth gangs differs from one province to another (even from one city to another). Additionally, Linden (2010) states that “programs should be evidence-based and should address specific risk factors in the target community and its population” (2008, 20). Hence, while Linden argues that program developers should keep in mind what has worked and what has not worked elsewhere, they should adapt programs to the local context, both with regards to the target population and to the resources and structures in place in the targeted communities.
Finally, while authors such as Linden (2010) and Totten (2008) recognize the use of comprehensive approaches, it should be noted that comprehensive approaches are merely an amalgamation of prevention, intervention, and suppression approaches. If the individual strategies employed are not effective, the comprehensive approach will likely also fail. This might seem intuitive, but it has proven to be a significant (and costly) problem in the application of the Spergel Model. In order to build an effective comprehensive approach, effective prevention, intervention, and suppression approaches must first be identified. According to Totten (2008), there are many promising approaches used in Canada that have not been evaluated or properly evaluated. A priority should be made to evaluate – with great methodological rigour – strategies that are already in place.

Funds invested now in evaluative research with strict methodological demands could ensure the future development of an effective comprehensive approach to gang crimes. As noted by Klein and Maxson (2006, 246), rather than try something and hoping it will work, “the suggestion is that we stop, step back, and consider where we want to go and why - in light of what we have learned about gangs to date”.

7.0 Conclusion

In the present study, the authors sought to examine the existing body of literature on gang prevention/intervention strategies, determine the overall effectiveness of current approaches to addressing the street gang problem, and provide recommendations for best policies and practices. To accomplish these goals, the authors began by conducting a systematic literature review to identify all rigorous gang prevention/intervention program evaluations conducted over the past 30 years. After identifying and screening over 2,000 potentially relevant studies, the authors found a set of 38 studies that met eligibility criteria for inclusion in the analysis. These studies were reviewed in depth and were used to develop a sophisticated, comprehensive, five-category typology of the different approaches to addressing street gangs. Unfortunately, given the large differences in the approaches used and outcomes studied across this set of 38 evaluations, a quantitative meta-analytic synthesis of the literature was not possible. The simple fact is that at this point in time not enough gang prevention/intervention evaluations exist, and those that do are not typically designed with sufficiently rigorous methods that produce outcomes that meet the conditions necessary for inclusion in a meta-analysis. With this said, this narrative analysis does point to some important findings and recommendations with regards to the effectiveness of existing approaches to preventing and intervening with street gangs. These findings can be summarized in four points:

1) **Prevention** strategies showed little signs of effectiveness, which can be explained by an overly broad approach to gang prevention that includes the majority of youth who will never consider gangs in the first place.

2) **Gang activity regulation** strategies showed some signs of effectiveness, especially for ‘pulling lever’ suppression programs. Programs strictly focused on providing prosocial alternatives to gang members were found to be less effective than those focused on preventing gang delinquency itself.
3) Comprehensive and holistic strategies, despite their promises, have not been shown to be consistently effective at reducing gang activity where implemented. For the Spergel Model specifically, lack of guidance on implementation, unrealistic expectations regarding stakeholder partnerships, and reliance on a one-size-fits-all approach may have hindered such programs. However, comprehensive programs such as Project Safe Neighborhoods in Chicago, combining a pulling lever strategy with community outreach, have shown clear signs of effectiveness.

4) Justice system based programs were few in numbers, which prevents strong conclusions from being drawn. The one program (RPC programs) that showed signs of effectiveness was based on a Canadian study (Diplacido et al. 2006) that is worth replicating in more settings.

This systematic review of rigorous evaluations of gang control strategies provided important and informative conclusions regarding the current status of the field on approaches to gang prevention/intervention. On gang control strategies in general, three major recommendations were discussed.

1. The application of scientific methodologies is a critical element in ensuring evaluations are rigorous and comparable. Independent evaluations could be encouraged, and the presence of experienced researchers in evaluation methods is highly recommended.
2. Programs may be more effective if they are developed by logically extrapolating from empirical observations and not from anecdotal theorizing or “common sense.”
3. Evaluations could be used to increase the effectiveness of individual programs if they were an integral part of the implementation process of a program, incorporated from program inception and used to readjust strategies, as necessary.

Much work is still needed in the fields of prevention and intervention. This report attempts to guide policy considering the reliable evidence available to date. Only by focusing on greater cooperation between academics and policymakers and by ensuring that methodologically sound evaluations accompany any initiative will it be possible to identify and maintain effective strategies for the control of street gangs.

7.1 Summary of Recommendations

Three major recommendations concerning gang prevention follow from this research (listed below).

1. Where appropriate, research-based delinquency prevention programs rather than gang membership prevention programs (e.g., GREAT programs) should be utilized.
2. Risk factors for gang membership should be used as guidance for program delivery and dosage.
3. There should be a focus on early prevention, as early as age nine.

Four major recommendations are suggested regarding gang activity regulation approaches (listed below).

1. Strategies that consider the impact of group processes should be implemented.
2. Specific crimes rather than specific gangs or individuals should be targeted by gang activity regulation approaches.
3. Pulling-lever or theory-based strategies should be used.
4. There should be a focus on the continuity of the intervention (e.g., strategies should be implemented police department-wide, as opposed to in standalone gang units).

And finally, four recommendations are offered with respect to comprehensive and holistic approaches (listed below).

1. There should be a focus on specific issues (e.g., gun violence) rather than on general problems (e.g., gang membership).
2. It should be clear how a model will work prior to its implementation.
3. Close cooperation between academics and communities implementing programs should be encouraged in order to ensure proper implementation.
4. A simple and practical model including proven and theory-based programs should be utilized.
References


Appendix A: Databases and Keywords Used in Bibliographic Searches

List of 21 English Databases
1. Academic Search Premier
2. Australian Education Index
3. Canadian Research Index
4. Cochrane Central Register of Controlled Trials
5. Cochrane Database of Systematic Reviews
6. Criminal Justice Abstracts
7. Database of Abstracts of Review of Effectiveness
8. Database of Abstracts of Reviews of Effects
9. Dissertation Abstracts International
10. Dissertations and Theses
11. Education Full Text
12. Education Resources Information Center (ERIC)
13. Journal Storage (JSTOR)
14. Medline
15. National Crime and Justice Reference Service (NCJRS)
16. PAIS International
17. PsycARTICLES
18. PsycBOOKS
19. PsycINFO
20. Social Sciences Citation Index
21. Sociological Abstracts
22. Web of Science

List of 3 French Databases
1. Cairn
2. Erudit
3. Persee

English keywords
(youth* OR juvenile* OR adolesc* OR teen* OR "young adult") AND
(gang OR gangs OR "criminal network" OR "criminal organization") AND
(policy OR policies OR strateg* OR intervention* OR suppress* OR program* OR treatment* OR preventi*) AND (evaluat* OR assess* OR effect* OR outcome* OR "meta-analy*" OR "systematic review")

French keywords
(adolescen* OU juvenile* OU "jeune* adulte") ET

5 The database Erudit limited the number of words used for the search. Therefore, the following keywords were used in this database: gang OU bande OU "réseau criminel" OU "groupe criminel" OU "organization criminelle".
EFFECTIVENESS OF STREET GANG CONTROL STRATEGIES: A SYSTEMATIC REVIEW AND META-ANALYSIS OF EVALUATION STUDIES
PUBLIC SAFETY CANADA
Appendix B: Key Gang Researcher CV Searches

1. Braga, A.
2. Chatterjee, J.
3. Chesney-Lind, M.
4. Chettleburgh, M. C.
5. Cohen, M.
6. Cousineau, M-M.
7. Curry, D.
8. Decker, S.
9. Esbensen, F.
10. Fredette, C.
11. Goldstein, A.
12. Grekul, J.
13. Hagedorn, J.
14. Hamel, S.
15. Hamel, S.
16. Harris, R.
17. Howell, J.
18. Huff, C.
19. Katz, C.
20. Kennedy, D.
21. Klein, M.
22. Maxson, C.
23. Osgood, W.
24. Pennell, S.
25. Rossman, S.
26. Spergel, I.
27. Tita, G.
28. Totten, M.
29. Webb, V.
30. Winfree, T.
## Appendix C: Comprehensive and Holistic Study Components

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<th>Study</th>
<th>Preventive Awareness</th>
<th>Gang membership prevention</th>
<th>Gang activity prevention</th>
<th>Gang activity suppression</th>
<th>Prison based gang interventions</th>
<th>Probation gang intervention</th>
<th>Organizational oversight</th>
<th>Comprehensive Holistic</th>
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## Appendix D: Classification of the 38 Included Studies

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Appendix E: Narrative Reviews

In this section, the authors provide narrative reviews of the 38 studies identified through the systematic review, arranged by the eight categories defined in the gang prevention/intervention typology. Studies which illustrate especially well the main components of a type of program and its relative impact were chosen for detailed review.

1.0 Prevention  
(n=10 studies total)

1.1 Preventive Awareness Programs  
(n=5 studies/ 3programs)

Preventive awareness programs consist of strategies that focus on the general population. These programs do not make a targeted effort to reach at-risk youths at the individual level. Preventive awareness programs include school-based programs, after-school programs, and other activities that aim to occupy youths’ free time. The search yielded results on three different programs that fell into this category: the Gang Resistance Education and Training (G.R.E.A.T.) program (three evaluations of this program were included), the Teens, Crime and Community and Community Works program, and the Neutral Zone program.

The most notable preventive awareness program is the G.R.E.A.T. program. The objective of this school-based program is to reduce gang involvement by providing youths with knowledge on gangs along with skills to resist gang membership (Esbensen, Osgood, Taylor, Peterson, and Freng 2001). The G.R.E.A.T. curriculum was originally comprised of eight classroom lessons, but five lessons have been added in the revised curriculum, G.R.E.A.T. II (Esbensen, Peterson, Taylor, Freng, Osgood, Carson, and Matsuda 2011). Weekly classroom lessons are typically delivered by a police officer to middle-school children (usually in grade 7). G.R.E.A.T. has been subject to several evaluations, most of which have found a modestly positive program impact (Esbensen and Osgood 1999; Esbensen et al. 2001; Palumbo and Ferguson 1995). The program appears to lead youths to hold more positive attitudes towards police and more negative attitudes towards gangs. Evaluations have produced mixed results regarding whether or not youths are likely to initiate gang membership. In longitudinal evaluations, researchers find that G.R.E.A.T. produce a lagged effect; that is, significant differences begin to emerge between groups three to four years after program completion (Esbensen et al. 2001). The authors explain this unexpected finding by the fact that stressful events (beginning of adolescence, transition to bigger and more diversified schools) in adolescents occurs around the age when the program is implemented, and may make it difficult for participants to effectively use the tools they learn. Later, when some of the anxiety of adolescence subsides and the youths adapt to high school, they can more successfully make use of their prior intervention experience (Ebensen et al. 2001). As a consequence of the evaluations showing mixed results with respect to program success, G.R.E.A.T. was revised in 2006 to become G.R.E.A.T. II.

A preliminary evaluation using a randomized experimental design has shown promising results, most notably on short-term outcomes such as reduced gang membership (Esbensen et al. 2011). Longitudinal evaluations of G.R.E.A.T. II are yet to come.
The Teens, Crime and the Community and Community Works (TCC/CW) program offered a curriculum comparable to that of G.R.E.A.T. (16 lessons dispensed to 6th to 8th grade students). However, poor implementation fidelity with respect to key program components may have affected evaluation results of the program. The evaluation of TCC/CW used a pre/post intervention design with comparisons between control and experimental groups, and did not report significant program effects with respect to reducing teen victimization, delinquency, or engaging teens in the community (Esbensen 2009).

Last, Neutral Zone (NZ) is a preventive awareness program targeting youths aged 13 to 20 years and offering them different activities between the weekend hours of 10 PM and 2 AM. The rationale behind the program is that by getting youths off the street during a period in which they are more susceptible to commit a crime or be victimized by others, juvenile criminality, including gang-related crimes, will be decreased (Thurman, Giacomazzi, Reisig, and Mueller 1996). NZ offers recreational activities, movies, food, games, and job skills activities in a gang-free environment (e.g., no gang signs, no gang tattoos or clothing, no weapons or drugs) with appropriate adult role models. The evaluation used calls-for-service to the police as a mean to evaluate the fluctuations in crime during program operation. The evaluation reported program effectiveness as measured by the number of calls-for-service to the police during the hours of operation of NZ, which did not significantly increase when compared to the two hours prior and after program operation. If NZ had no effect on crime, one would expect calls-for-service to increase between 10PM and 2AM as it is a “crime-prone” period (Thurman et al. 1996).

1.2 Gang Membership Prevention
(n=5 programs)

Gang membership prevention programs actively target at-risk youths. These include school-based curriculums to at-risk individuals, at-risk youth outreach, community-wide consortia of social service providers, and recreational activities to occupy at-risk youths’ free time. Five evaluated programs were generated by the search: the Logan Square Prevention program, the National Youth Gang Drug Prevention program, the Gang Prevention Through Targeted Outreach program, the Youth Development Workers Program, and the Broader Urban Involvement and Leadership Development program.

Two of the identified programs focus on a community-wide organization of provided services: the Logan Square Prevention Project (LSP) and the National Youth Gang Drug Prevention (NYGDP) Program. The LSP seeks to prevent gang membership by providing culturally-specific programming to at-risk youth in grades 5-9. The project offers activities to inner-city Latino youths, such as gang prevention seminars, recreational activities, school-based life skills programs, drug abuse treatment, counseling with youths and their families, and after-school and summer activities.

The evaluation of LSP used a longitudinal model to follow youths from grades 5 to 9 and compared whether youths with multiple years of treatment fared better than youths in their first year of treatment.
The evaluation concluded that the program was successful in reducing gang membership, reducing the number of youths carrying a weapon, and reducing the number of youth reporting that they were part of the leadership of a gang (Godley and Velasquez 1998). Similarly, the National Youth Gang Drug Prevention (NYGDP) Program focused on the creation of consortia within communities in order to increase community-level efforts to prevent youths from joining gangs. The rationale for the program was that by bringing all of the actors in a community together to focus on the issue of gang membership, the NYGDP would prevent at-risk youths from joining gangs. However, the evaluation by Cohen, Williams, Bekelman, and Crosse (1994) compared the treated group with an untreated group pre- and post-intervention and did not find any significant program effects on gang involvement or gang avoidance.

The Gang Prevention Through Targeted Outreach (GPTTO) program is another gang membership prevention program. This initiative, led by the Boys and Girls Club, seeks to recruit hard-to-reach, at-risk youths to join after-school activities. By using interest-based activities to develop strong relationships between staff and youths, GPTTO staff draw at-risk youth to the Club and evaluate the youths’ needs. The rationale behind the program is that by providing a safe and attractive environment where youths can take part in activities they enjoy and feel a sense of belonging, youths will not seek to fill those voids elsewhere (i.e., in a gang). GPTTO also offers developmental programming such as social skills classes, conflict resolution workshops, and education programs. The evaluation of GPTTO used pre/post surveys and reported significant program effects on reducing truancy, delaying the onset of gang behaviour, reducing the likelihood of initiating marijuana use, elevating academic performance, and increasing the number of positive friends (Arbreton and McClanahan 2002).

Another program using outreach to at-risk youths is the Broader Urban Involvement and Leadership Development program (BUILD). The BUILD program includes 12 classroom sessions (8th grade) presented in schools from lower- to lower-middle-class neighbourhoods in which there is known gang activity and recruitment. The sessions focus on gang education and awareness, substance abuse, recruitment in gangs, and peer pressure. Much like GPTTO, BUILD uses targeted outreach in classrooms in which the program is provided to invite the most at-risk youths, identified with the help of teachers and school officials, to BUILD’s after-school component. Targeted youths are invited to participate in sports, other recreational activities, job skills training, and educational programs. Evaluation results were not statistically significant, possibly due in part to low power given the relatively small samples size and the low frequency of youths who joined gangs in both the experimental and control conditions. However, when the researchers analyzed the programs in which youths took part they found that targeted youths who did not participate in any of the interventions may have been more likely to join gangs, whereas none of the youths who participated in both the classroom sessions and the after-school programs initiated gang membership (Thompson and Jason 1988).

The final gang membership prevention program included in this review is the Youth Development Workers Program (YDW). The YDW targets high-risk youths referred to the program by schools, police, or courts, and offers services such as psychological and substance abuse counseling, tutoring, employment training, gang prevention information, a wilderness program, recreational activities, and case management.
The objectives of the program are to increase youths’ sense of efficacy, decrease drug use and crime, increase school performance, and foster family support. The evaluation by Silvi and colleagues (1996) relied on data from pre- and post-test surveys and found that while most indicators were in a positive direction (e.g., a decline in reported arrests and in alcohol use), none were statistically significant.

2.0 Gang Activity Regulation
(n=16 studies total)

2.1 Gang Activity Prevention
(n=7 programs)

Gang activity prevention strategies target youths who are already involved in gangs. The main objective of these strategies is to prevent gang members from committing crimes by giving them opportunities to act prosocially. These strategies include fostering the development of prosocial skills, creating employment opportunities, reducing conditions that encourage crime, and providing social services and activities to gang members that help fill a void otherwise fulfilled by gang membership. The search uncovered seven program evaluations: the Gang Intervention Through Targeted Outreach program, the Dallas Anti-Gang Initiative, the Municipal Drug and Gang Enforcement Program, Operation Cul-de-Sac, the San Diego Street Youth Program, the Crisis Intervention Service Project, and the Gang Employment Program.

The Gang Intervention Through Targeted Outreach (GITTO) Program used targeted outreach to recruit hard-to-reach youths. The GITTO is similar to the GPTTO described earlier with the important exception that it targets known gang members. The activities offered by the GITTO seek to offer youths an alternative to gangs and to create a sense of belonging currently being satisfied by gang membership. Social skills seminars, conflict resolution workshops, and job skill trainings are among the types of services offered by the GITTO. The evaluation of the program used pre/post surveys and found that the GITTO succeeded in reducing the number of gang-related behaviours displayed (e.g., theft, using gang signals, assembling in places frequented by gang members) and the number of contacts juveniles had with the justice system (Arbreton and McClanahan 2002).

Another strategy using a gang activity prevention focus was the Dallas Anti-Gang Initiative (AGI). This program, led by the Dallas Police Department, consisted of enforcing truancy and curfew laws in high gang activity areas and saturating these areas with police presence. The evaluation of the AGI compared the targeted area with a control area for the year prior and the year in which the program was implemented. While the evaluation reported a decrease in gang violence in the targeted areas that used undirected saturation patrols (relying solely on police presence without specific activities), the decrease was not statistically significant; furthermore, there was a statistically significant decrease also evidenced in the control areas.

However, in targeted areas where patrol focused on curfew and truancy enforcement, the researchers observed that gang violence was significantly reduced (Fritsch, Caeti, and Taylor 1999).
The Municipal Drug and Gang Enforcement (MDGE) program was implemented by the Chicago Police Department (CPD). This program consisted of a joint effort between the CPD, the Department of Law, and the Department of Buildings.

Essentially, the MDGE program targeted “non-owner occupied multi-unit dwellings” (Higgins and Coldren 2000, i) because they “act[ed] as magnets for illegal activity, including gang and narcotics crime” (Higgins and Coldren 2000, i). The concept behind the program was to make landlords and owners liable for gang activity in and around their buildings. The Department of Buildings conducted inspections for code violations of buildings thought to house or to be associated with gang members. When applicable, the Department of Law prosecuted landlords and owners under the city's nuisance abatement regulations, which held landlords accountable for the criminal activities of their tenants. The evaluation of the MDGE program compared crime levels before and after inspections in targeted buildings and the buildings’ catchment areas. The evaluation showed that the MDGE program was associated with a decrease in gang-related narcotics offences both in the buildings and in the catchment areas. The evaluation also found that the program contributed to a decrease in criminal damages to property, violent offences, and property offences in the buildings but had no effect in the catchment areas. However, no tests of statistical significance were conducted in this study (Higgins and Coldren 2000).

Operation Cul-de-Sac (OCDS) was launched in strategic streets of Los Angeles to decrease the mobility of rival neighbouring gangs. These streets were chosen because they had been the location of a high number of drive-by shootings, gang homicides, and gang-related assaults. The idea was to simply block car access to those streets by using traffic barriers, which would limit the routes to and from crimes. The evaluation of OCDS used a comparison between the targeted site and the surrounding area as well as a comparison of crime before and after implementation of the program. Over a one-year period, both gang-related homicides and gang-related assaults decreased in the OCDS area in contrast to the comparison area. Gang-related homicides and gang-related assaults also decreased after implementation of the program and increased after the removal of OCDS (Lasley 1998).

The San Diego Street Youth Program (SDSYP) targeted gang members in specific troubled neighbourhoods and sought to allow them to live a law-abiding life. The objectives of the SDSYP were to assist gang members in obtaining jobs, return them to school, and offer them job training opportunities. Other services such as family counseling and referrals to drug treatment programs were also offered in order to help prepare youths for the job market. Although the program targeted gang members, other at-risk youths were also reached by the program via referrals from the police. The evaluation of the SDSYP compared the targeted area with a control area. When comparing a year before and after the program’s implementation, gang-related violent crimes in the target area declined by 39 percent. However, a similar decline was also observed in the control area. When considering gang-related property crimes, these offences rose by 19 percent after program implementation, whereas they rose by 95 percent in the control area (Pennell and Curtis 1983).

A similar program was put in place by the El Monte Police Department. The Gang Employment Program (GEP) evaluation used a matched sample of 100 control and 100 experimental group subjects using pre/post intervention comparisons. Similar to the findings for the SDSYP, the
evaluation of GEP found no differences between the two groups in rates of police detention. While both groups' police detention rates decreased, the authors suggest that changes in the criminal justice system were likely responsible for the decrease, not the GEP itself (Willman and Snortum 1982).

Finally, the Crisis Intervention Services Project (CRISP) is another example of a gang activity prevention strategy. CRISP consisted primarily of crisis intervention and mediation with gangs on the streets between the hours of 6pm and midnight. Workers provided information to youths about police presence in order to deter violent crime, and provide informal counseling and referrals to education and job skills resources in the community. Youths between the ages of 14 and 16 were also referred by the Chicago Police Department to CRISP for intensive intervention. These interventions consisted in family counseling and mediation with public school personnel. The evaluation of CRISP compared the target area with a non-targeted area prior to program implementation and while the project was in place. While CRISP failed to decrease gang-related crime in the targeted area, it did result in a significantly smaller increase compared to the increase shown in the control area. However, the increase of 70 percent in Part 1 offences (homicide, robbery, aggravated assault, aggravated battery) and of 107 percent in Part 2 offences (simple assault/battery, intimidation, gang recruitment and use of weapon) suggest that CRISP was not successful in meeting its harm reduction goals (Spergel 1986).

2.2 Gang Activity Suppression
(n=9 programs)

Gang activity suppression strategies target gang members in order to incapacitate them. The objectives of these strategies are to arrest, prosecute, and remove from the street criminally-active gang members. These strategies include problem-oriented policing tactics, intelligence gathering, and strategic prosecution. The search yielded six different programs: Operation Ceasefire, the St. Louis Anti-Gang Initiative, the Tri-Agency Resource Gang Enforcement Team, the Detroit Anti-Gang Initiative, the Indianapolis Violence Reduction Program, and Spergel’s Gang Violence Reduction Project in Little Village.

One of the most well-known gang activity suppression programs, implemented in multiple US cities is Operation Ceasefire (OC). OC in Boston targeted chronically offending gang-involved youths, as they were believed to be responsible for a majority of Boston's homicides. OC is a problem-oriented policing approach involving two components. First, local, state, and federal authorities focused on specific types of firearms found to be used by gang members, and targeted traffickers of these types of weapons. Different technologies (e.g., serial number restoration, geocoding of gun crimes) were used to generate leads for investigators in order to disrupt firearm trafficking. Second, a “pulling-levers” strategy was put in place. This strategy “…involved deterring violent behaviour by chronic gang offenders by reaching out directly to gangs, saying explicitly that violence would no longer be tolerated, and backing that message by ‘pulling every lever’ legally available when violence occurred” (Braga, Kennedy, Waring, and Piehl 2001, 199). This strategy was implemented by meeting with gang members, by meeting with inmates in secure juvenile facilities, and with the help of gang outreach workers throughout the city. The rationale behind OC is that chronic offenders are involved in a wide array of offences, many of them being low-level street crimes that are easy to enforce using crackdowns that disrupt gang
activity. However, the goal of OC was not to target every gang-related crime that occurred, but to target violent gangs and violent gang members specifically. The OC would then explain those actions to other gangs saying “this gang did violence, we responded with the following actions, and here is how to prevent anything similar from happening to you” (Braga et al. 2001, 200).

The evaluation of OC used a one-group time-series design. In pre/post comparisons, OC was found to be successful in reducing youth homicide, reaching the lowest rates in Boston since 1976. When monthly counts of homicides were analyzed, OC was associated with a mean reduction in youth homicides of 63 percent. When compared with 39 cities throughout the United States, only four cities had differences in the counts of youth homicides over the program period; Boston having the largest statistically significant estimated effect (Braga et al. 2001). Other cities implemented strategies similar to OC. Operation Peacekeeper in Stockton, CA, observed similar results (Braga 2008). The “pulling-levers” strategy implemented in Lowell, MA (Braga, Pierce, McDevitt, Bond, and Cronin 2008), East Los Angeles (Tita, Riley, Ridgeway, Grammich, Abrahamse, and Greenwood 2003) and through the Indianapolis Violence Reduction program (Corsaro and McGarrell 2009) also yielded similar successful results.

The St. Louis Anti-Gang Initiative (SAGI), similar to the Dallas AGI discussed earlier, focused on enforcing curfew laws. However, the SAGI also includes components focusing on gun and gang enforcement in targeted neighbourhoods, making it a suppression strategy. The primary objectives of these strategies are to confiscate guns from juveniles by conducting consent searches, and to implement a zero-tolerance approach to gang activities leading to arrests of criminally-active gang members. The evaluation of SAGI used pre/post comparisons of crime rates in two targeted neighbourhoods in comparison with a control neighbourhood. In one target neighbourhood, while all but one type of crime (homicide) decreased, none of the differences were found to be statistically significant. In the second target neighbourhood, only non-weapons robberies were found to decrease significantly from pre- to post-assessment, however, no significant differences were detected when compared with the control neighbourhood (Decker and Curry 2002).

The Tri-Agency Resource Gang Enforcement Team (TARGET) is another type of gang activity suppression strategy. The goal of TARGET is to place repeat gang offenders in custody in order to prevent them from harming the community. TARGET is a multi-agency cooperation between police officers, a probation officer, and the district attorney; this cooperative focused on apprehending, investigating, and prosecuting gang members. Repeat gang offenders were identified based on their criminal record and were closely monitored until they committed new offences. Once they recidivated, gang members were prosecuted in order to receive the longest sentence possible. The evaluation of TARGET examined the frequency of gang crimes in the community after program implementation, which was found to drop by 11 percent in the first year, 64 percent in the second year, and 54 percent in the third year.

However, a comparison with the 12-month period preceding program implementation showed a general decrease in crime in the targeted community, as well as a general decrease in gang crimes in the region surrounding the targeted area, leading to questionable evidence of program success (Kent, Donaldson, Wyrick, and Smith 2000).
The Detroit Anti-Gang Initiative (DAGI) is an aggressive enforcement approach to gangs and was divided into three components. First, the suppression component consisted of enforcement of truancy and curfew ordinances, saturation patrols, and intelligence gathering to “crackdown” on gangs. Intelligence was used to target suspected gang members that might be violating probation or parole provisions. The second component involved vertical prosecution.

A prosecutor acted as a liaison between the Prosecutor's Office and the Gang Unit and oversaw all gang-related prosecutions from start to finish. The third component, titled “intervention strategies”, involved intelligence gathering and providing the community with information on gangs. The evaluation of DAGI used comparisons between a control precinct and the targeted precinct using a time-series analysis (Bynum and Varano 2002). The study found a decrease in gun crimes in the targeted precincts compared to an increase in the control precincts; however, the decrease was found to be statistically significant in only one of the targeted precincts.

Spergel and colleagues’ Gang Violence Reduction Project in Chicago’s Little Village targeted at-risk and already involved gang members with gang membership prevention strategies, gang activity prevention strategies, and gang activity suppression. The evaluation of Little Village relied on gang member surveys to assess the impact of the program. Gang members were surveyed at three different times during the program. The evaluation found that many youths were no longer gang members after a two-year period in the program. For one gang in particular, the Latin Kings, membership dropped from 46 percent of the sample to 29.7 percent. The evaluation also found an increase in the educational level and rates of employment among youth gang members. In addition, self-reported offences dropped from a mean of 52.7 to 9.4; violent crime dropped from a mean of 28.7 to 6.6; and serious violent crime (aggravated assaults, drive-by shootings, and homicides) dropped from a mean of 18.5 to 3.6. The evaluation also used police data on gang crimes to assess the impact of the program. The researchers found that when comparing the five years pre-intervention and the five years during the intervention, the targeted area of Little Village had a lower rate of increase in serious violent gang incidents (Spergel, Wa, Choi, Grossman, Jacob, Spergel, and Barrios 2002).

3.0 Justice system Based Intervention
(n=3 studies total)

3.1 Prison based Gang Interventions
(n=2 programs)

Prison based gang interventions focus on reducing institutional misconduct and providing treatment and skills to gang member inmates. Only two programs matched the search and inclusion criteria: the Regional Psychiatric Centre programs and the Arizona Department of
Corrections’ Security Threat Group Program. The Regional Psychiatric Centre program is the only Canadian program to meet the inclusion criteria for this study.

The cognitive-behavioural programs offered at the Regional Psychiatric Centre (RPC) in Saskatoon are prison based interventions that were used with gangs. The programs were offered to high-risk, high-need offenders using an interdisciplinary team approach that focused on relapse prevention skills in individual and group therapy.

Three programs were offered at the RPC depending on the needs of the offenders: the Aggressive Behavioural Control Program (for impulsive and/or chronically aggressive offenders), the Clearwater Sex Offender Program (for high-risk sex offenders), and the Psychiatric Rehabilitation Program (for offenders suffering from a mental illness). Each of these programs treated both gang members and non-gang members, with objectives to reduce institutional misconduct and recidivism in the community. The evaluation of the RPC programs was based on matched comparison groups of treated gang members (TG), untreated gang members (UG), treated nongang members (TNG) and untreated nongang members (UNG). The evaluation showed that TG had statistically significantly lower recidivism rates than did UG and UNG. In addition, nonviolent recidivism was significantly lower for TG compared to UNG. No significant differences emerged between the groups for violent recidivism (DiPlacido, Simon, Witte, Gu, and Wong 2006).

The Arizona Department of Corrections’ Security Threat Group Program (STGP) is another prison based gang intervention. The program targets gangs within correctional institutions in order to “minimize the threat that inmate gang or gang like activity poses to the safe, secure and efficient operation of institutions” (Fischer 2002, i). The program uses intelligence officers to classify gang members as members of a Security Threat Group (STG). Once inmates are verified as STGs they are given the choice to: (a) accept their STG status and refuse to renounce to their gang affiliation; (b) accept their STG status, renounce their gang affiliation, and receive briefing from intelligence officers; or (c) appeal their STG status. Inmates that choose to renounce their gangs are placed in protective segregation, while those who refuse to renounce their gangs or lose their appeal are placed in a super-maximum security unit (SMSU) in which they are locked in their cells for all but three hours a week. Ultimately the goal of these procedures is to isolate gang members from the general population until they renounce their gangs. The evaluation of STGP relied on time series analyses of the inmate population as a whole, for individual inmates, and for aggregated STG members.

The evaluation showed that rates of assault, drug violations, threats, fighting, and riots of STG inmates placed in the SMSU decreased by over 50 percent after placement. However, statistically significant decreases in assaults, drug violations, threat violations, weapons violations, and other violations were also observed for the general inmate population post-intervention (Fischer 2002).
3.2 Probation Interventions

Probation gang interventions target gang members who are released from institutions. The objectives of these interventions are to assist the reentry of gang members to the community and provide services to prevent further criminal involvement. Only one program in this category was returned and selected from the search: the Riverside Comprehensive Community-Wide Approach to Gang Prevention, Intervention, and Suppression. This program was based on the Spergel Model, much like other approaches that will be discussed in the comprehensive approach section. The Riverside initiative, however, only really implemented the probation component of their attempt at a comprehensive approach. The approach consisted in targeting gang members getting out of prison and providing them with services such as employment services, education services and drug abuse counseling.

4.0 Comprehensive and Holistic Approaches

The search yielded five comprehensive and four holistic approaches. Two programs claimed to be comprehensive but did not meet the criteria of a comprehensive approach. Appendix D outlines whether an approach is deemed comprehensive or holistic according to the criteria of the typology.

4.1 Comprehensive Approaches
(n=5 programs)

Project Safe Neighbourhood (PSN) in Chicago included a preventive awareness component (school-based curriculum), a gang membership prevention component (targeted outreach to at-risk youths) and a gang activity suppression component (intelligence gathering targeted at violent gang members). The evaluation compared homicide rates in the target area with those in the overall city and in a control area. While homicide rates dropped in the city as a whole, the rates dropped faster in the PSN target area. When compared with a similar control area, the evaluation reached the same conclusion. When controlling for the effect of Operation Ceasefire, the evaluation maintained the previously demonstrated positive effect of the program. In fact, findings suggested that PSN was actually adding to the documented success of Operation Ceasefire (Papachristos, Meares, and Fagan 2007).

CeaseFire Chicago focused on the three levels of prevention: preventive awareness, gang membership prevention, and gang activity prevention. The evaluation used a time-series analysis to assess the impact of the program on crime rates, and compared the targeted area with a similar comparison area. The evaluation also involved mapping of crime hot-spots and conducting a gang network analysis. Overall, the program was associated with a statistically significant decrease in actual and attempted shootings.

When analysis of crime hot-spots was undertaken, it was found that areas in which the program were implemented were safer since implementation.
When network analysis was considered, the researchers found that the program contributed to a decrease in reciprocal gang homicides and to gang-related homicides in targeted areas (Skogan, Hartnett, Bump, and Dubois 2009).

Several cities have tried to implement a comprehensive Spergel strategy, with differing levels of success. In the cities of Bloomington and Normal, evaluations found that the program had no impact on youths in terms of arrests during the program period or on self-reported violent offences, drug-related offences, and gang involvement. However, the evaluation reported that the increase in overall arrests was lower in the targeted area as opposed to the control area (Spergel, Ma, and Sosa 2005). In Mesa, program youths were found to have lower levels of arrests when compared to a matched sample. The areas in which the program was implemented also saw a 10.4 percent decrease in youth-typical crimes compared to comparison areas (Spergel, Wa, and Sosa 2005b). In San Antonio, the program did not have a statistically significant impact on arrest rates of program youths, gang membership, or crime rates in San Antonio (Spergel, Wa, and Sosa 2005c).

4.2 Holistic Approaches
(n=4 studies/1 program)

The Gang Reduction Program (GRP) was the only holistic approach identified through the systematic review and was implemented in four cities (Los Angeles, CA, Milwaukee, WI, North Miami Beach, FL, and Richmond, VA). The approach included a preventive awareness strategy, gang membership prevention, gang activity prevention (except in Los Angeles), gang activity suppression, and a probation gang intervention. In Los Angeles, the evaluation focused on a time-series analysis of calls to report shots fired, calls to report vandalism, incidents of serious violence, gang-related incidents, and gang-related incidents of serious violence. When using a comparison area, the evaluation found that the intervention significantly reduced gang-related incidents and calls for shots fired. Reduction in serious violence and gang-related serious violence were observed, although these were not statistically significant. In Milwaukee, time-series analyses focused on police incident reports of vandalism, drug-related incidents, and serious violence. Specific gang-related activity could not be evaluated because it was not coded before implementation of the program. Using a comparison area, the evaluation found no impact of the program on the measured variables. In fact, while serious violence decreased significantly in the comparison area, it increased, though not significantly, in the target area. For North Miami Beach, time-series analyses focused on calls-for-service reporting shootings, shots fired, fights, and criminal mischief. Measures of serious violence incidents and gang-related incidents were also analyzed. The evaluation found no program impact on these measures. In Richmond, police reports of drug-related incidents, serious violent incidents, gang-related violence, and serious gang-related violence were used for the time-series analyses. The evaluation of the Richmond GRP found that the situation worsened in the target area. Incidents of serious violence, gang-related incidents and gang-related serious violence all showed statistically significant increases.

When using a comparison area, the evaluation found that while incidents of serious violence significantly decreased in the comparison area, they increased significantly in the target area (Cahill, Coggeshall, Hayeslip, Wolff, Lagerson, Scott, Davies, Roland, and Decker 2008).
# Appendix F: Narrative tables of selected studies

## Preventive Awareness Strategies (n=5)

<table>
<thead>
<tr>
<th>Study-Program</th>
<th>Drug use</th>
<th>Gang membership</th>
<th>Property offences</th>
<th>Offences against the person</th>
<th>OTHER relevant</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esbensen (2001) GREAT</td>
<td>Used tobacco products, alcohol, marij, or paint, glue, or other things you inhale to get high; other illegal drugs.</td>
<td>Gang membership</td>
<td>Stolen/trying to steal something worth less than $50 /more than $50. Gone into/trying enter building to steal. Stole/trying motor vehicle</td>
<td>Hit someone w/ idea of hurting them, attacked someone w/ weapon. Used weapon or force to get money or things from people. Shot at someone b/c told to by someone else.</td>
<td>0</td>
<td>Longitudinal, quasi-experimental non-equiv groups comparison</td>
<td>22 schools with 153 classrooms and 3500 students</td>
<td>No significant differences between groups for gang membership or any of the 3 measures of delinquency.</td>
</tr>
<tr>
<td>Palumbo (1995) GREAT</td>
<td>0</td>
<td>Do you belong to a gang?</td>
<td>(1) Took something not belonging to me from another person; (2) took something from store without paying for it; (3) damaged school property on purpose</td>
<td>Got into a fight at school or home</td>
<td>0</td>
<td>Single group pre-test post-test</td>
<td>1723 students at post-test</td>
<td>No significant differences from pre- to posttest for gang membership, or any of 5 delinquency measures except for damaging school property, in which there was a significant INCREASE in rate at posttest.</td>
</tr>
<tr>
<td>Esbensen (2011) GREAT II</td>
<td>0</td>
<td>Current gang membership</td>
<td>0</td>
<td>0</td>
<td>&quot;self-reported delinquency &quot; (not defined)</td>
<td>Longit randomized experimental design</td>
<td>31 schools with 3800 students</td>
<td>No significant effects for delinquency. Significant lower rates of gang membership found for GREAT students than control students.</td>
</tr>
<tr>
<td>Esbensen (2009) TCC/CW</td>
<td>Drug use frequency (not defined)</td>
<td>Property offending frequency (not defined)</td>
<td>Violent offending frequency (not defined)</td>
<td>Overall delinquency (not defined)</td>
<td>Longit, quasi-experimental nonequiv groups comparison</td>
<td>15 schools with 98 classrooms and 1700 students</td>
<td>When looking at impact in high fidelity schools, no significant differences between groups on any of the 4 delinquency measures.</td>
<td></td>
</tr>
<tr>
<td>Thurman (1996) Neutral Zone</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Weekend calls for service to police</td>
<td>Pre-post</td>
<td>No significant increases in calls-for-service noted from early pre-program evening hours to latter hours of weekend evenings when NZ was in place. Significantly more calls were made during NZ hours than during 2 hours preceding and following NZ. Program effectiveness remains unclear, as the hours during which NZ is in operation are those hours during which calls for service tend to be highest anyway.</td>
<td></td>
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</tbody>
</table>
### Gang Membership Prevention Strategies

<table>
<thead>
<tr>
<th>Study-Program</th>
<th>Drug use</th>
<th>Gang membership</th>
<th>CJ system interaction</th>
<th>Gang behaviours</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbreton and McClanahan (2002) GPTTO</td>
<td>(1) drinking and using drugs with gang members; (2) # of times in last year smoking pot; (3) using other drugs</td>
<td>Joined a gang; left a gang</td>
<td>(1) arrested and went to court; (2) jail/detention; probation</td>
<td>(1) Wearing gang colors, (2) flashing gang signals, (3) hanging at same place as gang members, (4) hang with gang members</td>
<td>Quasi-experimental matched comparison group.</td>
<td>204-236 treatment vs. 188-216 control</td>
<td>Gang membership: No significant differences between groups (204 treatment and 188 control). All other delinquency measures: No significant differences between groups (236 treatment and 216 control)</td>
</tr>
<tr>
<td>Cohen (1995) NYGDP</td>
<td>0</td>
<td>Ever gang involved (before and after)</td>
<td>0</td>
<td>0</td>
<td>Quasi-experimental retrospective pre-post matched comparison group (i.e., youths asked to “think back”)</td>
<td>258 treatment and 265 control</td>
<td>No significant differences between groups for gang involvement</td>
</tr>
<tr>
<td>Godley (1998) LSP</td>
<td>Past year substance use</td>
<td>0</td>
<td>0</td>
<td>Gang involvement (17-item scale)</td>
<td>Cohort-based interrupted time series</td>
<td>2 elementary schools; 651 pre-test and 667 post-test</td>
<td>No significant differences between groups for substance use. Gang involvement was significant less by post-test cohort than pre-test cohort.</td>
</tr>
<tr>
<td>Sivili (1996) YDW</td>
<td>Substance use in past 5 weeks (cigarettes, alcohol, marijuana, cocaine/crack): individual</td>
<td>0</td>
<td>Were you arrested last year?</td>
<td>0</td>
<td>Single group pre-test post-test</td>
<td>2 cohorts; n=252 and n=209</td>
<td>Significant decrease in alcohol use for cohort 2 from pre- to post-test; no significant differences for any of other 3 drugs for either cohort. No significant differences from pre to post for either cohort for arrests.</td>
</tr>
<tr>
<td>Thompson (1988) BUILD</td>
<td>0</td>
<td>Gang membership</td>
<td>0</td>
<td>0</td>
<td>Quasi-experimental comparison group</td>
<td>117: 74 treatment and 43 control</td>
<td>No significant differences between groups for gang membership</td>
</tr>
<tr>
<td>Study</td>
<td>OUTCOMES</td>
<td>Research design</td>
<td>Sample</td>
<td>FINDINGS</td>
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<td>-------------------------------------------</td>
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<tr>
<td>Arbreton (2002) GITTO</td>
<td>Gang-related violent crimes: (1) stealing with gang members; (2) vandalizing with gang members; (3) stealing &gt;$50; (4) graffiti</td>
<td>Quasi-experimental matched comparison group.</td>
<td>Post-hoc selected comparison group by probation officers and school personnel at alternative high schools serving youth who had been suspended/expelled from mainstream schools; matched. 45-48 control; 58-60 treatment</td>
<td>No significant differences between groups on any of measures of gang membership or delinquency (60 treatment and 48 control)</td>
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<tr>
<td>Fritsch (1999) Dallas AGI</td>
<td>Gang-related violent offences reported to police: arson, burglary, auto theft, theft (separate, index)</td>
<td>Quasi-experimental matched comparison group.</td>
<td>Matched patrol beats</td>
<td>Significant decrease of gang related violence in some control and some target areas. Areas using undirected saturation patrol show little effect on crime, aggressive curfew and truancy enforcement is more effective in reducing gang-related violence in some areas.</td>
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<tr>
<td>Higgins and Coldren (2000) MDGE</td>
<td>Criminal damage to property; property index offences</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>54 targeted buildings in 1 Police District; Building catchment areas; A group of similar buildings in a matched comparison district (n=67)</td>
<td>Greater decrease in gang narcotic offences in targeted buildings compared to catchment area. Decrease in violent index offences and property index offences. No statistical significance tests.</td>
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<tr>
<td>Lasley (1998) Op. Cul-de-sac</td>
<td>Gang-related homicides; gang-related aggravated assaults; burglary, auto theft, auto burglary (of locked vehicles), grand theft, bicycle theft, theft from unlocked autos</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>Treatment: 10-block area in Los Angeles; Control: Entire patrol division surrounding the treatment site</td>
<td>Number of violent crimes fell significantly during program and rose after program ended. Level of violent crimes stayed at same level in control area.</td>
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<tr>
<td>Pennell (1983) SDSYP</td>
<td>Gang-related violent crime: murder, attempted murder, rape, robbery, aggravated assault; gang-related property crime: burglary, grand theft, vehicle theft</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>Treatment: 3 target areas in San Diego with high rates of gang-related crime; Control: Areas in San Diego not served by the project</td>
<td>Decrease in both target and control area for gang-related violent crime. Increase in gang-related property crimes in both target and control area. No tests of statistical significance.</td>
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</table>
### Study-Program

#### Outcomes

<table>
<thead>
<tr>
<th>Study-Program</th>
<th>Gang-related violent crimes</th>
<th>Gang-related property crimes</th>
<th>Property offences</th>
<th>Weapon offences</th>
<th>Violent crime</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spergel (1986) CRISP</td>
<td>(1) Part I gang incidents: homicide, robbery, aggravated assault, aggravated battery; (2) Gang homicides</td>
<td>Part II gang incidents: simple assault, simple battery, intimidation, gang recruitment, unlawful use of weapon</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Pre-test post-test non-equivalent groups</td>
<td>Treatment: A 3-mile square area consisting of parts of the 14th and 25th police districts and comprising a &quot;natural&quot; gang sector; Control: The remainder of the 14th and 25th districts; as well as the 10th district and 13th district (both containing large Hispanic populations)</td>
<td>Rates of increase in target areas (vs comparison) was significantly curbed for part 1 and part 2 gang crimes.</td>
</tr>
<tr>
<td>Willman (1982) GEP</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Shooting into a dwelling</td>
<td>(1) Murder; (2) Attempted murder; (3) Battery; (4) Assault with weapon; (5) Robbery</td>
<td>Pre-test post-test non-equivalent control group</td>
</tr>
</tbody>
</table>

### Gang Activity Suppression Strategies

#### Outcomes

<table>
<thead>
<tr>
<th>Study-Program</th>
<th>Gang-related crimes</th>
<th>Homicides</th>
<th>Property offences</th>
<th>Violent crime</th>
<th>Weapon offence</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braga (2001) Op. Ceasefire (Boston, Ma)</td>
<td>Monthly number of homicide victims aged 24 and younger</td>
<td>Citywide shots-fired citizen calls for service; citywide official gun assault incident report data</td>
<td>One-group time series; also quasi-experiment comparing youth homicide trends in Boston to other large US cities</td>
<td>No comparison group</td>
<td>Decrease of homicides from 44 between 1991-1995 to 26 in 1996 (implementation) and 15 in 1997 (1 year post); pre-test mean of 3.5 youth homicide/month to post-test mean of 1.3 youth homicides/month; Ceasefire associated with 63% decrease of monthly homicides, 25% gun assault (city wide), 44% youth gun assault in target and 32% shots-fired calls for service</td>
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<tr>
<td>Study- Program</td>
<td>OUTCOMES</td>
<td>Research design</td>
<td>Sample</td>
<td>FINDINGS</td>
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<tr>
<td>Braga (2008) Op.</td>
<td>Citywide monthly number of gun homicides</td>
<td>One-group time series; also quasi-experiment comparing gun homicide trends in</td>
<td>No comparison group</td>
<td>Pre-intervention mean of gun homicides= 2.9, intervention= 1.9, post= 2.1; <strong>Peacemaker was associated with a 42% decrease in monthly number of gun homicides</strong></td>
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<tr>
<td>Peacekeeper</td>
<td></td>
<td>Stockton to other mid-size California cities</td>
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<tr>
<td>(Stockton, Ca)</td>
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<tr>
<td>Braga et al.</td>
<td>Monthly count of assaultive gun-violence incidents</td>
<td>One-group time series; also quasi-experiment comparing assaultive gun violence</td>
<td>No comparison group</td>
<td>Pre-intervention mean of gun homicides AND gun assaults= 5.4 post=3.9; <strong>PSN associated with 43.1%  decrease in monthly number of assaultive gun violence</strong></td>
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<tr>
<td>(2008) PSN</td>
<td></td>
<td>trends in Lowell to other cities in MA</td>
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<tr>
<td>(Lowell, Ma)</td>
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<tr>
<td>Detroit AGI</td>
<td>Burglaries</td>
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<tr>
<td>(2002)</td>
<td>Assaults; robberies</td>
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<tr>
<td>Corsaro (2009)</td>
<td>Non-gang homicides</td>
<td>Pre-test/test</td>
<td>No comparison group</td>
<td><strong>Significant decrease in gang homicides following IVRP intervention; no significant decrease in non-gang homicides.</strong></td>
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<tr>
<td>IVRP</td>
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<tr>
<td>AGI St. Louis</td>
<td>Property crime</td>
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<table>
<thead>
<tr>
<th>Study- Program</th>
<th>Gang-related crimes</th>
<th>Homicides</th>
<th>Property offences</th>
<th>Violent crime</th>
<th>Weapon offence</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kent (2000) TARGET</td>
<td>(1) Gang crimes in 11 categories (combined): homicide, attempted</td>
<td>237 repeat gang offenders and no comparison group; (2) program community and</td>
<td>(2) Willful homicide, robbery, aggravated assault (gang and non-gang)</td>
<td>(1) Pre-test post-test single group; (2) non-equivalent group comparison</td>
<td></td>
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<td></td>
<td>Gang crime decrease by 64% from 1992 to end of 1993. Impossible to attribute decrease to program or other explanation.</td>
</tr>
<tr>
<td>Study</td>
<td>Program</td>
<td>OUTCOMES</td>
<td>Research design</td>
<td>Sample</td>
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<td></td>
<td></td>
<td>Recidivism</td>
<td>Institutional offences</td>
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<tr>
<td>Spergel (2002)</td>
<td>CCWAGPIS: Little Village, IL</td>
<td>Writing gang and non-gang graffiti, destroying property $300 or less, B&amp;E to commit theft, stealing car for joyriding, breaking into a car and stealing parts</td>
<td>Robbery with and without weapon, threat with and without weapon, gang intimidation, battery with and without weapon, homicide, drive-by shootings</td>
<td>Pre-test post-test</td>
<td>A high gang-violence area in Chicago including 195 gang members (127 at all 3 time periods) Community level: Target neighbourhood had lower increase in gang violence than control neighbourhood. Program had no impact on gang related homicides. Individual level: program youth had significantly lower rates of arrest for violent crimes compared to control youths</td>
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</tr>
<tr>
<td>Tita (2003)</td>
<td>Op. Ceasefire (Hollenbeck, Ca)</td>
<td>Crime committed by gang members: violent crime and terror threats; firearm discharge; vandalism; graffiti</td>
<td>Number of homicides, attempted homicides, robberies, assaults, kidnappings</td>
<td>Pre-test post-test non-equivalent comparison group</td>
<td>Treatment: 5 districts in Boyle Heights; Control: (1) Remainder of Hollenbeck; (2) Remainder of Boyle Heights (minus 5 districts); (3) Matched Census block groups elsewhere in Boyle Heights (minus 5 districts) Gang crime decreased significantly in targeted neighbourhood during the suppression period; violent, gang and gun crimes decreased significantly during deterrence period</td>
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</table>

**Prison based Gang Interventions**

<table>
<thead>
<tr>
<th>Study</th>
<th>Program</th>
<th>OUTCOMES</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Recidivism</td>
<td>Institutional offences</td>
<td></td>
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</tr>
<tr>
<td>DiPlacido (2006)</td>
<td>Regional Psychiatric Centre programs (3 programs in total)</td>
<td>All, nonviolent, and violent reconvictions</td>
<td>Matched sample comparison pre/post intervention</td>
<td>Treated gang members (n=40) and treated non-gang members (n=40); Untreated gang members (n=40) and untreated non-gang members (n=40)</td>
<td>Treated gang members committed less serious offences when they recidivated. Untreated gang members had significant higher rates of major institutional offences.</td>
</tr>
<tr>
<td>Fisher (2002)</td>
<td>Arizona Department of Corrections Security Threat Group program</td>
<td>Disciplinary violations (weapon violation, assault, drug violation, fighting, rioting, destruction of property, tempering with</td>
<td>Pre-test post-test; time series</td>
<td>431 certified security threat group members placed in supermax facility; all inmates</td>
<td>Effective at incapacitating Security Threat Group members and reducing assaults, drug violations, threat violations, fighting and rioting. Linked to sharp increase in weapons violations, other violent violations and property-related violations. Reduction of assault, drug violation, threat violations, rioting, weapons violations and other violent violation observed for inmates in general population.</td>
</tr>
</tbody>
</table>
### Probation Gang Interventions

<table>
<thead>
<tr>
<th>Study</th>
<th>Program</th>
<th>OUTCOMES</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Violence arrests</td>
<td>Property crime arrest</td>
<td>Drug arrests</td>
<td>Gang membership</td>
</tr>
<tr>
<td>Spergel (2005)</td>
<td>Riverside Comprehensive Community-Wide Approach to Gang Prevention, Intervention, and Suppression</td>
<td>(1) Serious violence arrests, (2) total violence arrests</td>
<td>Property arrests</td>
<td>Drug arrests</td>
<td>Current gang membership</td>
</tr>
</tbody>
</table>

### Comprehensive Approaches

<table>
<thead>
<tr>
<th>Study</th>
<th>Locatio n</th>
<th>OUTCOMES</th>
<th>Research design</th>
<th>Sample</th>
<th>FINDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papachristos (2007)</td>
<td>Chicago</td>
<td>Violent crimes</td>
<td>Drug crimes</td>
<td>Treatment: 24 beats in 2 adjacent police districts with high concentration of homicide and gun violence; Control: 30 beats in 2 other police districts (matched)</td>
<td>Significant treatment effects on homicides, gun homicides, and aggravated assaults/ batteries. No significant effects for gang homicides.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1) Gang-related homicides; (2) Gun-related homicides; (3) Total homicides; (4) Aggravated batteries and assaults</td>
<td>0 Pre-test post-test non-equivalent control group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skogan (2009)</td>
<td>Chicago</td>
<td>Violent crimes</td>
<td>Drug crimes</td>
<td>TREATMENT: 7 target areas comprising 14 beats; Control: 7 target areas comprising 21 beats (matched)</td>
<td>In 4 sites CeaseFire associated with statistically significant declines in all shots that ranged from 17 to 24%. In 4 partially overlapping sites there were declines in actual shootings ranging from 16 to 35%.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1) Aggravated batteries and assaults with a firearm; (2) Gun-related aggravated batteries and gun homicides</td>
<td>0 Pre-test post-test non-equivalent control group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spergel (2005)</td>
<td>Bloomington</td>
<td>Violent crimes</td>
<td>Drug crimes</td>
<td>Treatment: 101 treatment in target areas Bloomington and Normal, IL; Control: 79 control youth in comparison areas Champaign-Urbana</td>
<td>No significant differences between groups for violence or property offence arrests</td>
</tr>
<tr>
<td></td>
<td>Property offence arrests</td>
<td>Violence arrests (9 items)</td>
<td>Pre-test post-test non-equivalent groups</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Location</td>
<td>Type of Offence</td>
<td>Outcomes</td>
<td>Comparison Groups</td>
<td>Methodology</td>
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</tr>
<tr>
<td>Spergel (2005)</td>
<td>Mesa</td>
<td>Property offence arrests</td>
<td>Violence arrests (9 items)</td>
<td>Drug selling offence arrests (8 drugs)</td>
<td>Pre-test post-test non-equivalent groups</td>
</tr>
<tr>
<td>Spergel (2005)</td>
<td>San Antonio</td>
<td>Property offence arrests</td>
<td>Violence arrests (9 items)</td>
<td>Drug selling offence arrests (8 drugs)</td>
<td>Pre-test post-test non-equivalent groups</td>
</tr>
</tbody>
</table>
### Holistic Approaches

<table>
<thead>
<tr>
<th>Study</th>
<th>Location</th>
<th>Gang-related Crimes</th>
<th>Outcomes</th>
<th>Research design</th>
<th>Sample</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cahill (2008)</td>
<td>Los Angeles</td>
<td>Gang-related murder, non-negligent manslaughter, forcible rape, robbery, or aggravated assault</td>
<td>Calls for vandalism / graffiti</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>Treatment: 2 square mile area in Boyle Heights; Control: Matched nearby comparison area</td>
<td>Significant decrease in target area over time for calls for shots fired, decrease in gang-related crimes; no concurrent significant decrease in comparison area. However, significant decrease in incidents of gang-related serious violence in comparison area but no significant decrease in target area (i.e., NEGATIVE findings). No effects found for calls for vandalism or non-gang related violent crimes.</td>
</tr>
<tr>
<td>Cahill (2008)</td>
<td>Milwaukee</td>
<td>0</td>
<td>Vandalism or destruction of property</td>
<td>Drug activity</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>Treatment: 3 neighborhoods in Milwaukee; Control: Matched nearby comparison area</td>
</tr>
<tr>
<td>Cahill (2008)</td>
<td>North Miami</td>
<td>(1) Calls for service, possibly gang-related; (2) Gang-related crime event</td>
<td>0</td>
<td>Murder, non-negligent manslaughter, forcible rape, robbery, or aggravated assault</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>Treatment: City of North Miami Beach; Control: City of North Miami</td>
</tr>
<tr>
<td>Cahill (2008)</td>
<td>Richmond</td>
<td>Gang-related murder, non-negligent manslaughter, forcible rape, robbery, or aggravated assault</td>
<td>0</td>
<td>Murder, non-negligent manslaughter, forcible rape, robbery, or aggravated assault</td>
<td>Pre-test post-test non-equivalent control group</td>
<td>Treatment: 6.9 mile square area in Richmond; Control: Matched nearby comparison area</td>
</tr>
</tbody>
</table>
# Appendix G: Categorization of 38 Studies and Brief Description of Program Approaches

<table>
<thead>
<tr>
<th><strong>Author</strong> (Year)</th>
<th><strong>Program</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preventive Awareness</strong></td>
<td></td>
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</tr>
<tr>
<td>Esbensen (2009)</td>
<td>Teens, Crime, and Community and Community Works (TCC/CW)</td>
<td>School-based program focusing on youth victimization prevention and discussing topics such as substance abuse, guns, violence, and hate crimes. Program also focuses on youths’ implication in their community.</td>
</tr>
<tr>
<td>Esbensen (2011)</td>
<td>GREAT II</td>
<td>School-based program aimed at changing youths’ attitudes and perceptions regarding gangs and delinquency.</td>
</tr>
<tr>
<td>Palumbo (1995)</td>
<td>GREAT</td>
<td>School-based program aimed at changing youths’ attitudes and perceptions regarding gangs and delinquency.</td>
</tr>
<tr>
<td>Thurman (1996)</td>
<td>Neutral Zone</td>
<td>Recreational activities, counselling, and social activities provided on weekend nights to reduce the number of youths on the streets.</td>
</tr>
<tr>
<td><strong>Gang Membership Prevention</strong></td>
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</tr>
<tr>
<td>Arbreton (2002)</td>
<td>Gang Prevention Through Targeted Outreach (GPTTO)</td>
<td>Activities (recreation, social events, field trips) provided through Boys and Girls Clubs to targeted youths at-risk of joining gangs.</td>
</tr>
<tr>
<td>Godley (1998)</td>
<td>Logan Square Prevention Project (LSP)</td>
<td>Organization of a coalition of agencies providing school and community-based prevention services to reduce substance use and gang involvement.</td>
</tr>
<tr>
<td>Sivili (1996)</td>
<td>Youth Development Workers (YDW)</td>
<td>Outreach to at-risk youths and case management. Targeted youths are offered psychological and substance abuse counselling, tutoring, employment training, gang prevention education, and recreation.</td>
</tr>
</tbody>
</table>
**GANG ACTIVITY REGULATION**

**Gang Activity Prevention**

<table>
<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Arbreton (2002)</td>
<td>Gang Intervention Through Targeted Outreach (GITTO)</td>
<td>Targeted gang-involved youths provided by Boys and Girls Clubs with activities (recreation, social events, field trips) and services on a case management basis.</td>
</tr>
<tr>
<td>Higgins and Coldren (2000)</td>
<td>Municipal Drug and Gang Enforcement (MDGE)</td>
<td>Targets non-owner-occupied multiunit dwellings where gang members and drug dealers are known to operate. Focus on enforcing nuisance abatement laws and building regulation to get criminals out of these buildings.</td>
</tr>
<tr>
<td>Lasley (1998)</td>
<td>Operation Cul-de-sac</td>
<td>Barriers were placed in strategic streets in neighborhoods plagued with drive-by shootings. Barriers were designed to cut easy access and easy exit from crime scenes for gang members.</td>
</tr>
<tr>
<td>Pennell (1983)</td>
<td>San Diego Street Youth Program (SDSY)</td>
<td>Community-based program focusing on providing counselling to gang members as well as job training, educational services, and community resources.</td>
</tr>
<tr>
<td>Spergel (1986)</td>
<td>Crisis Intervention Service Project (CRISP)</td>
<td>Program focusing on crisis intervention, surveillance and street mediation of gang conflicts. The program provided informal counselling, job placement, and referrals to community programs.</td>
</tr>
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**Gang Activity Suppression**

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<thead>
<tr>
<th>Name</th>
<th>Program</th>
<th>Description</th>
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<tbody>
<tr>
<td>Braga (2001)</td>
<td>Operation Ceasefire</td>
<td>A problem-oriented policing approach that focuses illicit firearm trafficking supplying guns to youths. Using a &quot;pulling-levers&quot; strategy, this approach explicitly explains to gang members that they will use the full extent of the law to prosecute gang members who engages in gun violence</td>
</tr>
<tr>
<td>Braga 2008</td>
<td>Operation Peacekeeper</td>
<td>A problem-oriented policing approach that focuses illicit firearm trafficking supplying guns to youths. Using a &quot;pulling-levers&quot; strategy, this approach explicitly explains to gang members that they will use the full extent of the law to prosecute gang members who engages in gun violence</td>
</tr>
<tr>
<td>Author</td>
<td>Intervention Description</td>
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<tr>
<td>Braga (2008)</td>
<td>Project Safe Neighborhoods (Lowell) A problem-oriented policing approach that focuses illicit firearm trafficking supplying guns to youths. Using a “pulling-levers” strategy, this approach explicitly explains to gang members that they will use the full extent of the law to prosecute gang members who engages in gun violence.</td>
<td></td>
</tr>
<tr>
<td>Corsaro (2009)</td>
<td>Indianapolis Violence Reduction Program (IVRP) A problem-oriented policing using a pulling-levers strategy consisting in communicating a deterrent message to high-risk offender that committed violent crime. Law enforcement partnered with probation and criminal justice official to ensure violent offenders get the most severe penalties possible.</td>
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<tr>
<td>Decker (2003)</td>
<td>St. Louis Anti-Gang Initiative Zero-tolerance enforcement against gang members through the collaboration of multiple police units. Focuses on curfew enforcement, the use of consent to search tactics to reduce firearm availability, and intelligence gathering.</td>
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</tr>
<tr>
<td>Kent (2000)</td>
<td>Tri-Agency Resource Gang Enforcement Team (TARGET) Multi-agency cooperation to target repeat gang offender and disable them by incarcerating them. Repeat gang offenders monitored until they commit a new offence.</td>
<td></td>
</tr>
<tr>
<td>Spergel (2002)</td>
<td>Little Village Gang Violence Reduction Project Interagency, community-based team approach to violent gang youth. Main component was a small group of tactical officers focusing on gathering intelligence, communicating with gang members, and solving gang crimes. The program also used outreach youth workers to contact and create a relationship with gang members.</td>
<td></td>
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<tr>
<td>Tita (2003)</td>
<td>Operation Ceasefire Hollenbeck Similar to operation Ceasefire in Boston, the intervention focused on enforcing housing codes for properties used by gang member and drug dealers, especially regarding firearms. Focus was put on violent incidents with a “pulling levers” approach to gun use and violent crimes.</td>
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**JUSTICE SYSTEM BASED INTERVENTION**

**Prison based intervention**

<table>
<thead>
<tr>
<th>Author</th>
<th>Intervention Description</th>
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<tbody>
<tr>
<td>DiPlacido (2006)</td>
<td>Saskatoon Regional Psychiatric Centre program (RPC) High-intensity cognitive behavioural programs based on risk, need, and responsivity principles.</td>
</tr>
<tr>
<td>Fisher (2002)</td>
<td>Arizona Department of Corrections Security Threat Group program (STG) Set of policies that required all validated STG members to be placed in a supermax facility. A validation process of STG was put in place and validated STG members were given the choice to renounce their gang affiliation and be placed in protective segregation.</td>
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### Probation Intervention

<table>
<thead>
<tr>
<th>Study Type</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Riverside Comprehensive Community-Wide Approach to Gang Prevention, Intervention, and Suppression</td>
<td>Juveniles on probation and involved in violent gang activity were dealt with on a case management basis and provided with youth employment services, counselling, and educational services.</td>
</tr>
<tr>
<td>Papachristos (2007)</td>
<td>Project Safe Neighborhoods Chicago</td>
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<tr>
<td>Skogan (2009)</td>
<td>Operation Ceasefire Chicago</td>
</tr>
<tr>
<td>Spergel (2005)</td>
<td>Bloomington-Normal Comprehensive Gang Program</td>
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<tr>
<td>Spergel (2005)</td>
<td>Mesa Gang Intervention Program</td>
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<tr>
<td>Spergel (2005)</td>
<td>San Antonio Comprehensive Community-Wide Approach to Gang Prevention, Intervention, and Suppression Program</td>
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<tr>
<td>Cahill (2008)</td>
<td>Gang Reduction Program (GEP): Los Angeles</td>
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<td>Cahill (2008)</td>
<td>Gang Reduction Program (GEP): North Miami</td>
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<tr>
<td>Cahill (2008)</td>
<td>Gang Reduction Program (GEP): Richmond</td>
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</tbody>
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