What works to prevent violence among youth?

A white paper on **youth violence**, **crime prevention,** and the **Mexican context**

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This publication is part of the knowledge generation strategy of USAID's Juntos para la Prevención de la Violencia Activity (JPV). USAID contributes to the strengthening of local systems of violence prevention which are comprised of stakeholders from the public and private sector, civil society organizations, and academia in their capacity to design, implement and evaluate policies and violence prevention practices.

USAID has consolidated a set of "Collections" that consist of manuals, systematizations, evaluations and guides with the main goal of strengthening local systems' capacities to address the problem of violence and crime in the short, medium and long term, ensuring that evidence-based knowledge is continually generated and transcends USAID's program period of performance.

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Executive Summary

What works in preventing and reducing violence among youth? This report draws on the global evidence base of evaluations of existing interventions designed to reduce or prevent violence and identifies those with the greatest evidence of effectiveness. We find six types of interventions for which there is strong evidence of effectiveness in preventing at-risk individuals and offenders from engaging in criminal and violent behavior—cognitive behavioral therapy, multidimensional therapy, drug courts and drug addiction treatment, focused deterrence, controls on the sale and abuse of alcohol, and hot spots policing. A much broader range of interventions have shown less conclusive proof of effectiveness—either because they have not been rigorously evaluated or because evaluations have yielded mixed results. In these cases, we identify the mechanisms that may lie behind potential success and explore how these might be extracted to promote innovative pilots in the Mexican context.

The goal of the report is to provide a framework for increasing the use of evidence-informed policy in youth violence prevention efforts across Mexico, with a focus on state and local levels. Where the existing evidence base is strong, there is a basis for adopting programs that have proven successful elsewhere. We also identify a category of interventions that have been adopted widely in Mexico but for which there is little clear evidence base (and in some cases, evidence that these interventions may be ineffective), and recommend that these be scaled down. Finally, we identify a set of challenges in the Mexican context for which there are no clear "off-the-shelf" solutions, and for these we try to identify promising opportunities for innovation. This report draws on an extensive literature review of over 264 studies. Throughout, we draw on evidence produced by studies that met a high bar for methodological standards: using randomized experimental or quasi-experimental methods with appropriately designed comparison groups. Randomized evaluations (often called randomized controlled trials, or RCTs), offer the highest quality of evidence because they provide us a clear basis for making causal claims about the impact of a program or intervention (that in the absence of randomization, we might worry was in fact a result of selection bias or other characteristics that were in some way linked to participation in the program). We have given the greatest weight to RCT evidence where it exists.

Setting the evidence bar this high means that the range of interventions and programs that we are able to identify as having a strong evidence base is relatively narrow. To ensure that we can offer relevant and broad-ranging policy advice, we therefore try to isolate the key elements of effective programming and the potential principles behind effective strategies to guide refinement of new interventions and innovations that may provide a basis for future evaluations.

Our literature review identifies only six types of interventions for which there is strong evidence of effectiveness in deterring at-risk individuals and offenders from criminal and violent behaviors—cognitive behavioral therapy, multidimensional therapy, drug courts and drug addiction treatment, focused deterrence, controls on the sale and abuse of alcohol, and hot spots policing. The first three interventions target individuals already engaged in violence and look for ways to understand what may be driving individual behavior, shift the incentives around that behavior or the cognitive biases that may be producing it, and help individuals practice new pro-social skills. The effectiveness of drug treatment and drug courts, which may focus on diversion approaches that link individuals to therapeutic services in addition to traditional sanctions, also show that shifting the balance of sanctions and rewards can be an important mechanism for effectiveness. Focused deterrence programs have been effective in taking a narrow focus on deterring high-risk and chronic offenders from committing specific crimes (mainly homicide) by engaging the police and other service providers in providing targeted sanctions and rewards. A promising opportunity exists to explore the effect of focused deterrence programs on other outcomes, such as drug sales to minors or sex trafficking. Meanwhile, alcohol sale restrictions are the only intervention implemented without any specific targeting that has proven effective.

While there is consensus that intensive policing in hot spots can lower crime rates in these areas, new research has raised questions about the extent to which this crime might be displaced to surrounding areas. New hot spots policing programs in Mexico should think as carefully about the how as the how much: What activities will additional police patrols carry out? How can the additional time spent patrolling be used most effectively?

A second group of interventions identified by our literature review are those for which there is promising, but still incomplete, evidence of effectiveness. Evaluations of the four interventions in this category—vocational training and employment, restorative justice, alternatives to incarceration, and conditional cash transfers (CCTs)—suggest these may be effective strategies but they have nonetheless left open some questions for further research.

These open questions should be seen as avenues for innovation. For example, the literature has shown that the provision of liquid capital has an important role in deterring crime, and that several interventions may be more effective when combined with cash transfers. In this sense, CCTs may then provide an important component of pilot interventions for high-risk individuals (for example, by pairing vocational training or CBT with cash). While vocational training and employment programs may aim to provide youth with more alternatives to crime, we know that increased income alone may not always reduce criminal behavior.

The question is then whether strategies for developing "softer" skills such as self-control and decision-making (for example, through cognitive behavioral therapy) may be a more effective approach. In Mexico, nevertheless, these types of programs would require bolder approaches targeted at the underlying risk factors affecting, for instance, gang involvement,

such as programs that encourage new non-gang or non-criminal social identities or aspirations-style programs for youth.

A third and much broader category of interventions are backed by only inconclusive or contested evidence of effectiveness, such as crime prevention through environmental design, community-based prevention programs, and school-based programs, among others. Any decision to pursue these approaches at scale should be based on a thorough assessment of whether, when, and how they might work. Where these interventions are being implemented in Mexico, intensive thinking about how to test and further refine their effectiveness according to what is known so far is needed. When re-assessing the potential of these approaches, an important consideration will be whether the opportunity cost of investing in these programs at the expense of approaches with proven effectiveness is worthwhile.

Finally, our literature review identifies a handful of interventions for which there is no evidence of effectiveness. In the few cases where these interventions are being implemented across Mexico, they should be reviewed and perhaps replaced with programs that the evidence base suggests are more likely to succeed. This category includes hospital-based prevention programs, boot camps for youth offenders, "Scared Straight" programs for youth, juvenile curfews, drug law enforcement, and gun buyback programs.

This report focuses specifically on community violence, which we define here (following Abt, 2016) as violence that occurs primarily in public settings, is interpersonal (i.e. taking place between individuals and small groups that may or may not know one another), is loosely planned and generally impulsive in nature, but often results in death or disabling injury. Its perpetrators and victims are usually, but not exclusively, young men and boys from disadvantaged backgrounds and communities. Other categories of violence, most notably violence linked to organized crime, are a widespread source of insecurity in Mexico, interventions aimed at tackling them have been the subject of far less rigorous evaluation. While these other forms of violence present formidable challenges, they require different strategies, often entailing longer-term institutional reform and more traditional law enforcement action. While we cannot yet present proven methods for tackling these forms of violence, we encourage policymakers in Mexico to consider new ways to address them. New approaches could include drawing on strategies outlined in this report for reducing community violence, while adapting them as appropriate.

What does all this mean for Mexico? To respond to increasing levels of violence, Mexico will need to adopt two very different kinds of change at the same time: (1) agile and adaptive innovation in youth violence prevention programming, and (2) strengthening of its law enforcement and justice institutions. While this paper is largely focused on informing strategies for investing in the first kind of change, future policy efforts and research should focus on exploring how both kinds of change may interact, and how innovative programs might also work to drive institutional strengthening.

The interventions identified by this literature review as holding promise should be seen only as a point of departure for Mexican decision makers looking to invest in youth violence prevention. None of these interventions can be applied "off the shelf" and expected to work perfectly—here in Mexico, or anywhere else. A successful approach will require a clear diagnosis of local problems and adaptation of programs shown to be successful elsewhere. By reflecting on what has (and has not) worked in preventing community violence, this literature review aims to help redefine the path for moving forward, and to outline how programs developed in Mexico—when adopted alongside rigorous evaluation—can contribute to our understanding of why these programs work by identifying the precise underlying mechanisms at play.

We also present here general guidelines for innovation and new program design, culled from the literature. A broad-based approach to crime and violence prevention should respond to the principle of concentration by focusing on the highest risk places, people, and behaviors, and on the accumulation of individually modest but collectively robust programmatic effects to achieve maximum impact. Rather than promoting interventions that aim to address as many causes of violence as possible, institutions should specialize and coordinate. Also, services should be proactive and focus on rehabilitation.

We hope that the insights collected here will provide not just models for replication but inspiration for new ways of thinking. Just as this review of the global evidence base provides some answers on how we can prevent and reduce youth violence in Mexico, innovative approaches adopted in Mexico in the coming years will provide many new insights into what works for the world.

1. Introduction

What works in preventing and reducing violence among youth? This report draws on the global evidence base of evaluations of existing interventions designed to reduce or prevent violence and identifies those with the greatest evidence of effectiveness. The general objective of this paper is to strengthen the understanding of the most effective and promising youth crime and violence prevention approaches, as well as to analyze their relevance to Mexico in order to promote an active research and evaluation agenda of models that, if proven effective, could be replicated and scaled up in different cities across the country.

The report provides a framework for increasing the use of evidence-informed policy in youth violence prevention efforts across Mexico, with a focus on state and local levels. To this end, the paper is divided as follows: Section 1 presents the framework of analysis, focusing on defining community violence. Section 2 presents the methodology and limitations of this paper. Section 3 describes the main findings of the literature review, classifying interventions according to how favorable their evidence is. Section 4 contextualizes the evidence to Mexico, mapping interventions to unique local features and identifying opportunities for innovation. Section 5 highlights key principles of elements of programmatic success. Section 6 offers recommendations for policy and future research.

1.1 Definitions: Violence and Community Violence

As in the previous report by Abt and Winship (2016), we define violence as the intentional use of physical force against an individual, group, or community, be it threatened or actual, in which the outcome is physical injury or death.[1] As defined by Abt (2016) and Abt and Winship (2016), violence has different attributes that fall on a continuum (see Figure 1), ranging from home to state violence. These attributes are:

(i) The expected level of lethality;
(ii) The location: either private or public;
(iii) The number of individuals involved;
(iv) The level of planning;
(v) The underlying motivation: either expressive or instrumental; and
(vi) The frequency with which it occurs.

[1] This is a narrower definition of violence than the one adopted by the World Health Organization (WHO) which includes, for instance, the use of physical force against oneself (Krug et al., 2002).

Figure 1: Typology of violence continuum (taken from Abt, 2016).

Our research focuses primarily on **community violence**. As defined by Abt (2016):

> "[c]ommunity violence, particularly homicide, occurs primarily in public settings. It is interpersonal, i.e. taking place between individuals and small groups that may or may not know one another. It is loosely planned at best and generally impulsive in nature. That said, the impact of community violence is nevertheless severe, often resulting in death or disabling injury. Its perpetrators and victims are usually, but not exclusively, young men and boys from disadvantaged backgrounds and communities. Community violence may result from disputes or from conventional forms of street crime, e.g. robberies, and implicates both the public health and public safety fields as well as multi-disciplinary, multi-sector responses" (p.4).

Our aim in this paper is to offer evidence and insights to inform community violence prevention strategies in Mexico. A focus on community violence necessarily excludes other categories of violence that cause significant numbers of casualties and pose formidable challenges in Mexico, such as organized crime. These other categories of violence require their own prevention strategies. We discuss this issue further in the limitations section below.

1.2 Framework of Analysis

For the purpose of this report, we use a framework developed by Abt (2016) to respond to community violence among youth that draws on theoretical models from criminology and public health—two fields that have made major contributions to violence reduction. In describing the challenge of community violence, the framework draws from rational

choice and routine activities theory, as well as from a large body of evidence establishing that crime and especially violence concentrates among a relatively small number of serious persistent offenders, clustered in specific geographic micro-locations, and is associated with a number of high-risk behaviors.[2]

The framework developed by Abt (2016) organizes potential responses to community violence according to a traditional public health model supplemented with additional components necessary to prevent and control community violence. This results in five categories of response:

(i) Primary prevention: interventions and programs that target risk factors within the general population.

(ii) Secondary prevention: interventions and programs that target risk factors within sub-populations that are at higher risk of becoming perpetrators or victims of violence in the future.

(iii) Tertiary prevention: interventions and programs targeting individuals that are already engaged in violent behavior.

(iv) Suppression: interventions and programs within the realm of law enforcement action and responses.

(v) Rehabilitation (of former offenders): interventions and programs that assist former offenders in re-entering society.

As Abt (2016) observes, one limitation of this framework is that it emphasizes specific programmatic strategies over broader institutional arrangements. In this report, we extend the framework to account for these institutional factors so that community violence is understood not only as a function of places, people, and behaviors, but also of prevailing institutions.[3]

In addition, we complement the Abt (2016) framework by adding a sixth category of intervention related to victim recovery and rehabilitation in order to address patterns where victims engage in violence as a result of prior victimization—for instance, whenever a victim seeks revenge or when trauma triggered by victimization leads to the use of violence. Even if these victims are targeted with primary and secondary prevention efforts, their identity as victims represents an important difference.

(vi) Rehabilitation (of victims): interventions and programs that target victims for recovery and reconciliation. These interventions include, for instance, therapy aimed at treating post-traumatic stress disorder.

[2] See for instance Cornish and Clarke (2008) or Cohen and Felson (1979). See Abt and Winship (2016) for a more comprehensive analysis. See also Wikström (2012), who develops a framework for situational crime prevention. The idea is that a criminal event results from the interaction of a potential offender and an environment that ease crime occurrence.

[3] As will be further explained in the "Limitations" section, the search for interventions regarding institutional design as they relate to community violence deemed challenging, as this literature usually falls outside the realm of impact evaluation.

Table 1 presents the framework we use to identify evidence and conduct our analyses of community violence interventions. The vertical dimension comprises the elements from criminology and public safety considered by Abt (2016), with the addition of interventions within the realm of institutional reform (examples of such interventions include police or school reform). The horizontal dimension includes the extended elements from public health considered by Abt (2016), with the addition of interventions that target victims for recovery and reconciliation.

This framework defines the boundaries and scope for interventions and programs considered in this analysis. It leaves other crime and violence interventions outside of our scope including, for instance, counterinsurgency and conflict work more generally. However, whenever directly relevant for traditional crime work and violence prevention efforts that can be linked to community violence, we review and include our analysis of this literature.

Table 1: Institutions-augmented Abt (2016) anti-community violence framework.

	Primary prevention	Secundary prevention	Tertiary prevention	Suppression	Rehabilitation	
					Perpetrators	Victims
Places						
People						
Behaviors						
Institutions						

2. Methodology

The evidence summarized in this white paper is based on an in-depth examination of both systematic reviews and individual studies and, therefore, differs from traditional meta-reviews in several key ways. First, by examining a carefully selected sample of the most rigorous individual studies for each intervention, this review offers a more granular and specialized analysis of crime prevention programs. This aspect of the review was crucial to identifying the casual mechanisms underlying the evidence of each intervention's impact.

Second, while meta-reviews rely, indirectly, on the search strategies established by their respective authors, our wider analysis of both systematic reviews and the individual studies extends beyond these strategies, allowing us to maintain greater control of the evidence included in this white paper. This greater control permitted a more extensive appraisal of the crime prevention literature for Latin America. Furthermore, meta-reviews often fail to include the latest studies on each topic; our strategy not only facilitated the inclusion of more recent work, but also allowed us to evaluate additional studies otherwise excluded from traditional systematic reviews (e.g. government reports, working papers).

Finally, the quality of meta-reviews is highly subject to the research methodologies they incorporate. Meta-reviews can be highly skewed by results from lower quality studies, especially when the results of poorly designed quasi-experimental results differ from those of rigorous experimental studies. We believe we were able to establish a higher threshold for study quality through the inclusion of both systematic reviews and individual studies.

2.1 Criteria for Inclusion

To ensure inclusion of the highest quality literature on interventions aimed at preventing community violence, we applied the following criteria for identifying eligible studies:

1. *Outcomes.* Eligible studies reported on at least one of five outcomes of interest: crime, violence, victimization, recidivism, and disorder. We included some studies of programs not traditionally thought of as crime prevention strategies, but that included results on these outcomes (e.g. conditional cash transfers).
2. *Quality.* Eligible studies met minimum standards for methodological quality. Only studies that used randomized experimental or quasi-experimental methodologies, with matched or near equivalent comparison groups (e.g. Propensity Score Matching, Difference in Differences, Regression Discontinuity Design, or Instrumental Variables) were included. We included studies based on quasi-experimental methodologies with non-equivalent comparison groups only in specific cases—for instance, when the nature of the intervention did not allow for different methodologies or when scarce evidence was found on the intervention/topic assessed. We actively excluded studies that presented and did not control for clear selection bias, lacked information on the uncertainty—statistical significance—of results, or excluded information about the methods used to conduct the statistical analysis. Although (small) sample size was not an a priori exclusion criteria, it was an important factor in evaluating study findings during our analysis.
3. *Time period.* Eligible studies were published in the last twenty years, starting after January 1997, to avoid distorting our final analysis with outdated evidence.
4. *Geography.* There were no restrictions on geography.
5. *Languages.* Eligible studies were written in English or Spanish.
6. *Sources.* Eligible studies included published articles as well as reports and unpublished articles.

2.2 Search Strategy for Identification of Relevant Studies

Our literature search built upon earlier work by Abt and Winship (2016) and Weisburd et al. (2016), two of the most recent and comprehensive meta-reviews on crime and violence prevention. Because our goal was to analyze individual studies, we disaggregated each systematic review and then analyzed each of the individual studies included in their entirety.

We relied on several search strategies to further increase the number of included studies and ensure the inclusion of the most recent literature.

1. First, to ensure the inclusion of recently published reviews that were not publicly available at the time of the Abt and Winship (2016) meta-review, we used their same

search terms (see Annex A for a complete list of keywords and databases) to identify twenty additional systematic reviews. During this phase, we broadened the search criteria to also identify recently published individual papers that had not yet been included in any systematic review.

2. Second, we searched for studies related to topics that were not originally included in the meta-reviews (e.g. institutional reforms and victim rehabilitation).

3. Finally, to include local evidence, we specifically searched for studies from Mexico/Latin America and performed searches in Spanish. In addition, we shared our framework to a network of Mexican researchers provided by the United States Agency for International Development´s program for their input. Initial searches began in July 2017 and a final search was performed in January 2018.

2.3 Contextualization Methodology

In order to adapt the evidence to the Mexican context, we conducted a series of semi-structured interviews with selected actors. In coordination with USAID's program, we identified relevant stakeholders involved in the implementation of youth crime and violence prevention programs in the five states where USAID has local presence: Baja California, Chihuahua, Jalisco, Michoacán, and Nuevo León. Furthermore, we contacted key actors and experts on crime and violence at the national level to match local inputs to federal legislation and policies. The list of interviewees included representatives from non-governmental organizations, public-private initiatives, foundations, local governments, universities and research centers, local judicial systems, and corporate social responsibility initiatives.[4] All interviewees either implement or are experts in one or more of the interventions studied in this paper. Annex B presents the complete list of actors interviewed (61 in total).

Semi-structured interviews covered several general and intervention-specific topics. We sought to better understand:

1. General youth crime and violence prevention problems, with a specific interest in identifying risk factors of the target population.

2. The programs or interventions implemented by the interviewees, including their objectives, scope, target populations, identification and recruitment strategies, expected results, and strengths and weaknesses.

[4] In Mexico, many types of non-governmental and other non-profit organizations formed by civil society exist (*Organizaciones de la Sociedad Civil, Organizaciones No Gubernamentales, Asociaciones Civiles y Asociaciones de Beneficencia Pública*). For the purposes of this document, we refer to them all with the general term of NGO.

3. Organizations' implementation capacities, including human capital availability, inter-institutional coordination, profile and training of service providers/facilitators, and strategies to ensure fidelity of implementation and reduce risks of high personnel turnover.
4. Existing monitoring and evaluation systems, including program results (both measured or perceived), information systems, data gathered, and use of data in decision-making.
5. Institutionalization of programs, potential to scale them up, possible alternatives or new programs, and the main challenges and threats faced during program implementation.

Aside from these general questions, we leveraged the causal mechanisms and other findings extracted from our evidence review to design specific questions for each of the interventions analyzed. Furthermore, we adjusted the questions to the particular nature of policing and judicial programs, creating specific interview instruments to analyze these types of interventions.

2.4 Limitations

Overall, the evidence base on community violence is quite ample—other domains of public policy seldom have this volume and variety of rigorous evaluations. While it can be difficult to draw strong conclusions from just two or three studies of one intervention, implemented in different ways and in different locations, this level of evidence alone is rare. However, it is important to note several potential limitations of this analysis.

First, as mentioned in the introductory framework, we limit the scope of this paper specifically to **community violence**. This approach excludes other dimensions of crime and violence that may be relevant to Mexico, but where there is limited existing evidence from rigorous impact evaluations. Notably, in Mexico, it is impossible to completely disentangle community violence from violence caused by organized crime (See Box 1). Youth are affected by their communities' risk factors and often times these are permeated by the presence and operation of organized crime structures. There are two considerations relevant to mention.

(i) Preventing organized crime-related violence implicates strategies that rely on the proper functioning of the criminal justice system as a whole, including law enforcement through sound investigation, arrests, prosecution, adjudication, and incarceration, and longer-term institutional reforms. We consider such violence and strategies beyond the scope of this report, which focuses on programmatic efforts appropriate for community violence. In Section 4.3, while analyzing the Mexican context, we nevertheless address issues of institutional design and highlight promising strategies as they relate to community violence, although evidence that meets our rigorous criteria is scarce.

(ii) Additionally, it should be noted that in our search for community violence prevention interventions, we did not find rigorous research that directly addressed violence caused by organized crime. While literature on this topic (which is more related to state formation and organized crime governance) is, in general, scarce, there is even less evidence on programs and strategies aimed at curbing it. Due to the national and sometimes international nature of organized crime in this region, these strategies are often applied at the national level, making them particularly difficult to rigorously evaluate.

Box 1: Violence and Organized Crime in Mexico

Over the last decade, Mexico has experienced a dramatic surge in crime and violence. During this period, the country has seen the largest increase in both homicide rates and in the absolute numbers of homicides in the Western Hemisphere. From 2006 to 2012, Mexico's National Institute for Statistics and Geography (INEGI) reported 121,669 homicides—an average of over 20,000 deaths per year equaling more than 55 people per day or 2 people per hour. From 2012 to 2018, these figures increased. In 2017, the number of homicides exceeded 27,000, surpassing figures reported even at the peak of Mexico's drug war in 2011. During the last administration, there have been an average of 64 homicides per day, or more than 2.6 murders every hour.

Although the exact numbers are unknown, the increase in violence is largely, but not fully, attributable to drug trafficking and organized crime. Estimations from the government, academia, and NGOs suggest that "roughly a third to half of all homicides bear signs of organized crime-style violence, including the use of high-caliber automatic weapons, torture, dismemberment, and explicit messages involving organized-crime groups" (Calderón et al., 2018).

This paper focuses on community violence, which falls outside the realm of organized crime. Although it is hard to draw a clear line between community violence and organized crime-related violence—as drug cartels usually recruit from many communities in the urban peripheries—experience shows that community violence is often undercounted, while organized violence is often overcounted. Moreover, addressing both types of violence is necessary, as reducing community violence could also have an impact on minimizing opportunities for recruitment. As stated by Abt (2016), "community violence is perhaps unique in the breadth of stakeholders who may contribute to an effective response, including children and parents; community, business, and faith-based leaders; social service and health providers; along with law enforcement and criminal justice agencies." As such, some community violence interventions need necessarily to be complemented by strategies aimed at curbing organized crime, including better institutional design and serious intelligence efforts.

Second, it is also important to remark that, like any other area of public policy, not all community violence interventions are amenable to rigorous evaluation. There is a clear trend in the literature towards using more randomized trials or rigorous quasi-experimental evaluation methods that construct reliable control groups. Nonetheless, for several specific topics, research still lags behind and there is potential for further rigorous research.

Our search followed very rigorous criteria, particularly in regard to the evaluation methodologies employed. As Abt and Winship (2016) discuss, focusing on causal evidence creates a strong bias towards programmatic interventions that are capable of generating such evidence. There are several types of crime prevention interventions that are particularly challenging to analyze using rigorous evaluation methodologies. For instance:

(i) Interventions that treat neighborhoods may not have sufficient sample sizes to measure impacts with statistical precision. Hot spots policing is a clear example due to the limited areas in cities where high levels of crime are concentrated and consequential finite numbers of potential treatment and control zones.

(ii) Interventions, like focused deterrence, that have been used to treat very small groups of people may also lack sufficient sample sizes to measure precise impacts. As with place-based interventions, although these programs could be implemented and evaluated at scale, program impacts could fundamentally change when treating a larger group of people (when no longer focusing mainly on "low hanging fruits").

(iii) Institutional or policy changes are challenging to analyze rigorously, for the simple reason that there is often only one unit of analysis (a city or state).

The reader should keep in mind that interventions lacking rigorous evidence may still hold promise, though they require further research.

Third, even among studies that employed rigorous evaluation methodologies, statistical power remains a concern. One third of all studies reviewed have small samples of less than one hundred, which can limit the precision of their impact estimates. Relatedly, many studies commonly observe an over-estimation of precision and statistical power.[5]

Fourth, selecting and searching for published studies could potentially have limited our results—it is possible other types of resources could have yielded important insights.

[5] For instance, for studies on hot spots policing, Blattman et al. (2018) observe "spillovers and the aggregate effects on crime are difficult to pinpoint… because of the small size of most studies. The median study in existing reviews has fewer than 30 treated hot spots per treatment arm, and the largest has 104. These sample sizes make it difficult to detect large effects, even those as large as 0.4 or 0.5 standard deviations in size. As a result, these studies cannot rule out huge spillovers in either direction."

While we did not specifically conduct a grey literature search, our review was built on 105 previous reviews, which conducted grey literature searches of their own. Using this method, we incorporated twenty working papers into our review.[6]

Fifth, despite having thorough search procedures in place and building on previously implemented strategies, it is possible that some studies escaped our search. To minimize the possibility of missing any relevant papers, we thoroughly reviewed more than one hundred systematic reviews, including each of the individual papers cited.

Sixth, we must take into consideration the generalizability of research findings. In most cases, the interventions and evaluations reviewed were developed with a deep understanding of the local context, complemented by in-depth knowledge of the program and longstanding relationships with the implementers. Furthermore, the majority of existing literature on community violence programs comes from the United States. As such, the solutions studied and their results tend to be tailored to that context, which may limit their applicability to Latin America or other regions of the world. This is not to say that this evidence is not relevant, but rather that we must carefully analyze whether the tested mechanisms and results are applicable to different contexts and identify which program components need to be adapted.

Relatedly, although we clearly identified five main outcomes of interest, selected studies employ varied measurement methodologies to study how programs affect them. For example, crime rates can be measured using official statistics, calls for services, or self-reported measures, making it more difficult to generalize results.

Finally, for the contextualization analysis, we interviewed a total of 61 relevant stakeholders involved in the implementation of youth crime and violence prevention programs. Since USAID's program local teams arranged these interviews, most interviewees were USAID grantees. Considering that organizations have to meet certain requirements and that USAID's funds are highly competitive, it is possible that these organizations have more advanced programs and greater capacity to implement them. Furthermore, there is the possibility that the selection of interviewees was biased—USAID's program local team could have excluded weaker organizations that were not considered informative candidates for the interviews. Additionally, all organizations and institutions interviewed were located in the main cities and capitals of selected states, and, thus, not necessarily representative of organizations working in less central areas. As a result, our contextualization analysis could be positively biased.

[6] Grey literature is research produced by organizations and institutions outside of the traditional academic publishing channels. Grey literature includes documents such as reports, working papers and government documents. Working papers were found through J-PAL's database, individual hand searches, and based on academics' recommendations. The selected studies follow the outcomes and quality criteria defined in the methodology section.

3. White Paper
A Review of the Literature

In this section, we present the main findings of the literature review. We analyzed 264 studies covering 24 different types of intervention for reducing community violence. To analyze and interpret the evidence, we first distribute each intervention across the framework presented in Section 1.2.[7] Second, we classify these interventions into four groups according to how favorable their evidence is in terms of effectiveness for reducing community violence:

1. Interventions with strong evidence of effectiveness
2. Interventions with modest evidence of effectiveness
3. Interventions with inconclusive or contested evidence of effectiveness
4. Interventions with strong or moderate evidence of ineffectiveness

The criteria used to determine which interventions fall within each category is based on two factors:

1. The number of existing rigorous experimental and quasi-experimental studies identified for that specific intervention; and
2. The size of that intervention's effect on youth violence and crime outcomes, as described in the papers.

The greater the number of rigorous studies that find large effect sizes, the stronger the evidence of effectiveness and the higher the ranking of the intervention within the four categories.

In cases where few studies were found, but the general rigor of the methodologies used and the effect sizes measured were high (as was the case for Alcohol Control interventions), we elected to place them higher in the ranking. In other cases, such as Focused Deterrence, we decided that the large number of high quality quasi-experimental studies showing strong effect sizes outweighed the lack of experimental evidence available. In the same vein, interventions with an abundance of quasi-experimental evidence but few experimental studies, such as CPTED, fell to lower categories when the evidence indicated mixed results or weak effect sizes.

[7] See Annex C for descriptive statistics of selected literature and the matrix framework populated with interventions.

Finally, for each intervention, we present a brief description of the intervention and findings from previous systematic reviews, followed by a detailed analysis of selected literature and concluding remarks about causal mechanisms, as presented in the literature. In this section, all studies with a sample size smaller than a hundred are marked with an * after their citation (e.g. Braga et al.*, 2018).[8] Similarly, systematic reviews aggregating less than ten studies will be marked with an ° after their citation. Annex D contains a table with the entire list of selected studies, including information on authors, year of publication, country, sample size, and methodology.

3.1 Interventions with Strong Evidence of Effectiveness

a. Focused Deterrence

(Behavior-based / Tertiary Prevention and Suppression)

Focused deterrence, also known as "pulling levers" policing, is an innovative intervention developed through strong partnerships between police, prosecutors, communities, and service providers. This policing strategy builds on the principles of problem-oriented policing, an approach that shifts the primarily reactive role of the police towards a proactive model in which they aim to identify underlying problems that could be targeted to alleviate crime and violence at their roots.[9]

Officials from various agencies—including police, prosecutors, social service providers, and community leaders—design targeted responses aimed at curbing crime among pre-identified high-risk, repeat offenders. The strategy involves directly communicating to chronic offenders a variety of both sanctions and rewards ("pulling levers") designed to provide clear incentives for refraining from engaging in further criminal activity.

A number of systematic reviews conclude that focused deterrence interventions are highly effective in reducing crime and violence (Braga and Weisburd, 2012; Corsaro and Engel, 2015; Petrosino et al., 2015; Braga et al., 2018). Of the 26 focused deterrence programs analyzed in these reviews, twenty reduced crime and violence with moderate to strong effects.

Interestingly, the effects of these programs may depend on the targets of the intervention. Our analysis of selected papers confirms the findings outlined in the Braga et al. (2018) review: interventions targeted at gangs and criminal groups result in a greater reduction of targeted crimes compared to strategies designed to address street-level drug markets and chronic repeat offenders.

[8] The evidence resulting from small sample studies or systematic reviews including few studies is less conclusive and imply more uncertainty relative to other larger studies and reviews

[9] Abt (2016) notes that problem-oriented policing may have a greater impact as a supporting rather than leading role. In line with this consideration, we analyze problem-oriented policing strategies not as standalone interventions, but as critical components of other policing approaches.

Program effect sizes may vary due to the fact that these focused deterrence interventions are different in nature. Two additional issues may influence the differing results. On one hand, this can be explained by the fact that selected studies on street-level drug markets interventions suffer the most from implementation difficulties related to securing the necessary community involvement in targeted drug market areas. On the other hand, studies of gang interventions use weaker methodologies (non-equivalent control groups) compared to the other two programs (which use control groups that seem more similar to the interventions' targets).

While acknowledging recent improvements in the quality of quasi-experimental studies on this topic, authors of the most recent and most comprehensive systematic review underscore the need for more rigorous evaluations (Braga et al., 2018). No focused deterrence strategy has been experimentally evaluated to date. Of the studies reviewed, twenty use non-equivalent control groups and six use quasi-experimental designs that employ matching techniques (e.g. propensity score analysis or synthetic control methods) to construct comparison groups. As a result, we must take caution in interpreting these results—in the absence of suitably comparable treatment and control groups, we cannot be sure that the association points to a causal effect.

Despite the large body of existing literature and the clear theoretical mechanisms underlying the effectiveness of focused deterrence policing, it is unclear which program elements are most important in generating crime reduction effects. The authors of these studies point to several key elements that may explain this intervention's success:

- Narrowly focusing on deterring high-risk and chronic offenders from committing specific crimes plays a prominent role in preventing those behaviors, much more so than strategies targeted to the general population.
- Pushing targeted offenders' perceived risks of engaging in criminal activity beyond a certain threshold (i.e. the "tipping" effect) appears to generate strong deterrent effects.
- Direct and continuous communication between police forces and chronic offenders, as well as the provision of a clear list of sanctions, may facilitate these processes.

In addition, the majority of authors stress the following elements of focused deterrence as important factors to take into consideration when analyzing its effectiveness:

- By offering offenders opportunities and social services—such as health, mental health, housing, drug treatment, education, and employment services (Papachristos and Kirk, 2015)—focused deterrence may redirect these individuals away from violent crime.
- By engaging in face-to-face meetings with repeat offenders and clearly presenting the possibilities for both sanctions and rewards, the police can greatly improve their procedural fairness and legitimacy in the eyes of the community.

- By emphasizing the importance of engaging community members in focused deterrence strategies, these programs can enhance the value of collective action in communities (Braga and Weisburd, 2011).

Finally, the institutional settings and capacities surrounding focused deterrence interventions matter significantly. Evidence from the literature indicates that cities without strong institutions and multi-agency networks have struggled to successfully implement and sustain focused deterrence strategies (Corsaro and Brunson, 2013; Saunders et al.*, 2015).

b. Cognitive Behavioral Therapy (CBT)

(People and Behavior-based / Tertiary Prevention and Offender Rehabilitation)

Cognitive behavioral therapy (CBT) is an approach to helping people evaluate and modify the way they think and make decisions, as well as adapt unhelpful thinking and self-destructive behaviors. An increasing number of violence prevention programs have sought to draw on the principles of CBT to help participants reduce anti-social behaviors. In a limited number of sessions, participants work with a specialist to identify the problematic behavior, view challenging situations differently, and practice different responses.

Few interventions have been as widely studied as CBT-informed programs and therapies, and few can match its versatility (Abt, 2016). Several meta-analyses have identified CBT as an approach that leads to at least temporary behavior change among juveniles and adults across different settings, both as part of more comprehensive programs, as well as on its own (Pearson et al., 2002; Landenberger and Lipsey, 2005; Losel and Schmuker, 2005). Given the wide evidence base on CBT, we easily identified studies that met our eligibility criteria (39 in total).

Some evidence nevertheless suggests that the effects generated by CBT-inspired interventions may only be temporary. Only a small number of studies have followed samples longer than a few months or a year, and two of the largest one-year studies found that therapy alone did not lead to lasting behavior changes (Heller et al., 2013; Heller et al., 2017). An important area for additional research, where there are few concrete findings so far, is how to extend the effects of therapy interventions. Promising possibilities include extended therapy, booster sessions, and pairing with economic assistance programs. Until evidence on these approaches is generated, CBT-inspired programs remain short in duration and inexpensive enough that even short-run effects are likely to be cost-effective.

Few studies explicitly test mechanisms, but recent evidence suggests that some of the causal mechanisms underlying the impact of these CBT-inspired programs are changes in self-control, time preferences, values, social skills, and social identity, and that these skills are malleable even for adults (Heller et al., 2013; Blattman et al. 2017; Heller et al., 2017a).

These mechanisms are largely consistent with the psychological theory underlying CBT.

Across many studies and programs, a number of practice-based lessons are commonly emphasized (though not evaluated formally):

- Training of treatment providers and supervision appears to be key, as well as their ability to connect with youth.
- Longer-term behavioral change could be related to the self-confidence that participants develop by having time to practice and reinforce their changed behaviors, rather than by being forced to comply with the treatment.
- The approach is likely to be more effective when the program adapts content and delivery style to fit population characteristics such as age and level of literacy.
- The association between length of treatment and degree of impact remains unclear and requires additional research.[10]

Although there is strong evidence that CBT-informed programs reduce violence and criminal recidivism, there is less evidence to support its effectiveness in targeting behavioral problems of specific subgroups of offenders, including those at risk of gang involvement and sexual offenders. Notably, there is strong evidence to suggest that CBT has been an ineffective approach for populations suffering from substance-abuse problems (Vaugh et al. 2003; Easton et al., 2007; Friedman et al., 2008), while some results show that high-risk offenders benefit more from treatment, confirming the risk principle of offender treatment (Andrews and Dowden, 2006, Blattman et al. 2017).[11]

Nevertheless, it is possible that variations in effect sizes may be driven by differences in intervention components rather than by the type of offenders treated. Two factors that could determine why some programs fail are: lack of adherence to CBT principles or the inclusion of techniques that do not address the specific risk factors of the offenders (Hanson et al., 2004; DiPlacido et al.*, 2006; Friedman et al., 2008).

c. Multidimensional Juvenile Therapy

(People-based / Offender Rehabilitation)

Multidimensional interventions aim to prevent juvenile criminal activity by: closely monitoring adolescent offenders' activities inside and outside of school; addressing violent behavior

[10] Traditional law enforcement strategies refer to usual policing activities such as foot or vehicle patrols, increasing the number of police officers deployed or the duration of deployment, and aim at a reduction of crime through general deterrence and increased risk of arrest. Problem-oriented policing instead works to modify the underlying characteristics of the environment at hot spots, in order to eradicate conditions that lead to recurring crime problems.

[11] The risk principle states that offender recidivism can be reduced if the level of treatment services provided to the offender is proportional to the offender's risk to re-offend (Bonta and Andrews, 2007).

through pro-social skills development; training caregivers and parents on behavior management techniques, such as rewards or sanctions; and, often, offering substance abuse treatment.

Three broad programs fall within this category:

1. Juvenile Multisystemic Therapy (MST) uses an intensive, multi-faceted approach that focuses on addressing environmental systems—e.g. school, family, and peers—that impact chronic juvenile offenders by developing strategies for better coping with them.
2. Multi-Dimensional Treatment Foster Care (MTFC) is an alternative to residential placement for chronic juvenile offenders which involves trained foster parents, family therapy for biological parents, and supportive therapy for youth.
3. Family Functional Therapy (FFT) is a comprehensive clinical intervention that attempts to enhance support and communication within the family by helping parents develop specific behavioral competencies—e.g. conflict resolution, problem solving, and effective parenting.

Systematic reviews of MST, MTFC, and FFT suggest these interventions are effective in reducing criminal activity (Curtis et al., 2004; Fagan and Catalano, 2012). It should be noted, however, that one review (Littell et al.° 2005) finds inconclusive evidence about the effectiveness of MST.[12]

Findings from eighteen selected studies confirm that Multidimensional Juvenile Therapy consistently reduces criminal behavior and recidivism rates among juvenile offenders.[13] These positive treatment effects persist across studies measuring outcomes two- to four-years after treatment (Henggeler et al.*, 2002; Schaeffer and Borduin, 2005; Leve et al.*, 2007).

The most promising MST interventions target empirically identified determinants of criminality and violence in youth, such as: behavior problems, parental disturbance, problematic family relations, association with deviant peers, and poor school performance (Schaeffer and Borduin, 2005). Research suggests the following elements contribute to the success of Multidimensional Juvenile Therapy:

- Providing youth with a structured and nurturing environment, close supervision, and clear rules, helps mitigate key risk factors that lead to the development of antisocial behaviors (Henggeler et al.*, 2002; Borduin et al., 2009).
- Increasing parental supervision and involvement and building supportive adult relationships provides youth with safety nets that help them better regulate their emotions and improves their educational, occupational, and developmental success (Chamberlain and Reid*, 1998).

[12] This review should nevertheless be interpreted with caution, as it references a number of unpublished and less methodologically rigorous studies.
[13] Multisystemic interventions have been thoroughly studied as a violence prevention strategy. Among the literature reviewed, all studies were conducted in the United States or United Kingdom. Ten out of sixteen studies were randomized evaluations. Despite high methodological quality, roughly half of the studies reviewed included small sample sizes, limiting our ability to interpret the impact of these interventions.

- Offering pro-social activities, especially pursued and practiced in residential settings, helps mitigate negative peer effects and creates more positive interpersonal interactions in school, as well as at home (Schaeffer and Borduin, 2005).

It remains unclear whether MTFC interventions are more effective than group-based residential therapy. From a theoretical perspective, foster homes should produce better outcomes by minimizing juveniles' exposure to deviant peers. However, several studies found small to no differences in outcomes between juveniles treated in different settings, suggesting some youth, especially those deemed lower-risk, may benefit from structured group care (Barth et al., 2007; Lee and Thomson, 2008; Robst et al., 2011; Robs et al., 2013).

It is important to note the critical role that model adherence has on outcomes in a highly structured intervention such as FFT. The findings suggest that FFT is effective in reducing youth behavioral problems only when the therapists adhered to the treatment model (Sexton and Turner, 2010).

d. Drug Courts and Drug Treatment

(Behavior-based / Offender Rehabilitation)

Drug courts and drug treatments are programs targeting drug-involved individuals and offenders that provide them with different services to resolve their substance abuse problems. Drug courts are specialized courts for offenders that utilize a treatment-based model in which judicial prosecutors, law enforcement, mental health practitioners, social service providers, and treatment providers collaborate to facilitate the long-term recovery of offenders. Drug treatment programs can be delivered in prison facilities or in therapeutic communities and usually provide an intensive, highly structured pro-social environment for the treatment of substance abuse. These programs can also be an alternative or complementary sanction to incarceration.

Findings of multiple systematic reviews indicate that drug courts are an effective intervention in reducing recidivism among treated offenders (Shaffer, 2006; Mitchell et al., 2012). Similarly, reviews focusing on drug treatment programs (Holloway et al., 2006; Mitchell et al., 2007) find that these programs reduce recidivism and criminal behaviors, although the reduction is smaller compared to drug courts.

Fourteen of the 21 studies reviewed conclude that drug courts reduce recidivism at fairly high rates, ranging between 10 and 30 percent. It should be noted that while our findings support the effectiveness of drug courts in reducing recidivism, the strength of the evidence varies by court type. For instance, there is less accumulated evidence regarding the effectiveness of Driving While Intoxicated (DWI) drug courts and juvenile drug courts.

Considering drug treatment, ten of seventeen selected studies find positive results. Among them, the programs that consistently reduce criminal behavior and recidivism are therapeutic communities and gender-responsive treatment interventions designed specifically to address the different patterns of recidivism and drug use experienced by female offenders. Authors attribute their effectiveness to the particular approach they have towards drug abuse: by seeing it as symptomatic of a broader personality disorder, they focus on the larger disorder and not just drug abuse (Mitchell et al., 2007). Findings on gender responsive treatment are particularly interesting, as incarcerated female offenders are disproportionately drug involved. Other programs, such as counseling, narcotic maintenance, and drug boot camps do not produce significant changes in terms of recidivism.

Studies on drug courts highlight the importance of sanctions and rewards as important mechanisms underlying the effectiveness of drug courts (Mitchell et al., 2012). The most promising interventions impose greater consequences on participants for failing to meet requirements or offer more attractive benefits upon program graduation, like avoiding conviction (Shaffer, 2006). Within drug courts, it remains unclear how offender risk-levels affect treatment. While some evidence points to higher effects for lower risk offenders (Mitchel et al 2012 and Shaffer 2006), other studies emphasize the effectiveness of drug courts for higher risk individuals (Brown, 2011; Fielding et al. 2002).

e. Alcohol Control

(Behavior-based / Primary Prevention)

To reduce the potentially harmful health and social consequences of excessive alcohol consumption, many countries have adopted legislative regulations on alcohol sales and distribution. The most common interventions aim at limiting heavy drinking through different channels, including:

- Restricting trading hours and days;
- Limiting alcohol sales to specific outlets;
- Regulating a minimum legal drinking age; and
- Policing sobriety checkpoints.

In a systematic literature review examining the impact of policies that extend or restrict alcohol trading hours, Wilkenson et al. (2015) find strong evidence that restricting the hours during which bars and restaurants can sell alcohol late at night can lead to substantial reductions in violence.

From a review of eight studies on alcohol control strategies, we find that alcohol control interventions for both on- and off-premise locations seem to be an effective tool for reducing criminal involvement and violence.

However, with one exception, these studies rely exclusively on quasi-experimental methodologies.

The clearest mechanism driving the effectiveness of alcohol prevention strategies is reducing the availability of alcoholic beverages to specific times or locations. Restricting opening hours or sales locations is a particularly advantageous strategy because it is easily enforceable. These strategies do not intend to prohibit consumption, which could potentially shift consumption to heavier psychotropic substances or create violent illegal markets, but rather to make it more difficult to consume in particularly high risks settings (e.g. late at night).

f. Hot Spots Policing

(Place-based / Suppression)

Hot spots policing interventions focus resources on small geographical areas, usually in urban settings, with high crime rates. Crime hot spots are defined as localized places in which the occurrence of crime is disproportionally high compared to surrounding areas (Braga et al., 2012). While strategies to reduce crime in problem areas can vary widely, hot spots policing relies primarily on either highly focused traditional law enforcement strategies, some form of problem-oriented policing, or a combination of both.[14]

Systematic reviews provide strong evidence of the moderate effectiveness of hot spots policing in reducing crime at target locations (Braga et al., 2012). Additionally, the existing reviews (Bowers et al., 2011; Braga et al., 2012) suggest that hot spots policing interventions do not displace crime to surrounding areas. Similarly, our analysis, comprised of a total of ten RCTs and two quasi-experimental evaluations, yields predominantly positive results. The selected literature suggests these interventions may work for the following reasons:

- Intensive foot patrol efforts in violent hot spots may achieve deterrence at a microspatial level, primarily by increasing the certainty of disruption, apprehension, and arrest.
- Increasing dosage, either in terms of increased frequency of patrols or in the number of officers assigned to a given area, seems to be fundamental to the effectiveness of foot patrols (Ratcliffe at al. 2010 and Braga et al. 1999).
- Problem-oriented interventions change the relationships and dynamics between offenders, targets, and guardians at treatment locations, which in turn can reduce crime rates.

[14] Traditional law enforcement strategies refer to usual policing activities such as foot or vehicle patrols, increasing the number of police officers deployed or the duration of deployment, and aim at a reduction of crime through general deterrence and increased risk of arrest. Problem-oriented policing instead works to modify the underlying characteristics of the environment at hot spots, in order to eradicate conditions that lead to recurring crime problems.

Recent studies, however, have raised important questions that should be addressed in future research to improve the effectiveness of hot spots policing strategies and avoid counterproductive effects. First, a portion of the selected literature does not find strong evidence of any effect on criminal activity (Rosenfeld et al., 2014; Santos and Santos, 2015; Collazos et al., 2017; Blattman et al., 2018). This might be a result of context specific issues or more general limitations that need to be understood better and accounted for in future implementations.

Second, while the evidence generally supports the idea of putting more police in crime hot spots, questions remain over exactly how to make use of these additional resources. A recent study in Bogotá finds that doubling patrol times alone leads to minor reductions in crime, while combining extra patrol time with increases in other city services leads to larger crime reductions (Blattman et al. 2018). Recent studies have also evaluated the effectiveness of blending hot spots policing with offender-based strategies, yielding promising results in terms of reducing violent crimes and violent felonies (Groff et al., 2011).[15]

Finally, although some reviews (Bowers et al., 2011; Braga et al., 2012) show that hot spots policing interventions do not displace crime to surrounding areas, other authors (Blattman et al., 2018) raise methodological concerns regarding the measurement of crime displacement. The majority of studies to date, which draw on relatively small samples and clusters, may have lacked the statistical power to detect small displacement effects.

Moreover, crime displacement concerns not just the average effect, but also the number of places that are exposed. Blattman et al. (2018) use a design based approach to account for these methodological limitations and find suggestive evidence of displacement for property crimes. Violent crimes, on the contrary, seem to be more persistently deterred.

3.2 Interventions with Modest Evidence of Effectiveness

a. Vocational Training and Employment

(People-based / Secondary, Tertiary Prevention and Offender Rehabilitation)

Youth employment and vocational training programs should provide youth with marketable career skills. These, in turn, should help them succeed in the job market and reduce their potential involvement in criminal activities.

[15] Offender-based policing strategies are used by law enforcement agencies to address crime by focusing efforts and resources on the persons committing the crimes.

These programs aim to decrease criminal behavior by providing adolescents with the means to attain a secure, legal income and occupying time that could otherwise be devoted to criminal activities. This is, the opportunity cost of crime should rise.

However, there is disagreement in the literature (Visher et al., 2005; Aos et al., 2006) as to whether vocational training programs have positive effects on crime and recidivism, reflecting a broader uncertainty in the field surrounding the effectiveness of stand-alone employment and training programs (Abt and Winship, 2016). Moreover, a recent meta-analysis examining the impact of vocational training in developing countries on labor market outcomes (such as employment and earnings) finds no effects in many cases (McKenzie, 2017).

Our analysis identified six experimental evaluations that examine vocational training as a secondary prevention intervention. The evidence from these studies suggests that providing at-risk youth with employment, and the necessary and adequate skills and opportunities to secure it, may be an effective way to reduce their opportunities to be involved in illegal and criminal activities. Importantly, authors of selected studies stress how interventions that provide more than just technical skills and income, like summer jobs and training opportunities, may help youth by also improving their self-control, information processing, and decision-making skills. The literature outlines some of the mechanisms through which these programs may work:

- For at-risk youth, the provision of employment opportunities and the development of the necessary human capital to secure employment (Schochet et al., 2001; Schochet et al., 2006), as well as job-skills training and employer connections (Heller et al., 2017b) appear to minimize their opportunities to engage in criminal activities by providing a clear, legal alternative to criminal involvement.[16] As explained by Heller et al. (2017b), the findings of a summer jobs program, where violence declines occurred after the program ended, suggest that these programs changed participants' behavior, rather than merely preventing youth form engaging in violence through an incapacitation effect.
- Alongside skills development, offering financial capital in credit-constrained and fragile environments may lead to reductions in criminal activity, due to higher returns to capital in such settings (Blattman et al., 2014a; Blatmann and Ralston, 2015).
- Improving employment opportunities for offenders moderately reduce re-imprisonment rates in the first year following release, especially when combining post-release subsidized work with "reach-in" social services provided prior to release (Cook et al., 2015).

[16] Gelber et al. (2017) studied the same program in a different U.S. city and found the program to be effective in reducing crime due to an incapacitation effect—i.e. by keeping youth "out of trouble".

It is important to note that, especially for offenders and highest risk individuals, employment and vocational training should not be expected to produce strong effects, in part because criminal behavior and recidivism do not always respond to income or employment opportunities (Wilson et al., 2000).[17]

b. Restorative Justice (Direct Mediation)

(People-based / Offender and Victim Rehabilitation)

Restorative justice is a broad concept that encompasses programs such as victim-offender mediation, family group conferencing, and sentencing circles, among others. Some of the key theoretical principles underpinning restorative justice are: repairing harm, engaging stakeholders, and transforming the sentencing role of the community and the government (Wilson et al., 2017). We include in this category any program that brings together the parties affected by a criminal incident (e.g. offenders, victims, and their respective families and communities) in a non-adversarial mediation process guided by a trained facilitator.

Overall, systematic reviews find that restorative justice programs lead to promising reductions in recidivism and delinquent behavior among participating offenders (Schwalbe et al., 2012; Strang et al.°, 2013; Wilson et al., 2017). Only Farrington et al. (2005) find mixed results, with an undesirable increase in reoffending by juvenile property offenders.

The eleven papers we reviewed offer preliminary evidence that restorative justice programs are likely to moderately reduce subsequent convictions or arrests.[18] An important caveat to the effectiveness of these kind of programs is that both the offender and the victim have to consent to participate (Strang and Sherman, 2005; McGarrell and Hipple, 2007; Shapland et al., 2008).

The systematic review by Strang et al. (2013) concludes that the mechanisms behind the effectiveness of restorative justice are still unclear and not fully explained by one causal theory. Nonetheless, the results from some studies are suggestive of key characteristics underlying program effectiveness:

- Mediation programs that include family counseling offer the most promising results (Bouffard et al., 2016), although it is still unclear what is driving these impacts.
- The reintegrative focus of the interventions—for victims, restorative processes such as apologies, reparations, and making things right with the offender—may be more important than sentencing (McCold and Watchel, 1998).

[17] Among individuals that already offended a legal source of income is not always enough of a deterrent factor. This could be for various reasons: already developed skills for illegal income (making it more profitable than legal opportunities), social stigma and labeling coupled with missed years of education and job experience (due to being incarcerated) making more difficult to secure and maintain a regular job.

[18] The included papers can be divided into four main groups: family group counseling, conferencing, community panels, and community-wide education for alternative dispute resolution.

- Offenders reported higher levels of satisfaction with mediation compared to traditional court processes, where offenders often felt that their treatment was unfair (McGarrell et al., 2000; Sherman and Strang, 2000; Strang and Sherman, 2005).
- Offenders' previous records seem to play an important role when assessing effect size; the greatest reductions in recidivism appear among first- and second-time offenders (Rodriguez, 2007).
- Effects seem to be stronger in the first six months post intervention and dissipate over time, though some studies find significantly positive effects up to two years following the intervention (McGarrell et al., 2000; McGarrell and Hipple, 2007).

c. Non-custodial Sanctions (Alternatives to Incarceration)

(People-based / Offender Rehabilitation)

Non-custodial sanctions encompass all alternatives to imprisonment in which the offender is not placed in a detention facility, but instead directed to engage in some intensive form of community work, diversion or wraparound services, or other programs.

Overall, the literature on alternatives to prison sentences suggests that, under certain circumstances, these methods have at least the same effect on criminal behavior, if not better, than imprisonment. However, the magnitude of the impact of these programs is typically small (Villetaz et al., 2005; Killias and Villetaz, 2008; Villetaz et al., 2015).[19]

From a methodological perspective, the main challenge in studying these interventions is that individuals sentenced to prison may differ in fundamental ways from individuals who receive non-custodial sanctions. Hence, results from quasi-experimental evaluations—that construct control groups through matching or other methodologies—may suffer from selection bias.

To this end, the randomized evaluations included in our analysis find weaker effects than quasi-experimental studies.[20] Yet, three RCTs on juvenile diversion find that diverting young offenders from juvenile justice processing decrease future recidivism rates.

[19] Diversion programs redirect youth that committed minor offenses toward supportive services that, while keeping them accountable, aim at remedying the behavior leading to the original arrest. Wraparound services are a continuum of social services provided to the most at-risk youth in the justice system, tailored towards building strengths, promoting success, safety, and permanency in home, school, and the community.
[20] We selected a total of eight studies on alternative sanctions to incarceration, reporting on the effects of three different types of programs: juvenile diversion (Kelley et al., 2003; Smith et al., 2004; Patrick and Marsh, 2005), community service (Killias et al., 2000; Killias et al., 2010; Wermink et al., 2010), and wraparound services (Carney and Buttell, 2003).

Alternatives to incarceration may be relatively effective in improving criminal behavior because:

- They avoid placing negative labels on individuals. First-time, younger offenders labeled as "criminal" by the justice system instead of "participating in rehabilitative programs" could be more prone to criminal behavior due to negative self-identification.
- By reducing social stigma, alternative sanctions remove barriers to social interactions or employment opportunities, further diminishing the risk of recidivism.
- At-risk youth confront the consequences of their actions through sanctions and/or services to the community, which may increase their social connections and thus reduce deviant activities. These programs require youth to acknowledge the wrongdoing rather than merely punishing the act (Smith et al. 2004).

Despite these positive findings, additional research is necessary to understand how much of the measured impacts can be attributed to the negative effects of imprisonment (e.g. criminogenic effects, isolation from society, negative labeling) affecting the control groups rather than to the positive effects of non-custodial programs. What seems to be clear is that offenders' characteristics—especially age, criminal history, and risk profile—play a key role in the success or failure of these programs, and their interaction with sanctions should be further studied to better inform policy decisions.

d. Conditional Cash Transfers

(People-based / Secondary Prevention)

Many conditional cash transfer (CCT) programs have been inspired by the Mexican model, (*PROGRESA/Oportunidades*), and vary little in their structure: poor households receive government payments (cash transfers) upon fulfillment of schooling or health clinic attendance, among other requirements. In this sense, CCTs are safety net programs.[21]

Our analysis is based on the only two quasi-experimental studies that directly measure criminal outcomes of CCT program participants: Chioda et al. (2015) and Camacho and Mejía (2013). Results from these studies suggest that CCTs have a positive effect on reducing crime. Evidence from the studies selected suggests CCTs may impact other outcomes different than the ones traditionally studied.

The availability of liquid capital probably has an important role in deterring criminal activities, especially economically-motivated crimes for at-risk individuals. Future research could provide further evidence on this subject. This link is also supported by the results of studies on programs that include cash transfers alongside other crime prevention strategies.

[21] For studies measuring the effectiveness of CCTs program in reducing poverty, increasing enrollment and encouraging parents to invest in the health and education of their children see Schultz (2004), Fernald et al. (2008), and Gertler et al. (2012).

In vocational training (Blattman et al., 2014a; Acosta and Montiel, 2018) and CBT-informed therapy (Blattman et al., 2017) programs, participants who received liquid capital alongside the core service performed better in terms of crime reduction than other treatment groups.

The evidence on the incapacitation effect of conditional cash transfer programs—i.e. the fact that the recipient of the program has to stay in school to receive it—is relatively weak, and suggests it does not seem to play a role in reducing crime (Chioda et al., 2015).

3.3 Interventions with Inconclusive or Contested Evidence of Effectiveness

a. Crime Prevention Through Environmental Design

(Place-based / Primary prevention)

Crime Prevention Through Environmental Design (CPTED) interventions seek to prevent situational crime by changing the physical design of the urbanized built environment. Examples include improvement of street lighting, expansion or improvement of public transport systems, creation of Business Improvement Districts (BIDs), and the installation of surveillance cameras. Unlike hot spots policing, these strategies do not necessarily focus on narrowly defined geographic locations where most crime occurs.

As discussed in Abt and Winship (2016), systematic reviews on CPTED find modest, if any, impacts on crime (Farrington and Welsh, 2002; Farrington et al., 2007; Welsh and Farrington, 2009; Cassidy et al., 2013). However, research on this topic is limited by the nature of the intervention itself: self-selection, spillover effects and inadequate control groups may threaten the validity of results.

Our analysis of eleven studies finds that evidence of CPTED interventions is mostly inconclusive, and, at best, this intervention generates weak effects on crime reduction. Looking at types of crimes, CPTED appears to have the most effect on reducing property crime. In general, more rigorous studies have found smaller effects.

More testing is required to understand the mechanisms behind the results of the few modestly successful CPTED interventions. Among successful programs, authors stress the following elements of effectiveness:

- Interventions that leverage CPTED elements to create public spaces where neighbors can interact and develop relationships show more promising results. These programs may foster more collective action against violence and its causes.
- Improvements to physical spaces in a neighborhood can build community pride and confidence while simultaneously strengthening informal social control, which may deter potential offenders from engaging in criminal activities.

- When CPTED creates stronger communities, it may also improve relationships between citizens and the police, in turn increasing law enforcement efficacy by increasing information flows.

When environmental design is disconnected from the neighborhoods and communities in which it is embedded, as is often the case, focusing on direct crime prevention might, at best, displace crime to surrounding areas. This approach is also risky because it can create a fortress-like mentality that is counterproductive for producing collective efficacy.

b. Disorder Policing

(Placed-based / Suppression)

Disorder policing interventions focus on reducing the signs of physical and social disorder (e.g. broken windows and graffiti) in at-risk areas (indeed, this approach is often known as "broken windows policing"). By concentrating directly on disorderly conditions, these initiatives aim to signal that more serious criminal activity will not be tolerated. These approaches leverage a diverse array of strategies, from problem-oriented policing to more aggressive maintenance of public order.

In one of the most recent reviews on this subject, Braga et al. (2015) find that disorder policing leads to modest crime reduction benefits, as evidenced by fewer reports of disorder or public nuisance problems. But these results vary strongly depending on the type of disorder strategy that is implemented. Evidence from the three selected papers confirms this.

The aggressive "zero tolerance" policing model appears unlikely to generate significant crime reductions because solely increasing misdemeanor arrests may undermine relationships in low-income urban communities where distrust between the police and citizens is already profound (Skogan and Frydl 2004). On the other hand, more targeted problem- and community-oriented disorder policing approaches appear to have more crime-prevention benefits because they employ situational strategies that increase the perceived risk for potential offenders (Braga and Bond*, 2008).[22] Thus, while the body of evidence in support of disorder policing is decidedly mixed, disaggregating indiscriminate from more focused approaches yields a clearer picture: disorder policing, when problem- and community-oriented, is likely to generate moderate crime reduction benefits. When those elements are lacking, the evidence suggests that both crime reduction and police/community relationships could be negatively impacted.

[22] Not to be confused with community policing, more generally, which lacks mainly the targeted attribute. Community policing is discussed below.

c. Community Policing

(Place-based / Suppression)

Unlike traditional policing, which focuses on law enforcement and order maintenance, community-oriented policing emphasizes community involvement in crime prevention (Gill et al., 2014). While there is no universally accepted definition on what constitutes community policing, there is general consensus that it follows four key principles: accountability, collaboration, decentralization, and problem solving (Connell et al., 2008). Under these principles, police and communities are considered co-producers of public safety.

A systematic review conducted by Gill et al. (2014) suggests that community policing has positive effects on citizen satisfaction, perceptions of disorder, and police legitimacy but no effects on crime or fear of crime. Authors identify the lack of implementation fidelity to community policing models as one of the primary reasons for the difficulties to consistently achieve crime reduction effects.

Unfortunately, few evaluations of community policing measure crime or violence outcomes, making it difficult to assess the efficacy of this approach (Gill et al., 2014). Those studies that do exist most often use time series analysis and lack methodological rigor. Of the two studies we reviewed, Connell et al.* (2008) find positive effects on violent and property crime using time series analysis, while an RCT conducted by Weisburd et al.* (2008) find no effect.

The positive results identified by Connell et al.* (2008) must be interpreted with caution. While the findings suggest that community policing may have the capacity to impact serious-crime rates, it is possible that the success of the program may be difficult to replicate in other contexts or at scale. Both the police unit and the officers that took part in the program were selected based on their willingness to implement the strategy and their abilities. This may imply that, before replication, a relatively high standard in police quality needs to be achieved. Hence it is possible that similar programs implemented more broadly are at risk of reducing implementation fidelity.

d. Community-based Prevention Programs

(People-based / Primary and Secondary Prevention)

Community-based violence prevention programs incorporate members of the general population into local crime and violence prevention activities and engage them in a collective response. These programs target common individual risk factors on a community-wide scale, often undertaking risk-assessments before selecting program design. Because community-based programs tend to have different characteristics, often involving the community to different degrees, it is difficult to define and assess these programs. To date, there are no systematic reviews on this topic.

We identified five studies that analyzed programs aimed at reducing crime and violence in selected neighborhoods through the involvement and mobilization of community stakeholders (including religious leaders, school officers, and police officers) in developing and implementing community-wide prevention systems. Because the forms of the interventions vary considerably across these five studies, it is difficult to draw strong overarching conclusions regarding their effectiveness. The studies suggest the success of such programs likely depends on a thorough analysis of local risks and potential protective factors enabling appropriate, location-specific strategies.

e. Gang Outreach (Streetworker) Programs

(People-based / Tertiary Prevention)

Gang outreach or streetworker programs leverage locally-based street, gang, or youth workers to build relationships with gang-impacted youth and their families. Outreach workers strive to reduce beneficiaries' connections to gangs, decrease gang-related conflict and violence, and provide emotional and practical support through dispute resolution, conflict mediation, and culturally sensitive outreach. These programs aim to provide an alternative to gangs as social support networks.

No systematic review has been conducted on this topic, and we identified only two relevant papers examining the effects of these interventions, one of which (Wilson and Chermak*, 2011) studies the best-known application of this approach: Cure Violence.[23] Wilson and Chermak* (2011) find that the program increased aggravated assaults and gun assaults in target neighborhoods relative to control areas. McClanahan et al. (2012) studies the effect of a streetworker program targeted at probationary violent youth in Philadelphia, finding that youth supported by the intervention were significantly less likely to be arrested than youth in the control group. However, the small sample size did not allow authors to measure program impacts on the likelihood of being victims of violent crimes.

Context and implementation are critical to the success of streetworker programs. In situations where gangs are not already highly interconnected, streetworkers may increase cohesiveness and, therefore, violence between and among them. Paradoxically, streetworker presence and visibility can provide opportunities for more individuals to become exposed to gangs, and their actions may more clearly define conflicts in the community as gang-based ones (Wilson and Chermak*, 2011). Instead, intensive supervision and personalized positive support may be an essential element in helping youth offenders to avoid violence.

[23] The Cure Violence Health Model uses an epidemic control method to reduce violence. Carefully selected members of the community (trusted insiders) are trained to anticipate where violence may occur and intervene before it erupts while engaging the entire community to change behaviors and norms. This model has been evaluated several times and found to have mixed effects (Kennedy, 2011; Papachristos, 2011; Wilson and Chermak, 2011; Whitehill et al., 2012; Butts et al., 2015), but studies are of varying quality and, thus, not all included in this review.

When streetworkers are able to engage individually with youth offenders these programs may yield more positive results (McClanahan et al., 2012).

We caution against drawing overly broad policy conclusions on the basis of these two studies, especially when a number of less rigorous evaluations point to more promising results. To better understand the effectiveness of this approach more research is necessary, particularly on systematization and professionalization of streetwork, as well as understanding its relationship with formal institutions (Abt, 2016).

f. Mentoring

(People- based / Prevention and Offender Rehabilitation)

Mentoring programs with a violence prevention focus assign adult, non-parental mentors (either trained or volunteer) to at-risk or offender youth with the aim of promoting healthy development and functioning by reducing risk factors (e.g. family problems, lack of commitment to school, antisocial behavior) and strengthening protective factors. These programs are often school-based, community-based, or offered as components of aftercare or diversion interventions.

A systematic review conducted by Joliffe and Farrington (2007) analyzes eighteen studies of mentoring programs, finding limited evidence on the effectiveness of such interventions in reducing crime among at-risk youth.

In our analysis, we divide mentoring programs into two groups: primary and secondary preventative interventions, which show no effects, and tertiary and perpetrator rehabilitation interventions, which show mixed results. In studies where impacts are more precisely estimated, they were the result of programs in which mentoring was not implemented as a standalone intervention. Evidence from Braga et al. (2009), in particular, suggests mentorship should be a facilitating feature—rather than the main intervention—for the success of individualized treatment plans embedded into a network of criminal justice, social service, and community-based organizations.

Among those studies that show positive impacts of mentoring programs on crime reduction, the effects of these programs are associated with complementary activities and service provision outside the primary mentor relationship, such as parental involvement, educational and labor-related pursuits, or community resources and support networks (Burke et al., 2003; Wiebush et al., 2005; Braga et al., 2009). The duration of mentorship also seems to play a major role in the effectiveness of this intervention—when shorter than a year, results are particularly limited (Grossman and Rhodes, 2002).

g. School-based Programs

(People and Behavior-based / Primary and Secondary Prevention)

School-based violence prevention programs aim to deter school-aged youth from engaging in crime and violence. Usually they take place during the school day and involve students through classes or activities provided by school teachers or external facilitators (e.g. police officers, therapists, etc.). These programs have varied content but generally seek to change the antisocial behavior of at-risk individuals in disadvantaged areas with high crime rates.

Two systematic reviews on this topic offer conflicting results. While Hahn et al. (2007) report that school-based programs decrease rates of violence among school-aged children, a meta-analysis by Park-Higgerson et al. (2008) does not support this conclusion, suggesting instead that school-based programs are ineffective at decreasing youth violence.

Our analysis of five studies that examine treatment effects of school-based anti-violence interventions on delinquency outcomes finds mixed effects.[24] Comprehensive, integrated approaches to prevention and interventions that paired school-based programs with other proven strategies, like CBT, offer the most promising results. Studies of multi-component programs, including features like community service and parental involvement, find moderate effects. However, the majority of studies, which typically focus on class-based, standalone approaches like information provision, show no effects.

The nine selected studies of school-based programs aimed at preventing substance abuse and gang involvement find no effects. Results from our analysis suggest that programs which commonly involve police officers like D.A.R.E (Drug Abuse Resistance Education) and G.R.E.A.T (Gang Resistance Education and Training) may strengthen the police's role in the community and improve perceptions of police service and quality, but that these programs do not have significant positive effects on crime and violence prevention.

h. Non-custodial Sanctions (Supervision)

(People-based / Offender Rehabilitation)

Parole, probation, and electronic monitoring are often referred to as supervision non-custodial sanctions. Parole is a conditional early release of a prisoner into the community under supervision, probation is a supervised period of time ordered by a court instead of incarceration, and electronic monitoring is a technological device that ensures offenders follow the terms of their sentences. These methods vary slightly, but all aim to supervise the conduct of offenders during their sanction period.

[24] We distinguished school-based anti-violence programs from interventions aimed at preventing specific behaviors, such as drug abuse and gang involvement.

Selected studies show that while probation programs are only marginally more effective than incarceration in reducing recidivism, neither parole nor electronic monitoring produce any significant effect. When there is significant impact, the populations under study are so narrowly selected that it may be too soon to generalize results broadly (Di Tella and Schargrodsky, 2013). For parole programs, it is interesting that they seem to be more effective for medium-risk offenders than for lower-risk individuals (Lulham et al., 2009).

It is unclear why this approach does not seem to be more effective than imprisonment, since it should provide offenders with opportunities to participate in rehabilitative services and to engage in pro-social experiences in the community instead of being confined in jail. Additional research is necessary to understand what the limiting factors may be.

3.4 Interventions with Evidence of Ineffectiveness

a. Hospital-based Prevention Programs

(People-based / Tertiary Prevention)

Hospital-based violence prevention programs target individuals at trauma centers and hospitals recovering from injuries inflicted by violent acts. This tertiary prevention strategy targets repeat victims and perpetrators of violence.

The only existing systematic review of hospital-based prevention interventions reports particularly limited effects of such programs (Mikhail and Nemeth, 2016). Of the ten studies the authors review, only two report a significant decrease in re-arrest rates among participants.

Results from our analysis of four RCTs also indicate that brief, in-hospital interventions are ineffective at reducing crime (Zun et al., 2006; Walton et al., 2010; Aboutanos et al.*, 2011) or violence (Walton et al., 2010). Only Cooper et al.* (2006), who study a lengthier case management and follow-up intervention, find evidence of a decrease in violent crime arrests and convictions.

While hospital-based prevention programs are among the best targeted interventions for violence prevention—as they select individuals clearly involved in violent behavior at crucial moments—they do not consistently yield positive results. These findings suggest that, following the risk principle of offender treatment previously introduced, brief interventions are not sufficient to generate behavior change among offenders with such profile risk. Nonetheless, leveraging trauma centers to identify at-risk individuals offers a promising approach for channeling them towards appropriate programs and services.

b. Boot Camps

(People-based / Offender Rehabilitation)

In this context, boot camps are short-term juvenile shock incarceration programs that resemble military basic training. These interventions, which target youth offenders, include military drills and exercises, daily physical training, group counseling, substance abuse treatment, school classes, and unit-maintenance routines.

Two systematic reviews on boot camps (Mackenzie et al., 2001; Wilson et al., 2005) report that they fail to produce positive effects in reducing offender recidivism. Results from selected RCTs (Bottcher and Ezell, 2005; MacKenzie et el., 2007; Millenky, 2011) and quasi-experimental studies (Jones and Ross, 1997; Stinchcomb and Terry, 2001; Trulson et al., 2001; Kempinen and Kurlychek, 2003; Wells et al. 2006) support this conclusion, demonstrating that boot camps generally fail to change recidivism patterns of treated young offenders. While boot camps place youth in militaristic settings that focus on providing offenders with structure and discipline, they fail to properly identify and treat risk factors.

c. Scared Straight

(People-based / Offender Rehabilitation)

Scared straight is a deterrence-oriented intervention that brings at-risk youth or juvenile offenders on organized visits to prison facilities. Through direct exposure to prison life and interaction with adult inmates, these programs aim to deter youth from engaging in future criminal activities.

In the most recent review on the topic, Petrosino et al.° (2013) analyze results from nine studies that took place over a 25-year period, between 1967 and 1983.[25] They find strong evidence of the ineffectiveness of scared straight programs in reducing future criminal behavior—in some cases they even find that these programs increase crime and delinquency among participants. Petrosino et al.° (2013) note that evaluations of this intervention lack the necessary empirical tools to understand why the programs had negative effects.

d. Juvenile Curfews

(Behavior-based / Primary Prevention)

Juvenile curfews aim to increase public safety by imposing restrictions on youth below a specific age, often requiring them to be home between certain nighttime hours, with the intent of limiting their engagement in night-life activities in a specified geographic area (usually city- or county-wide).

[25] We did not include in our analysis any of these individual scared straight or other 'juvenile awareness' studies because all relevant research on the topic lies outside our time period of reference for eligible studies (1997-2017). Petrosino et al.'s (2013) review was the only review included on this topic.

Evidence from systematic reviews (Adams° 2003 and Wilson et al. 2016) strongly suggests that juvenile curfews are ineffective at reducing crime and victimization. Similarly, our analysis on the effects of juvenile curfews suggests these interventions fail to accomplish their goal of reducing youth offending.[26] Curfews also have non-significant effects on youth victimization, both serious, including rates of juvenile homicide (McDowall et al.*, 2000), and minor (Roman and Moore*, 2003).

Study design and evidence quality limit our ability to uncover the causes and mechanisms explaining these results. However, based on existing literature and theoretical assumptions, we can draw tentative explanations for their ineffectiveness:

- Most juvenile offenses concentrate around school and after school hours, suggesting that curfews are inappropriately timed to have optimal impacts on youth violence (Wilson et al.*, 2016).
- Parents play an important role in the enforcement of curfews over and above that of police. High-risk youth tend to have weaker family structures that fail to enforce curfews or provide safe places, in turn diminishing their effectiveness (Kline*, 2011).
- Most criminal activity uncovered by curfew enforcement activities consists of minor offenses or curfew-related infractions (Adams*, 2003). Thus, although focused police enforcement during curfew hours may result in higher rates of reported juvenile offending, these findings may mask the possible positive impacts of these interventions in those studies that do not distinguish between curfew infractions and other offenses (Roman and Moore*, 2003).

e. Drug Law Enforcement
(Behavior-based / Suppression)

Drug law enforcement practices are policing strategies that aim to reduce or prevent illicit drug use, drug dealing, and associated problems at drug-dealing locations and drug markets.

Two systematic reviews examine the effectiveness of drug law enforcement from both traditional and problem-oriented policing perspectives. Mazerolle et al. (2006) find that, in general, both traditional and problem-oriented interventions have limited impact, although problem-oriented strategies tend to be slightly more effective. By comparison, Werb et al. (2011) find that traditional drug law enforcement practices increased violent, non-drug-related crime in targeted areas by destabilizing drug markets.

[26] Our analysis includes the four most methodologically rigorous studies on this subject (McDowall et al.*, 2000; Cole*, 2003; Roman and Moore*, 2003; Kline*, 2011), as indicated in Wilson et al., 2016. All use interrupted time series design and include sufficient data points and length to prevent most threats to internal validity.

Our analysis of six studies supports the assessment that traditional drug law enforcement is ineffective for reducing crime and violence and may instead make matters worse. These negative results could be attributed to different explanations:

- Drug markets may have geographic specificity, such that implementing crackdowns and raids may disturb systemic factors—e.g. displacing dealers and leading to increases in territorial disputes—that, in turn, may limit the effectiveness of these policies by creating more competition and violence (Resignato*, 2000).
- While for other types of crime (such as burglary) there are minimal replacement effects, the effects of police raids targeted at drug dealers may be weakened because other dealers fill the market.
- Increases in drug-related arrests and police resource allocation may inadvertently promote other types of crime by reducing the relative risk of arrest for those activities (Benson et al.*, 1998; Benson et al.*, 2001; Shepard and Blackley*, 2005).

However, evidence from two selected studies on problem-oriented drug law enforcement (Eck and Wartell, 1998; Mazerolle et al., 2000) reveals that location-specific programs involving cooperative partnerships between police and third parties may reduce drug crime. However, these programs had no effect on reducing other types of crime.

f. Gun Buyback Programs

(Behavior-based / Primary Prevention)

Gun buyback programs repurchase and destroy surrendered firearms and, in turn, should reduce the number of firearm-related crimes and deaths by limiting the number of privately owned guns. Repurchasing is, in most cases, done by local police and allows civilians to sell their guns to the government without repercussion.

The two selected studies analyzing the effects of gun buyback programs in Australia and Argentina (Baker and McPhedran*, 2007; Ronconi and Lewis*, 2011;) find the intervention ineffective, supporting previous systematic reviews on the subject (Makarios and Pratt, 2012). More specifically, the two programs had no impact on gun homicides and gun-related crimes.

Authors of these studies attribute the failure of these programs to their inability to target and acquire illegal, stolen, and unregistered guns possessed by criminally active people. As such, these programs failed to drastically reduce the supply of firearms and limit their accessibility.

4. Contextualizing Our Findings for Mexico

This section considers how the interventions identified in our review might be best applied and adapted to the Mexican context.

To preface this section, it is important to note that the crime and violence situation in Mexico is unique. As previously presented, it is impossible to completely disentangle community violence from violence caused by organized crime, as drug cartels typically recruit from communities in the urban peripheries. Therefore, it is necessary to address both types of violence, as reducing community violence could also have an impact on minimizing opportunities for recruitment.

Due to high levels of exposure to both forms of violence at an early age, many youths in Mexico have learned to normalize, even trivialize violence. This, coupled with rampant drug consumption, weak family and community ties, high youth unemployment, and high rates of school drop-out, results in many at-risk youth spending a majority of their free time on the streets where gangs often serve as role models and offer an attractive opportunity for economic stability. Therefore, it is difficult to draw a clear line between community and gang violence—especially for youth violence and crime, the focus of this paper—since they permeate so much of the Mexican territory and communities.

Despite the high presence of violence related to organized crime, the share of homicides and crimes attributable to community violence is high and, often, undercounted. In this sense, efforts aimed at reducing community violence in Mexico are highly relevant and should be designed to complement other organized-crime reduction strategies at the national level, often requiring longer-term institutional reform and more traditional law enforcement action. It is important to note that limiting our analysis only to community violence interventions does leave out other dimensions that are relevant to tackling violence in Mexico more broadly. In Section 4.3 we nevertheless discuss efforts that law enforcement and the justice system are currently undertaking directly related to community violence and suggest ways in which these efforts should be improved.

This section is organized as follows: in Section 4.1 we analyze the relevance of those interventions that have strong or modest evidence of effectiveness for the Mexican context. For each of these interventions, we describe whether these programs are already being implemented in Mexico and in what capacity, followed by an analysis of limitations found in the context for adopting them.

Furthermore, we highlight areas of opportunity for further adaptation, testing, and scaling of those approaches, if applicable. In Section 4.2 we present an analysis of interventions that are widely practiced in Mexico, despite lacking a strong evidence base. After describing the state of these interventions in Mexico, we highlight potential opportunities to improve programs and strategies based on literature findings or suggest cases where interventions should be the subject of review. Finally, in Section 4.3 we present an analysis of local challenges without clear solutions and opportunities for innovation. The interventions analyzed in this last section are related to institutional design, specifically, the justice system and police reform.

4.1 What Works or Seems Promising: Relevance for Mexico

4.1.1 Interventions with Strong Evidence of Effectiveness

a. Focused Deterrence

Focused deterrence, also known as "pulling levers" policing, is an innovative intervention developed through a strong partnership between police, prosecutors, communities, and services providers. This policing strategy builds on the principles of problem-oriented policing, an approach that shifts the primarily reactive role of the police towards a proactive model in which they aim to identify underlying problems that could be targeted to alleviate crime and violence at their roots. Officials from various agencies—including police, social service providers, and community leaders—design targeted responses aimed at curbing crime among pre-identified high-risk, repeat offenders. The strategy involves directly communicating to chronic offenders a variety of both sanctions and rewards ("pulling levers") designed to provide clear incentives for not engaging in further criminal activity. Currently, no focused deterrence strategies are being implemented in Mexico, although there are ongoing exploratory conversations.

Limitations in Mexico:

- There is a lack of high-quality intelligence on high-risk offenders, as well as the data systems needed to identify them.
- Widespread impunity, a result of weaknesses in the judicial system, makes it difficult to generate the credible threat required to "pull levers": threats and sanctions are not credible and would not be implemented as swiftly as the intervention demands.[27]
- In addition to deterrence, these interventions offer services to offenders to aid in the desistance process (Crandall and Wong, 2012), such as health, mental health, housing, drug treatment, education, and employment services free of charge (Papachristos and Kirk 2015). A lack of such services could significantly impair implementation of the intervention.

[27] In 2016, it was estimated according to the Global Impunity Index Mexico (Le Clercq and Rodríguez, 2018) that only 7 out of every 100 crimes were reported. Furthermore, only 11 percent of the crimes that were reported were investigated and less than 4 percent of those crimes resulted in convictions.

- There is a significant lack of coordination between police forces, prosecutors, and social service providers.
- Poor perceptions of police legitimacy and procedural fairness impair the ability of law enforcement to credibly interact and communicate with offenders and the community.[28]

Areas of opportunity: Despite institutional barriers that reduce the feasibility of implementing a focused deterrence strategy in Mexico, there are potential areas of opportunity. As this intervention is highly localized and does not require in-depth reform of the whole police body, in places where there is already strong police leadership there is an opportunity to develop local models that could later be replicated elsewhere. Nevertheless, widespread impunity and lack of capacity could remain a problem for replication.

There are two immediate opportunities to pilot this approach in Mexico:

1. Successful focused deterrence efforts begin with an extensive problem analysis, which can yield important insights into how best to adapt the intervention to local contexts. Such analysis will be especially important here and therefore sufficient time, staffing, and resources should be allocated towards this exercise.
2. Test whether this strategy could work when the police pulls the levers, not necessarily in coordination with the prosecutors given the above reasons. While not impossible, it would be challenging to find the type of coordination needed between both institutions and to reduce impunity in a focused manner. Therefore, innovation is required in terms of exploring other levers that the police could potentially pull.[29]
3. Finally, special agreements would have to be made at the executive branch of local government in regard to having social services being provided with quality to offenders.

b. Cognitive Behavioral Therapy (CBT)

Cognitive behavioral therapy (CBT) is an approach to helping people evaluate and modify the way they think and make decisions, as well as to adapt unhelpful thinking and self-destructive behaviors. Of the interventions we have identified as promising violence reduction strategies, CBT is the only one that has been widely implemented in Mexico and its use is growing. Some of these programs follow the core principles of psychological literature on the mechanisms of cognitive behavioral therapy, but there is also a wide range of programs that incorporate components of CBT without fully following the underlying theory of change.

[28] According to the latest National Victimization Survey (ENVIPE, 2017), 51 percent of Mexican respondents trust the municipal police and 68 percent believe that the municipal police is corrupt. Also, 76% of the imprisoned juvenile offenders answered that they were beaten or tortured by the police when they were detained and 45% considered that their sentence was unfair (Azaola, 2015).

[29] We are thankful to Rodrigo Canales (Yale University) for this insight.

For instance, programs are replicated for different type of beneficiaries without adapting the curriculum to underlying risk factors (i.e. the same program is used for out-of-school youth as for in in-school youth), facilitators are not properly trained or selected, and in many cases, there are no supervision protocols.

Limitations in Mexico:

- Many program implementers still have an incomplete understanding of the mechanisms at work, making it difficult to optimally design and structure appropriate curricula and approaches. For instance, program curricula are not always adequately adapted to local culture, the age of beneficiaries, or criminogenic risks of offenders.
- There is commonly a lack of training, monitoring, and supervision protocols for those delivering CBT programs, threatening the effectiveness of interventions. One of the key elements of effectiveness of CBT-inspired programs is the facilitators' ability to connect with youth, and there is often either a limited pool of trained counselors or an inability to meet their salary requirements.
- In general, there is limited knowledge on how to work with higher-risk populations, such as those involved with organized crime or violent gangs.

Areas of opportunity: Existing programs in Mexico are piloting different approaches and preparing to rigorously test the impact of CBT-inspired interventions with new populations—including out-of-school, high-risk youth and high-risk youth serving non-custodial sanctions—as well as through new delivery mechanisms—such as working with schoolteachers to deliver components of CBT. These programs may shed some light on the impact of CBT for these specific populations. It is encouraging that in Mexico there are ongoing innovations regarding the incorporation of lay counselors as facilitators of CBT.[30] When thinking about scalable models, lay counselors may thus offer an attractive solution. However, without proper training in therapy delivery and managing group dynamics, as well as timely supervision and feedback, the effectiveness of delivery is threatened. Investment is needed for recruiting, screening, training, and supervising counselors, which often is not taken into consideration when drafting program budgets.

There are important research questions that pilots should aim to answer in order to identify the most promising designs:

- Test pairing CBT-inspired curricula with complementary interventions, to understand whether they are synergistic, support long-run change, and are incentive-compatible, such as economic assistance programs (e.g. jobs training and placement, skills development, financial literacy training, cash support), individualized counseling, or alternate approaches (e.g. mindfulness, multi-systemic therapy).

[30] Observatorio de Desarrollo Regional y Promoción Social, A.C (ODP) is running a CBT program for out-of-school high-risk youth in Escobedo, Nuevo León.

A key area of opportunity seems to be pairing CBT with other forms of violence prevention (such as employment programs) to give them an additional clinical element.

- Further explore how to change or adapt CBT-inspired programs for a more criminally engaged and very high-risk population. Build on innovative programing and evaluation happening in other contexts, such as the University of Chicago Crime Lab's READI program (see Box 2).
- Further explore how to change or adapt CBT-inspired programs for active gang members or youth at risk of joining gangs. A remaining challenge for CBT-style programming is engaging at-risk youth outside of institutional settings. Furthermore, an inherent struggle of any social policy intervention is that those who are most likely to benefit from services are those least likely to engage. In Mexico, juvenile crime typically happens in groups, with adolescents facing immense peer pressure. Again, innovative work happening in Chicago, including the Choose to Change program, may shed some light on the paths for vanguard work (see Box 2).
- Test different intensities and lengths of treatment, including the provision of "booster sessions," to find cost-effective ways of maximizing longer-term impacts. Test strategies for recruiting targeted youth that might optimize uptake.
- Develop intervention designs that would allow us to test underlying mechanisms, and to better understand which approaches are more effective in the Mexican context.[31]

Box 2: CBT-inspired programs from Chicago

The Rapid Employment and Development Initiative (READI) is a program run by Heartland Alliance that connects people most at risk of involvement in gun violence with employment opportunities in paid transitional jobs, cognitive behavioral therapy, and supportive services to help create a viable path for a different future. In so doing, the program aims to reduce violence in the most impacted neighborhoods. In order to identify participants the program relies on the expertise of community-based practitioners and partners in the criminal justice system. In addition, the program uses predictive analytics to refer high-risk individuals in order to connect with outreach workers to offer them social services and employment.[32]

The Choose to Change (C2C) program is delivered through a partnership between Children's Home and Aid and Youth Advocate Programs to provide an innovative community-based approach that combines trauma-informed CBT with holistic mentorship and advocacy. Through community partner referrals, C2C engages youth at risk of violence involvement including those already involved in the juvenile justice system or chronically disengaged from school. The model is strength-based in which advocates spend significant amounts of time with youth and their families in prosocial activities, helping meet basic necessities while also providing motivation and direction on long-term goals. Through almost daily interactions with youth, advocates help reinforce the trauma-informed CBT skills youth learn in weekly sessions.[33]

[31] We are thankful to Rebecca Hinze-Pifer and Laura Chioda, who developed a presentation on directions for future research on CBT for a workshop co-organized by USAID and JPAL in November 2017, from which this analysis is drawn.

[32] For more information see: https://www.heartlandalliance.org/readi-chicago/ and https://www.nytimes.com/2018/05/15/opinion/want-to-quit-the-gang-life-try-this-job-on.html

[33] For more information see: https://urbanlabs.uchicago.edu/projects/choose-to-change

c. Multidimensional Juvenile Therapy

Multidimensional interventions aim to prevent juvenile criminal activity by: closely monitoring adolescent offenders' activities inside and outside of school; addressing violent behavior through pro-social skills development; training caregivers and parents on behavior management techniques, such as rewards or sanctions; and, often, offering substance abuse treatment.

Programs implemented thus far in Mexico cannot be classified as multidimensional—they generally fail to take the holistic, multi-actor approach that characterizes those programs evaluated elsewhere. Evaluated programs from other contexts address a wide range of personal, family, social, educational, and health risk factors and look to strengthen protective factors to mitigate difficulties by targeting well-identified risks, such as school attendance, poor anger management, or poor problem solving. They rely on professional social workers, specialized therapists, or probation officers to deliver treatment (Butler et al. 2011).

Limitations in Mexico:

- The fragile family structure of at-risk youth poses a particular challenge for this type of intervention. Organizations are usually unable to incorporate family members into the treatment.[34]
- Furthermore, Mexico lacks foster care services or other support services for adolescents without family ties. The National System for Integral Family Development (DIF) does not provide services for minors in conflict with the law.
- There is a lack of inter-agency coordination necessary for improving services in conjunction with service providers outside of the judicial system.
- Because of the limitations of state-provided services, service providers offering this type of intervention are usually from the private sector or NGOs, which often have limited capacity to deliver effective programs. There are, nevertheless, some exceptional NGOs and organizations from local trusts that are developing programs with great potential. These models are increasingly serving more beneficiaries and are working in collaboration with the State to treat sentenced youth. It is crucial to mention that these programs are very costly, which might prohibit their adoption in the public sector.

Areas of opportunity: Investing in and testing therapy models that can overcome weak family structures, either including other institutions (such as schools) or by developing new protection systems (such as peer groups), is of the highest relevance and should be a priority for the youth crime and violence prevention agenda.

[34] The majority of youth who are perpetrators of violence have been victims of abuse, domestic violence, or sexual violence at home. According to Azaola (2015), 47% of the youth who have been subject to a judicial process after having committed criminal law infractions left home in order to escape domestic violence. Of these adolescents, 41 percent suffered from abuse in their childhood and 21 percent indicated that someone in their nuclear family consumed drugs. At the same time, phenomena such as migration, long working hours and the increased homicide rate led to family disintegration and increased the number of single-parent households. Finally, given the lack of financial resources, parents often have to leave their kids unattended and without supervision, which increases the probability that they engage on risky behaviors.

Considering that most high-risk youth will likely reoffend and face the same risk factors that led them to initially engage in crime, this approach may be particularly helpful in the Mexican context. However, it should be noted that these interventions are very expensive and challenging to implement. As the most robust programs are coming out from the private or NGO sector, a priority should be finding ways to strengthen these programs and test them rigorously in order to then transfer capabilities to the State. Working with populations in conflict with the law exhibits further challenges due to the lack of data, which we discuss further in Section 4.3.1.

d. Drug Courts and Drug Treatment

Drug courts and drug treatments target drug-involved individuals and offenders and provide them with different services to resolve their substance abuse problems. In Mexico, the 2008 Criminal Reform and the 2016 National Juvenile Justice System Law established a legal framework for implementing drug courts programs. Implementation efforts to date have been relatively limited at the local level, with only few examples, such as the Therapeutic Justice Court in the State of Nuevo León. The program began in 2009 in one municipality of Nuevo León based on the principles of therapeutic justice, guaranteeing that accused addicts who obtain their freedom through the suspension of the trial process undergo a rehabilitation treatment under judicial supervision. It was the first Justice Court of this type in the entire country and more than a hundred participants have successfully completed the treatment. Due to the success of this model, it expanded to other states and municipalities of Nuevo León and the model was transferred to the juvenile system. Furthermore, in 2009 the federal government approved a drug policy reform "*Ley de Narcomenudeo*" that partially decriminalized possession of small, specified amounts of cocaine, heroin, marijuana, opium, LSD, MDA, MDMA, and methamphetamines. The reform mandated pre-arrest diversion towards addiction treatment for individuals who are found in possession of these drugs in quantities below the listed maximum amount for immediate and personal consumption.

<u>Limitations in Mexico:</u>

- Substance abuse is viewed primarily from a punitive perspective, rather than as a public health problem. Therefore, the judicial system bears primary responsibility for dealing with youth facing drug abuse problems. The 2009 reform did not specify how the scale-up of the addiction treatment sector was to be operationalized and a lack of institutional expertise has hampered the implementation of this reform (Werb et al., 2015). Furthermore, the reform did not provide a legal avenue for people to access the drugs that they are allowed to possess. Thus, drug-related arrests are still routinely carried out throughout the country.

- Other state agencies have limited capacity to offer specialized services. In particular, we found no examples of gender-responsive treatment designed to address specific patterns of recidivism and drug use associated with female offenders—a strategy which has shown promising results in other contexts.

Areas of opportunity: In recent years, drug use in Mexico has increased overall, including among younger children, and has shifted towards more addictive and harmful drugs. Given the widespread nature of drug abuse, drug courts and treatment are highly relevant for the local context and represent an important area of opportunity, particularly in the context of the new National Juvenile Justice System Law (see Section 4.3.1). The Mexican National Survey on Drug, Alcohol and Tobacco Consumption 2016-2107 (ENCODAT), shows that for people between ages 12 and 65, the use of illegal drugs increased from 4.6 percent in 2002 to 7.2 percent in 2011. According to statistics from the Non-Governmental Rehabilitation and Treatment Centers in Mexico, nationwide, the most common reason for entering a rehabilitation center is alcohol abuse (39 percent), with the second-most-common reason being methamphetamine use (23 percent). Notably, in the northern region, methamphetamine addiction accounts for half of the population in rehabilitation centers. Drug use is problematic not only because most crimes are either committed under the influence of drugs or in order to achieve the means to buy drugs, but also because consumption is an antisocial behavior that weakens social and community bonds.

This area is ripe for exploration and research and to find more effective models that can work well in institutionally weaker contexts. Drug courts and treatments can bolster existing drug reforms. However, research suggests there is a lack of institutional expertise to implement reforms—for instance, only 11 percent of Tijuana's police offers reported being aware of the reform two years after its approval (Beletsky et al., 2016). Training and education programs for police officers, judges, public health officials, and other relevant stakeholders are likely to improve the correct implementation of existing drug reforms.[35]

Finally, in a context of widespread impunity, drug treatment provides an evidence-informed alternative to incarceration, allowing policymakers to reserve scarce court and prison capacity for the most serious and violent offenses. Even with drug use and addiction on the rise, such issues cause considerably less social harm than the persistently high levels of violent crime facing many regions in the country.

[35]Police training, policy development, treatment scale-up, and other programmatic efforts can improve the likelihood that the passage of *narcomenudeo* and other drug policy innovations in Latin America and elsewhere may translate to public health and criminal justice benefits" (Belestsky et al., 2016).

e. Alcohol Control

To reduce the potentially harmful health and social consequences of excessive alcohol consumption, many countries have adopted legislative regulations on alcohol sales and distribution. In Mexico, these regulations include: restricting the trading hours of off-premise locations, regulating the opening hours of bars and clubs, and setting up sobriety checkpoints. Trade restrictions include the threat of fines, which may lead to the short-term closure of businesses that violate these regulations.

Limitations in Mexico:

- Enforcement of trade restrictions relies on the involvement of municipal inspectors who, in many municipalities, are limited in number.
- While restrictions on alcohol sales are set by the municipality, restrictions on opening hours for bars and clubs are set by the state. Without coordination, the effectiveness of these measures is thus limited.
- Where alcohol regulations have been implemented, they generally do not apply on national or local holidays, which are generally times of widespread alcohol consumption.

Areas of opportunity: There is an opportunity to expand and test the implementation of alcohol restrictions in relevant hot spots at times where crime is more related to alcohol consumption.

f. Hot Spots Policing

Hot spots policing interventions focus resources on small geographical areas, usually in urban settings, with high crime rates. In Mexico, some municipal police are increasingly incorporating a geographical focus into their patrolling operations, but the strategies or activities police perform in those places remain largely undefined. While there are ongoing efforts to direct police operations towards the areas most affected by crime, the level of data and intelligence collected, as well as the strategies contemplated to operate in these areas are far from the standards of hot spots strategies successfully implemented in other countries.

Limitations in Mexico:

- Hot spots policing is less likely to be effective when violence is highly motivated and organized, as with cartel-related competition and violence. It appears to be more effective with less organized violence caused by street crime and interpersonal disputes. The type of violence in different cities needs to be diagnosed before determining whether to implement this intervention.

- This strategy relies on effective crime-mapping as well as a sound understanding of what is driving violence at specific hot spots. However, the majority of police in Mexico may lack the capacity to collect and analyze crime data, perform mapping, and gather and assess intelligence. To drive a more strategic approach to assigning and deploying police officers to hot spots, more work needs to be done to develop fundamental police capabilities to geo-locate criminal activity and spatially analyze crime data.
- As discussed in Section 3.2, there have been few evaluations rigorously assessing the effectiveness of the types of tasks police patrols perform in hot spots. How to maximize the effectiveness of police time in these areas is an important question in Mexico, where police performance is weak at best. Other police reforms may be needed to enable the deployment of more complex strategies in hot spots, such as strategies that rely on targeting potential offenders.

Areas of opportunity: Developing technical capacity among the police to analyze crime data and to incorporate, for example, mapping and monitoring technologies, GPS patrol tracking systems, and machine-learning tools, could yield significant benefits in helping shape more strategic police responses to crime, including more effective hot spots approaches. Innovative pilots that are happening in other contexts could provide guidance on how to shape this work in Mexico. For instance, the Chicago Police Department, in partnership with the Chief of Staff of the Los Angeles Police Department and the University of Chicago Crime Lab, is piloting and evaluating Strategic Decision Support Centers, which seeks to achieve more purposeful, targeted policing to reduce gun violence within districts (see Box 3).

It is important to experiment with different forms of hot spots policing—e.g. routine patrol versus problem-oriented policing—as recent studies have shown that blending hot spots policing with offender-based strategies yields strongly promising results. Furthermore, it may also be useful to combine hot spots policing with other interventions. For example, a recent study has shown that combining extra patrol time with the intensification of other city services (e.g. garbage collection and street lights) may lead to larger crime reductions in targeted areas (Blattman et al. 2018).

Box 3: Strategic Decision Support Centers

Chicago's Strategic Decision Support Centers (SDSCs) combine data and human intelligence to identify priority crime problems, regularly develop and evaluate strategies for focusing police attention, and use technology to enhance officers' ability to respond to crime as rapidly as possible. SDSC are equipped with a suite of technology resources, including gunshot detection sensors, a network of surveillance cameras, and predictive policing software that identifies the blocks where gun violence is most likely to occur.

These resources are used for a real-time monitoring of crime development and gang conflicts, to develop localized reduction strategies and to evaluate these strategies with input from the community. In addition, the SDSC initiative has expanded efforts to improve law enforcement's engagement with the local community—designing programming for youth to engage with officers in a non-enforcement capacity, conducting trainings on using Chicago Police Department tools to report tips and community concerns, leading community policing training for officers, and working with the community to co-produce community policing strategies.[36]

4.1.2 Interventions with Modest Evidence of Effectiveness

This section reviews those interventions for which we have modest evidence of effectiveness. Restorative justice and non-custodial sanctions are discussed in Section 4.3.1. Due to local challenges, these interventions have not been widely implemented in Mexico as described in the literature.

a. Vocational Training and Employment

Providing youth with marketable career skills, through employment and vocational training programs, may help them succeed in the job market and reduce their potential involvement in criminal activities. Nevertheless, it should be considered that providing employment and vocational training opportunities cannot be the only pillar of a crime reduction strategy, in part because criminal behavior and recidivism do not always respond to income or employment opportunities

The quality of vocational programing for high-risk youth in Mexico is quite broad and, unfortunately, few interventions have been rigorously evaluated. Programs are increasingly incorporating elements identified in the literature as promising for effectiveness, as highlighted in Section 3.2. For example, there are well-structured programs that provide training opportunities matched to local job demand, informed by market research and collaboration with local employers. The most advanced strategies not only identify where open positions exist but also research which particular set of skills are required to secure those jobs. Furthermore, promising programs have begun to incorporate soft skills development and psychosocial health services.

Limitations in Mexico:

- Even the most promising programs report that changing employers' prejudice and stigma towards at-risk youth is difficult.

[36] For more info see: https://urbanlabs.uchicago.edu/projects/strategic-decision-support-centers

- A common challenge for implementing organizations is that employers are more willing to offer unpaid internships and practice periods than paid jobs.
- When organizations fail to base the provided training on local labor market research, the training provided may be disconnected from labor market needs and fail to provide the skills needed to achieve financial security.
- The lack of a clear beneficiary profile and related recruitment strategy prevents organizations from reaching the target population.

Areas of opportunity: There is a clear need to increase coordination with the private sector in order to provide more opportunities for on-the-job training and secure employment opportunities for high-risk youth. One promising strategy may be to work with the private sector to develop targeted training programs that provide certifications to participants. Another would be to draw on the expertise of technical schools who are capable of providing high-quality training on skills needed in local markets. Nevertheless, more research is needed on how such programs might support the rehabilitation of higher risk individuals, such as violent offenders. In particular, it is essential to keep in mind the caveat mentioned above: providing employment and vocational training opportunities cannot be the only pillar of a crime reduction strategy because criminal behavior and recidivism do not always respond to income or employment opportunities. Thus, another key area of opportunity for piloting and research is to study the complementarities between interventions. For instance, vocational training might lead to greater crime reduction effects when combined with CBT-inspired programs.

b. Conditional Cash Transfers

Conditional cash transfers are safety net programs in which poor households receive government payments (cash transfers) upon fulfillment of schooling or health clinic attendance, among other requirements. In Mexico, CCT is fully institutionalized and serves approximately six million families. In 2014 *Prospera*, México's CCT program, was launched after its predecessors *Oportunidades* and *Progresa*, which were introduced in 2002 and 1997 respectively. Once families have been accepted to the program, they must comply with education (attending school on a regular basis) and healthcare-related (attending appointments and planned workshops) actions. Every two months, compliance is checked.

There are two primary mechanisms through which CCTs could influence offending:

1. Incapacitation effect: Since adolescents are required to attend school, they could become "incapacitated" to commit crimes because they do not have free time.
2. Income effect: The transfer may reduce the family's financial needs and thus the need to commit small property crimes, and the extra income could give parents more time to monitor their children.

Limitations in Mexico:

- *Prospera* is not specifically designed to reduce violence and thus the design of the program does not consider its potential effects on violence outcomes.

Areas of opportunity: Given the solid foundation of the CCT program in Mexico and its capacity to identify at-risk individuals (the *Prospera* program has arguably the best database of beneficiaries in the country), there is an important opportunity to pilot complementary approaches to CCT, such as vocational trainings, employment programs, entrepreneur support, and CBT interventions, and to further study their effects on crime prevention.

4.2 Interventions Adopted in Mexico without a Strong Evidence Base

This section reviews those interventions for which we have only either inconclusive or contested evidence of effectiveness, but which have nevertheless been widely adopted in Mexico.[37]

a. Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) interventions seek to prevent situational crime by changing the physical design of the urbanized built environment. Although there is no evidence of their effectiveness, CPTED interventions focused on creating or rehabilitating public spaces and on improving public services, from street lighting to garbage collection, have been widely adopted in Mexico. Furthermore, local governments have installed security cameras in the busiest and most dangerous areas and have incorporated privately owned cameras into their surveillance strategies.

Limitations in Mexico:

- There are few ongoing and sustainable processes to communicate communities' needs to local authorities and law enforcement, which may hinder the efficacy of CPTED interventions in the long run.
- Some CPTED programs focus solely on improving circumscribed public spaces without understanding that these actions are not sufficient to tackle the risks and vulnerabilities of treatment areas and communities.

Areas of opportunity: We know from existing research that CPTED programs that focus solely on improving public spaces do not sufficiently tackle the risks and vulnerabilities of treatment areas that may lead to crime.

[37] We do not discuss interventions with inconclusive or contested evidence of effectiveness that are not widely implemented in Mexico; i.e, community policing, gang outreach (streetworkers) programs, or mentoring mentoring (community policing is discussed in Section 4.3.2 Police in Mexico). Nor do we discuss interventions with strong or moderate evidence of ineffectiveness. The reader should not consider these as policy options for the reasons described in the evidence section.

Those interventions that leverage CPTED elements to build stronger communities through the development and empowerment of social leadership show more promising results. To improve existing programs, more processes should be put in place that allow communities to communicate their needs to local authorities and law enforcement. The involvement of government agencies would help sustain short-term improvements over the long-term. In addition, there is an area of opportunity to study whether CPTED could have stronger effects if targeted to hot spots or involving more at-risk populations.

b. Community-based Programs

Community-based violence prevention programs incorporate members of the general population into local crime and violence prevention activities and engage them in a collective response. In Mexico, there are a wide range of violence prevention programs, mainly implemented by NGOs and municipal authorities, that work at the community level.

Limitations in Mexico: Very few of these interventions match the quality of those evaluated in the literature. Most local programs focus on workshop activities (e.g. cultural, artistic, musical, athletic) either in public spaces or in community centers. These interventions share several design and implementation limitations:

- They almost always lack a diagnosis of local community needs, risks, and opportunities;
- They do not follow a targeting strategy for identifying key beneficiaries; and
- They do not use specialized facilitators to run their program components.

Overall, local community-based prevention programs usually turn into one-time, isolated interventions that do not produce the desired changes in individuals or the community at large.

These types of activities are quite common at the local level for two reasons. First, the previous federal administration put in place a federal crime prevention strategy that provides funding to municipalities to implement crime prevention actions focused on high priority, geographically defined areas called “polygons”. While this strategy included a National Survey (ECOPRED) aimed at identifying the main risk factors in these geographic spaces, the information collected was not sufficiently disaggregated and communities rarely performed self-assessments, so it is unclear whether funds actually reached the intended populations. This strategy was poorly operationalized, creating incentives to disperse funding widely in order to reach as many beneficiaries and target as many risk factors as possible. As a result, the strategy was never integrated with law enforcement programs.

Furthermore, Mexican municipalities, which exhibit wide variation in terms of capacity, have three-year terms.

These short terms induce municipal councils to pursue programs that will yield quick results and reach a large number of beneficiaries, thus undermining the possibility of institutionalizing processes with longer-term visions. This limitation extends to private organizations and NGOs that receive public funds. In most cases, public funding is directed to one-year programs but, due to bureaucratic processes, these often end up being implemented in even shorter periods of time (from three to six months).

Areas of opportunity: Policy should take a more strategic approach to funding disbursement that better targets proven interventions, decreasing resources allocated to community-based programs as they are currently being implemented in Mexico. Current community-based programs should focus on developing concrete targeting strategies based on prior diagnoses of local community needs and on recruiting and training specialized facilitators for each program component. Furthermore, existing programs should narrow the range of activities and components offered, and instead concentrate resources on the most effective and tangible aspects of their projects.

c. School-based Programs

School-based violence prevention programs aim to deter school-aged youth from engaging in crime and violence. In Mexico, there are two main types of school-based anti-violence programs: general prevention programs (usually led by NGOs) and afterschool programs. In Mexico, the most common school-based programs are those that aim to prevent specific behaviors, such as drug abuse, through the involvement of the police. The D.A.R.E program is widely implemented following the standardized U.S. model and curriculum. Consistent with findings from the literature, anecdotal evidence suggests the involvement of police officers in these programs improves attitudes and perceptions of youth towards law enforcement, but its impact on violence is unproven.

Limitations in Mexico: School-based violence prevention programs resemble those interventions that have been shown ineffective in other parts of the world, as described in Section 3.3.

- While multi-component programs, which include features like community service and parental involvement, have shown moderate effects, these elements are absent in most Mexican programs.
- An important challenge identified by NGOs working in Mexican schools is that, although they are able to identify at-risk students, they are unable to channel them towards more specialized interventions, given the lack of services offered by the state.
- The D.A.R.E program is perceived as highly effective and endorsed by several trusts and police forces. Despite strong evidence of the ineffectiveness of this program, there is general belief amongst implementers in Mexico that D.A.R.E. can be improved.

As such, organizations are experimenting with their designs. These new models should be rigorously evaluated to see if, in fact, D.A.R.E. programs could achieve better results in Mexico. If not, alternatives should be considered, as there is an important opportunity cost to resources being assigned to this approach.

Areas of Opportunity: As stated above, comprehensive, integrated approaches to prevention and interventions that pair school-based programs with other proven strategies, like CBT, offer more promise and should be furthered studied. Moreover, additional research is necessary to assess the benefits of after-school programs. It is possible that by occupying youth with activities and by giving them a space to spend their free time, these programs could address the particular weak family structures that youth face in Mexico, keep them off the streets, and provide them with tools to face the risk factors to which they are subject on a daily basis.

Finally, it is crucial to highlight that the interventions discussed in this section are related to programmatic interventions being implemented at schools with the intention of preventing youth violence. While the evidence on existing approaches is not strong, keeping children and youth in school and providing them with quality education should be a first order priority for the Government of Mexico and the society as a whole. Although scarce, there is some evidence to suggest that higher school quality has positive effects on crime prevention (Deming, 2011).

4.3 Local Challenges without Clear Solutions-Opportunities for Innovation

In this section, we present an analysis of local crime and violence challenges without clear solutions and suggest opportunities for innovation. The interventions analyzed here are related to institutional design—specifically focusing on the justice system and police reform. For each of these topics we present a description of the problem in Mexico, followed by an analysis of the existing literature that speaks to the topic. As highlighted at the very beginning of this document in the limitations section, we recognize that evaluating institutions or systems is a much more complicated exercise because establishing causality may be difficult. A broader literature search on these topics escapes the scope of this paper. However, although scarce, we analyze relevant existing evidence that meets our criteria. Finally, we analyze ongoing innovations related to these topics, in order to highlight promising areas for policy and research moving forward.

4.3.1 The Justice System

The Problem

One of the main problems affecting crime prevention efforts in Mexico is widespread impunity, which is partly caused by the inability of the judicial system to properly penalize

and deter criminal behavior. According to the Global Impunity Index 2018, Mexico has the highest levels of impunity in Latin America and ranks 66th in terms of impunity out of the 69 countries analyzed (Le Clercq and Rodriguez, 2018)[38]. To illustrate this point, out of all preliminary investigations opened for homicide in 2016, only 17 percent have led to a prison sentence (down from 27.5 percent in the 2016 Index).

There are numerous bottlenecks in Mexico's judicial system that limit its effectiveness:

- Prosecutorial capacity: One of the major drivers of high impunity is the overextension of public prosecutors (Ministerios Públicos). Traditionally, only public prosecutors have had the faculty to receive crime reports, as well as to analyze, investigate, and process criminal cases. Long processing times limit prosecutors' capacity to absorb the immense demand for their services. This limited capacity reduces the quality of investigative work, resulting in a low probability that cases are resolved, thereby discouraging citizens from reporting crimes.
- Incentive structures: Performance indicators for state attorneys are based on the number of cases prosecuted, regardless of the type of crime. This incentivizes prosecutors to pursue the easiest cases, often focusing on more trivial, petty crimes, which could be channeled to non-custodial or alternative sanctions. As a result, the State's criminal prosecution is mainly focused on the lowest links in the criminal chain. This is evidenced by the fact that in 2011 42.9 percent of inmates were convicted for theft, but only 17.3 percent were sentenced for homicide and 5.8 percent for kidnap. Furthermore, the majority of inmates currently in prison are serving sentences of less than three years (García Moreno, 2016).
- Detention periods: Waiting times for sentences can be as long as the sentence itself. Almost half of the detainees in the country (43 percent) have not received a trial and over half of these detainees will be exonerated and released after a lengthy period of detention (Le Clercq and Rodríguez, 2018). Pretrial detention has negative effects on crime since if non-guilty people are still going to be imprisoned for long periods of time while waiting for sentence, there are no incentives to not commit a crime.

The negative effects of these bottlenecks are even more severe for youth. Among this subpopulation, there is even greater uncertainty in judicial processing—in 2014, among the 42,000 juveniles that were accused of crimes involving injuries, robbery, property damages, small-scale drug dealing, and family violence, only 14 percent received sentences, while 31,000 still await trial (CIDAC, 2016). Part of the problem causing this backlog is that public prosecutors tend to prioritize adult cases over juvenile ones. Furthermore, once prosecuted, only 2 percent of courts and tribunals deal exclusively with underage cases. In 2016, legislators reformed the National Juvenile Justice System Law to increase attention on prevention and rehabilitation of young offenders.

[38] Only 69 Member States reported sufficient information to calculate the Global Impunity Index 2017.

While the new law created a framework that guarantees juvenile offenders' rights, avoids labeling young offenders as criminals, and privileges reparation and rehabilitation, it was not accompanied by efforts to improve the judicial system's human capital, technology, and infrastructure, or to develop a clearer definition and delineation of different agencies' roles.

Consequently, the institutional context in which this law came to life has fostered a "revolving doors" phenomenon that has left hundreds of minors without the attention they need. For minor offenses, youth know they will face no consequences and the State is unable to provide any type of rehabilitative services. Meanwhile, for prosecuted cases, judges lack a set of possible services to which they can send sentenced youth offenders—the catalog of options presented in the law remains a meaningless list of potential rehabilitative options. Due to the scarcity of rehabilitation programs and the lack of coordination between the judicial system and service providers, the attention a juvenile receives is mostly dependent on individual judges and their personal motivations to contact service providers.

Box 4: 2016 Reform to the National Juvenile Justice System Law

The 2016 reform standardized the maximum sentences for adolescents (up to five years for those between 16 and 18 years old and three years for those between ages 14 and 16) and specified the list of serious crimes that can be prosecuted under the principles of guardianship of the minors and their rights. The law follows the principle of "minimum intervention," in which incarceration is only used if the juvenile is considered a serious threat to society. Within 36 hours of detention, prosecutors must decide whether to leave the minor free, assign him to alternative measures (e.g. restorative processes and mediation), or prosecute the case. If the case is prosecuted and the minor is found guilty, he or she can be sentenced to custodial measures, reparation, or conditional suspension of the sentence under a catalog of requirements described by the law and for a time not exceeding 12 months (these can include continuing their studies, social service, work, rehabilitation programs, drug treatment, among others). Even if the case is prosecuted, no criminal record is created, there are no provisions regarding recidivism, and minors will not be considered habitual offenders.

What the Evidence Says

It is important to understand the relationship between the judicial system and crime. While a broader literature review related to institutional design extends beyond the scope of this analysis, our search identified few studies that analyze the relationship between the judicial system—particularly in terms of the certainty, severity, and speed of sentences—and crime. In our review, we found that judicial reforms affect crime through the certainty and severity of the deterrence: reforms increasing them yield positive results (Kessler and Levitt, 1999; Drago et al., 2006; Guarin, et al., 2013; Bell et al., 2014), while those reducing them find negative effects on crime (Ibañez et al., 2013). Furthermore, as found in a Brazilian study (Costa et al., 2015) evaluating the deterrence effect of more severe punishment around

the age of criminal responsibility, changing only the severity of punishment will most likely fall short of deterring crime, particularly for violent crimes. For punishment to be credible and exert a clear deterrent effect, the justice system needs to ensure that all three criteria – severity, certainty, celerity – are guaranteed and constantly applied. It is clear though that in Mexico these conditions are far from achievable under the present setting.

Areas for Opportunity:

Alternative measures to incarceration are particularly relevant in this context as they can take some demand off the current system. The justice system's primary focus should be on stopping impunity for violent crime. In this vein, revisiting the literature on restorative justice and non-custodial sanctions is pertinent.

a. Restorative Justice

As stated in Section 3.2, restorative justice is a broad concept that encompasses programs such as victim-offender mediation, family group conferencing, sentencing circles, among others. Some of the key theoretical principles underpinning restorative justice are: repairing harm, engaging stakeholders, and transforming the sentencing role of the community and the government.

In Mexico, following the 2008 Criminal Reform and the 2016 National Juvenile Justice System Law, restorative justice programs have been implemented as part of the judicial system. Local prosecutors are primarily responsible for implementing these strategies. Some innovative local police reforms have also looked for ways to engage police officers and give them a prominent role in the life of the neighborhoods they serve, training them to provide mediation services. Local prosecutors may choose to carry out restorative justice programs as alternative paths to prosecution, in cases where there is a clear identification of the offender and victim. By contrast, police mediation services are designed to help resolve conflicts between citizens.

There is an important opportunity to expand and test these services in order to free up capacity within the judicial system. Nevertheless, there are a number of factors that may limit the effectiveness of these programs, which should be taken into consideration:

- First, while the 2008 Criminal Reform established minimum standards for mediators, this has led to operationalization challenges in ensuring mediators are sufficiently trained. As a result, the number of trained and certified mediators is currently insufficient to meet the demand for these types of restorative justice programs.[39]
- Second, as police and judicial agencies have strong incentives to show increased numbers of arrests, this can inhibit resolution of cases through alternatives to prosecution.

[39]According to the last Justice System Statewide Census, the country has a total of 674 facilitators trained and certified to carry out mediations in a country with 119 million inhabitants (INEGI, 2015).

b. Non-custodial Sanctions

Adopting non-custodial sanctions, including both alternatives to incarceration as well as supervision models, should be important in order to free up scarce judicial system capacity. Alternatives to incarceration encompass all sanctions that direct the offender to engage in some intensive form of community work, diversion, or wraparound services. The literature suggests that these programs have at least the same effect on criminal behavior, if not better, than imprisonment, for three potential reasons:

1. They avoid placing negative labels on individuals, which is highly relevant for first-time young offenders;
2. They reduce social stigma; and
3. They make at-risk youth confront the consequences of their actions through sanctions and/or services to the community.

In Mexico, the opportunity these services represent is enormous. Institutionalizing high quality services may help resolve the "revolving doors" phenomenon that has left thousands of youth without any attention or services.

While the evidence does not yet support the effectiveness of supervision models—which include parole, probation, and electronic monitoring—there is still an important opportunity in Mexico to test and innovate on these approaches. Particularly, as stated in Section 3.3, parole programs seem to be more effective for medium-risk offenders than for lower risk ones (Lulham et al., 2009). Although further research is needed, these interventions should also provide offenders that are 18 years of age or older with opportunities to participate in rehabilitative services and to engage in community-oriented pro-social experiences, rather than being confined to jail. The implementation of these alternatives, undoubtedly, requires greater operationalization capacity than currently exists. However, if successful, this approach could take thousands of young adults out of jail and provide them with better futures.

Box 5: Civil Justice System

Although no rigorous evidence related to the topic exists as of yet, innovative efforts are currently underway in Mexico regarding the implementation of Civil Justice Systems (CJS). The implementation of this system may be promising for violence prevention efforts because it takes weight off the criminal system, even though it can only substitute from the criminal system for minor offenses. It is important to remark that this type of system should, under no circumstances, be used for more serious criminal offenses.

Unlike criminal justice, where a crime has been committed and a criminal penalty is the expected outcome, civil justice is a way for individuals to seek compensation when they have been harmed due to another person's negligence, recklessness, or malpractice.

These systems have the same objective of freeing up judicial system capacity and promoting a culture of legality by providing prompt, transparent, and quick legal solutions to minor offenses and community conflicts that could escalate into violence.

By addressing problems early, the system seeks to prevent further conflicts and overcome the impunity of minor and administrative infractions that otherwise would not be prosecuted by the judicial system. Rather than acting solely as punitive mechanisms, sanctions in this system aim to correct misconduct by requiring participation in treatment programs, community work, or other alternative restorative measures. CJS aspires to make citizens aware of the impacts of their actions, reduce impunity, and, by consequence, build a stronger civic culture. By handling administrative offenses, this system can play an important role in managing juvenile cases and directing youth to rehabilitative services. Interestingly, new models actively strive to create institutional partnerships with local service providers.

Despite its limitation to administrative offenses, CJS provides a promising model for strengthening the three pillars in the deterrence theory of sanctions:

1. It defines consequences for minor offenses that otherwise would not be prosecuted.
2. The system minimizes discretion by adhering to well-established and uniform sanctions, making the sentencing process transparent and establishing an even ground under which all citizens are treated equally.
3. As hearings last between 10-15 minutes, the system shortens processing times.

The leading examples of CJS have been Morelia, a municipality in the western state of Michoacán where the implementation of this system was accompanied by a deep police reform (see Box 5), providing incentives for better performance, and Escobedo, a municipality in the Metropolitan Area of Monterrey, Nuevo Leon. When offenders are transferred to the Civil Court, mechanisms are in place to hold police accountable and ensure that citizens have the opportunity to explain, in their own terms, what happened in front of a judge. The system is meant to include a system of indicators that measure police officers' effectiveness in terms of the number of cases in which the detained subject is found guilty. The system also includes indicators to assess the performance of judges, by collecting information on trial duration, distribution of sanctions, and service quality surveys.

Based on Escobedo and Morelia's experience, the CJS model has gained traction at the national level, which lead to the creation of a national law proposal promoting and regulating this alternative justice system and the funding of the model in thirty municipalities. However, the adoption of the model in these other municipalities is in its first stage and has not been accompanied yet by all the components that seem to have worked. It is crucial to build transparent sources of data that include information on the length of trials and sentences, the number of fines paid, as well as the treatment services provided to offenders. Having these indicators in place will better enable researchers to conduct rigorous studies of what is working and what is not under this approach.

4.3.2 Police in Mexico

The Problem

Since the judicial system is in charge of receiving crime reports, analyzing, investigating, and processing crimes, the police force's work in Mexico is mostly reduced to a purely reactive function. This limited role influences their actions in three ways:

1. The police force's work is not held in high regard. Due to low salaries, limited opportunities for professional growth, and lack of data intelligence work, many police officers find their jobs unrewarding. This in turn affects their motivation to perform well and reduces the appeal of entering the police force for potential new recruits.
2. Second, the inability of the judicial system to swiftly penalize crimes reduces police officers' motivation to pursue criminals and can increase their brutality, including extrajudicial killings, impacting their overall response incentives and ability, and damaging their legitimacy.
3. Since most of the municipal police forces do not produce, own, or analyze official crime reports and cannot perform investigative work, information is not widely used as a tool to shape police strategies and operations. Consequently, the extent to which the police can use intelligence is very limited, and it revolves around emergency calls.

It is also important to note that the overlapping presence of municipal, state, and federal police in a single territory further limits the range of actions each unit can take. This culminates in a police force with limited, reactive operations and unclear, incomplete knowledge of local crime. In this sense, the majority of police operations are limited to patrolling and attending emergency calls. Paradoxically, the police force is usually the main agency through which citizens interact with the state, but its limited role reduces citizens' confidence in law enforcement and the states' capacity for timely and effective responses to crime.

What the Evidence Says

Police reform programs aim at addressing crime problems by restructuring police agencies to render them more efficient and effective. Despite the potential importance and need for such initiatives, there is a lack of rigorous evidence on the effects of police reforms, generally, on crime and violence. There is considerable evidence that crime is responsive to police presence and that increased police visibility potentially deters crimes (Chalfin and McCrary, 2017). However, police agencies in developing countries are often plagued with problems such as inefficiency, corruption, and insular police cultures (Banerjee et al. 2012).

While a broader literature search on police reform goes beyond the scope of this analysis, our work identified three high quality evaluations on the subject—two from Latin America (Brazil and Colombia) and one from India—providing insights on strategies to improve policing and law enforcement in developing countries at an institutional level:

- The Brazilian case suggests that in contexts with two or more independent and autonomous police agencies, reforms and programs aimed at coordinating and integrating those forces, and the information gains produced by doing so, may constitute a first-order factor in creating successful institutional structures to prevent crime (Soares and Vives, 2010).
- Top-down monitoring can ensure program compliance and increase the number of crimes reported, even within traditionally corrupt environments. By contrast, in similar contexts, decreasing the autonomy of middle management is an ineffective strategy (Banerjee et al. 2012).
- Soft skills and problem-solving training can reduce police officers' perceived barriers to communication with the community and increase their sense of accountability towards the population (Banerjee et al., 2012; Garcia et al., 2013). Additionally, targeted training can positively affect the police officers' motivation and sense of belonging to the agency.[40]

While evidence suggests that more police presence is better to deter crime (Chalfin and McCrary, 2017), it is important that future police reform programs increase accountability, and delimits the jurisdiction of the municipal, state, and federal police may be necessary to achieve these ends.

Areas for Opportunity

In recent years, there has been widespread discussion in Mexico of expanding police actions to include prevention strategies, rather than simply reactive approaches. However, in general, these discussions are not yet reflected in everyday operations.

Nevertheless, some municipal police departments are taking important steps towards this objective. These local police reforms vary in terms of depth, scope, and implementation, but are usually perceived as steps towards community and problem-oriented policing, usually known as "Proximity Police" (*Policía de Proximidad*).[41] Current local reforms mainly aim to achieve the following objectives:

- Professionalize human resources and improve motivation: Reform efforts adapt new recruitment processes to attract higher quality candidates with more education and specialization (e.g. criminology, psychology, and statistics) that can contribute to a higher level of intelligence work. Simultaneously, municipal police departments are working to ensure that the profiles of currently employed agents match their assigned duties. To improve motivation among ranks, sense of belonging to the organization, and the value officers assign to their jobs, some of the reform efforts aim to increase salaries, guarantee better conditions for retirement, and establish better job conditions.

[40] It is possible that soft skills training produced better results in the Colombian case compared to the Indian one because it was conducted within a complete revamping of police patrolling protocols.

[41] These models, when implemented correctly, have the potential (as noted in the literature) to change the legitimacy and image of the police in the communities they operate in, although the potential crime prevention effects are limited.

However, Mexico's highly decentralized police structure remains a challenge for the standardization of salaries and police training.

- Improve the use of data and information: Reforms are installing new systems to record and systematize geo-referenced reports, from both calls and patrols. Furthermore, police officers' activities are recorded on a daily basis to evaluate the implementation of police strategies. These new information systems are being used to identify areas where crime is concentrated and to deploy forces accordingly, as well as to identify areas for other public service coverage.
- Change the role of the police: Reform efforts aim to increase the preventative role of police, mainly by improving identification of potentially violent conflicts at early stages to prevent their escalation. Local police departments are working to expand their activities to receive and analyze crime reports, conduct investigative work to support the attorney general's office, assist victims, and improve their presence in local communities. Structural reforms have also been implemented to give police officers a more prominent role in the lives of the neighborhoods they serve. In these municipalities, police officers are trained to provide conflict mediation services, have direct contact with representatives of the community through neighborhood committees, and use formal or informal communications to more quickly react to emergencies.

Box 6: *Mando Único Policial*

Since 2010, there have been different national reform proposals to centralize municipal police forces under a state police force called "*Mando Único Policial*." The idea behind Mando *Único* is to substitute, at the state level, the country's 1,800 local police units with centralized police forces and to standardize pay and training conditions. This reform intended to modify the Mexican Constitution, which stipulates that municipalities are in charge of public security provision. Despite presidential support, this reform has not been passed. President Calderón argued that municipalities lacked sufficient human and material resources to properly develop their functions and that the weakness of local police units made them more susceptible to corruption. Similarly, President Peña argued that this reform would solve coordination problems between security agencies and diminish corruption. The opponents argue that this reform will not be able to solve the underlying problems that are related to training and salaries. In particular, there is resistance from mayors to lose federal funding for security tasks (Zarkin, 2016).

While moving in the right direction, Mexico's reformed police departments do not yet have the necessary capacity to fully adopt many of the innovative police strategies found in the literature. These strategies rely on sophisticated analysis of the criminal context, which requires careful and coordinated intelligence work. In Mexico, the capacity and proclivity of police departments to use data for intelligence work remains inadequate—staff are too young and inexperienced. Furthermore, some interventions require high inter-agency coordination and institutional capacity to generate positive effects on crime reduction.

In addition, the shift towards more preventive activities has not always been implemented correctly in the Mexican context. It is increasingly common for police to coordinate and/or implement universal community-based prevention interventions instead of focusing on strategies that target high-risk places and offenders. Besides suffering from the limitations highlighted in the community-based programs subsection (see above), there are questions related to the opportunity cost and comparative advantage for police to engage in these activities. While it is true that these activities can improve the image of police forces among citizens, it is unclear whether it is within their responsibilities to provide these types of services. This is especially true when these programs require diverting resources from victims' services or regular police operations. Some municipalities justify these actions because they believe they are a way to target high-risk individuals or places, but these activities do not follow the principles of any of the non-traditional law enforcement strategies analyzed in the literature.

Our qualitative research suggests that the most promising reform efforts are those managed with a clear top-down approach and implemented within a comprehensive protocol for redesign, which allows the incorporation of a managerial vision beyond a traditional policing strategy. Unfortunately, most police reforms in Mexico are missing this comprehensive and systematic approach that would allow them to reach their full potential. In particular, stronger and more systematized protocols that would allow for dynamic updating and continuous evaluation are largely missing. To operationalize strong top-down monitoring strategies, these reforms need to strengthen chains of command, particularly among the middle ranks, who in turn would benefit from greater professionalization and incentive systems.

Finally, it is important to keep in mind that no action from the police will work while the critical problem of capture by criminal groups remains unresolved. In some places, the police are part of the problem rather than the solution.[42] One important element for police reform is, thus, to set the right incentives to clean up the police.

[42] Due to the infiltration of criminal organizations in the police, since 2009 all police officers have been subject to trust control exams. One out of ten state police chief officers have failed the confidence tests. Additionally, according to a national household survey, 70 percent of the respondents considered that the police is controlled by criminal organizations (CESOP, 2018).

Box 7: Morelia Police Reform

Morelia's police reform offers an interesting example of possible interventions to improve the professionalization of local police forces and reduce police corruption.

In 2015, an independent candidate became mayor of Morelia, the capital of the western state of Michoacán, and initiated a reform process within the police. When the administration began, they had only 120 policemen for a population of around 800,000 people. To increase the number of police officers, the reform aimed to dignify the work of the police and give them a prominent role in the community by increasing their salaries, improving working conditions, and expanding their scope of work so that they could perform investigative work and mediation with victims. By the end of 2017, the number of police officers had increased six-fold and all of new officials had successfully approved trust control exams and completed five months of training.[43]

The reform took place thanks to the incorporation of civilian command over the police forces, which allowed for the adoption of a managerial vision beyond the traditional policing strategy. The civilian command helped shift police incentives towards minimizing violence, rather than maximizing arrests. Furthermore, evaluation criteria, including victimization surveys, was developed to measure the police's performance and guide implementation of police strategies. Today, Morelia is one of the municipalities with the highest rates of citizen trust and approval of trust control examinations.

[43] These exams consist of a psychological evaluation, a toxicology examination, polygraph tests and a background investigation.

5. Discussion: Key Principles and Elements of Effectiveness

This section presents a number of overall key principles and elements of effectiveness that, based on our review of evidence, we have identified as being crucial elements of effective strategies and programs. Furthermore, based on qualitative information gathered from the contextualization interviews, we analyze how these findings can apply to Mexico.

5.1 Key Principles

The Concentration Principle

There are no silver bullets in crime prevention. Instead, there are a variety of modestly effective programs that, when combined in appropriate ways, can produce robust effects. Only a few programs demonstrate strong, significant results (e.g. focused deterrence, CBT-informed therapies, and drug courts), while others generally have mixed evidence and/or small effect sizes.

In recent decades, studies on violence and crime have increasingly demonstrated that these phenomena tend to concentrate in specific people, places, and behaviors. Weisburd (2015) describes this as "the law of crime concentration," based on a series of empirical criminology observations. A collective approach for crime and violence prevention should respond to the principle of concentration by focusing on the highest risk places, people, and behaviors, and "on the accumulation of individually modest but collectively robust programmatic effects" (Abt and Winship, 2016) to achieve maximum impact.

In terms of individuals, the majority of crimes are committed by a small group of chronic repeat offenders. Research from multiple contexts, mostly from developed countries, has demonstrated that a small percentage of individuals tend to be responsible for a majority of criminal offenses. For example, in 1990, only 1 percent of youth in Boston were responsible for 60 percent of all juvenile homicides in the city (Kennedy et al., 1996). Similarly, 1 percent of all individuals born between 1958 and 1980 in Sweden were responsible for 63 percent of all convictions (Falk et al., 2013).

This concentration principle holds true even when focusing on repeat crime rates among offenders. From a sample of offenders in England and Wales, 18 percent were responsible for more than 70 percent of all convictions (Home Office, 1985).

Similarly, Farrington et al. (1986) found that the most persistent 5 percent of offenders accounted for 60 percent of known crimes. In terms of places, there is a growing body of research which posits that a small number of places account for a disproportionate percentage of all the crime in a city. Weisburd (2015) analyses eight studies on geographic concentration of crime, finding that approximately 4 percent of street segments of various sizes account for 50 percent of all crimes in those cities.[44]

Jaitman and Ajzenman's (2016) study of crime concentration for Latin America validates Weisburd's law of crime concentration: they find that in five cities of the region 50 percent of crimes are concentrated in 3 to 7.5 percent of street segments.[45] Recent data from Mexico confirms this pattern. As reported by the Drug Violence Report (Calderón et al., 2018), the latest available data from INEGI suggests that the share of homicides cases found in the top ten most violent municipalities in Mexico rose from 20 percent in 2016 to nearly 27 percent in 2017, which was the highest proportion of homicides cases concentrated among centers of violence since 2012 (when this figure was over 30 percent). The same report mentions that 846 out of 2,466 municipalities had zero homicides in 2016.

In Mexico, most organizations do not focus on specialized services. Instead, there is a tendency in public agencies and organizations dependent of public funding to include within each program a wide range of interventions targeted to a variety of populations and needs. Implementers fail to recognize the advantage, from a public health perspective, of focusing their efforts on the highest-risk individuals, places, and behaviors, and to specialize their services. Instead, they associate the effectiveness of their programs with the number of beneficiaries and participants served, further incentivizing the creation of "universal programs." This is a direct consequence of the metrics for effectiveness used by public funders to allocate resources, focusing on quantity more than on impact. Moreover, even those institutions and organizations that aim to target only the highest-risk individuals often lack the capacity or understanding to produce relevant data that can guide their beneficiary selection processes.

The Coordination Principle

A crucial corollary of the concentration principle is the need for greater coordination between violence prevention actors (Abt and Winship, 2016). While comprehensive interventions aim to tackle violence from all angles, they are prone to be ineffective due to the implementation challenges associated with coordinating a large number of stakeholders and activities (Gravel et al., 2012; Matjasko et al., 2012). Without sufficient coordination capacity, such strategies often fail (Gravel et al., 2012).

[44] Results are similar when analyzing crime patterns in a suburban area: 2 percent of street segments produced 50 percent of the crime (Gill et al., 2016).

[45] These five cities are Bogotá (Colombia), Montevideo (Uruguay), Belo Horizonte (Brazil), Zapopan (Mexico), and Sucre (Venezuela).

Rather than promoting interventions that aim to address as many causes of violence as possible, institutions should specialize and coordinate on specific services targeted at the highest risk places, individuals, and behaviors. As suggested by Fagan and Catalano (2012), significant and meaningfully large reductions in violence can be achieved when focusing on a narrow set of risk and protective factors in just one domain. It is important to clarify that combining interventions in this way only makes sense, however, when it is based on a strong understanding of the target population and how the results of the different interventions may interact.

Organizations in Mexico—including NGOs, as well as public and private institutions—do not coordinate effectively. In most cases, coordination is either non-existent or occurs through informal channels. The absence of formal networks makes inter-institutional coordination a sporadic activity that relies on personal connections. Although there are examples of successful informal collaborations, frequent administrative and personnel changes threaten their sustainability.

There are some successful examples of coordination at the local level, including formal inter-institutional commissions that partner local governments with civil society organizations engaged in crime prevention efforts. Nonetheless, their reach is limited, and their coordination efforts are still not fully developed.

Inter-institutional coordination could play a central role in channeling individuals to the most appropriate services and interventions. In its absence, organizations may be duplicating efforts, thus wasting valuable resources that could be better spent on more effective programs and undertreated areas.

Proactivity and Rehabilitation Principles

Crime reduction activities should not only be reactive—i.e. responding to crimes that have already taken place—but should also be proactive—i.e. seeking to prevent violence before it takes place. Reacting to violent crime is necessary but not sufficient to achieve success.

Being more proactive means identifying and anticipating crime and violence before they happen by understanding and addressing the underlying factors causing them. Focusing on the highest risk population is critical. Applying public health concepts to crime prevention appears promising, especially when focused on tertiary and secondary prevention strategies, which yield overall better results than primary and universal ones (Limbos et al., 2007; Abt and Winship, 2016).

Proactivity is particularly important for the police—the literature suggests that policing strategies based on this concept produce positive results. By contrast, purely reactive strategies have proven to be ineffective or counterproductive.

Whenever violence cannot be prevented, evidence strongly suggests that well designed and implemented rehabilitation programs have the ability to greatly reduce recidivism among participants. The reduction in recidivism rates through these programs are consistently stronger than those generated by purely correctional sanctions. Rehabilitation programs aimed at reducing recidivism should thus be considered as suitable or complementary alternatives to incarceration sanctions, especially for less serious offenses.

As crime and conflict have risen in Mexico over the past ten years, many organizations have focused on responding to crime rather than preventing it. The work of the police at municipal level is generally reduced to a purely reactive function, with no preventive work, though some local police reforms are beginning to incorporate preventive approaches into their work.

For prevention strategies to be effective, high-risk populations must be actively engaged. This poses a unique challenge in Mexico where organizations face difficulty identifying and recruiting high-risk populations.

5.2 Elements of Effectiveness

Based on our analysis, we identified seven key elements that underlie the effectiveness of successful crime and violence prevention programs, and for each of them we present a short analysis of the Mexican context:

1. **Targeting:** *Prevention interventions should be able to identify and attend the highest-risk locations, individuals, and behaviors. To ensure proper targeting, interventions must be informed by data, including risk assessments of individual and localized risks and potential protective factors.*

   In most cases, local government agencies and NGOs have a general understanding of the risk factors facing the populations they serve, although this is most often based on observational knowledge rather than hard data. Nonetheless, implementers fail to incorporate this knowledge into the design of their programs, in part because they are unable to disaggregate risk factors to the individual level.

   To avoid mistargeting, particularly for primary and secondary prevention programs, organizations should clearly define a beneficiary profile and implement clear recruitment strategies, rather than extend services to the greatest possible number of participants.

2. **High intensity and dosage:** *Great intensity and higher treatment dosage programs are generally more effective. High intensity does not necessarily mean longer-term interventions.*

   Organizations generally determine treatment dosage and intensity based on the resources at their disposal rather than thoughtful examination. As a result, programs often fall short of the optimal intensity. Tertiary and rehabilitation programs especially lack standardized intensity based on theoretical assumptions.

Instead, staff tend to adjust program intensity on a case by case basis, often resulting in treatments that are not appropriately adjusted to beneficiaries' risk profiles.

It is worth to mention that in a country like Mexico, facing generalized problems like poverty, economic distress, unemployment, and internal migration among others, it could be politically difficult to direct an important amount of resources towards treatments of beneficiaries who may be former criminals or marginalized populations.

3. **Strong program design:** *A well-defined intervention informed by theory and evidence is critical for effectiveness.*

   In general, the design of crime and violence prevention programs in Mexico is not grounded in established theories and models of psychology, criminology, or other relevant fields. Institutions are generally unfamiliar with the scientific research on what works—and what does not—in terms of crime prevention and rehabilitation. As such, few programs are designed and informed by rigorous evidence generated from impact evaluations. Furthermore, when organizations adopt already implemented prevention programs, they tend to adopt these external models based on the reputation of the "brand" rather than or their effectiveness.

   Most programs lack any formal definition of a conceptual framework (e.g. theory of change) mapping activities to expected outcomes. As a result, activities are often either too weak or completely misaligned with the objectives of the interventions. Furthermore, in order to cover as many beneficiaries and risk factors as possible, most organizations focus on too many activities, without clearly defining their functions, interactions with other program components, and impacts (see concentration principle).

   Organizations generally understand the importance of completing exploratory diagnostic work to define the scope of their programs. However, this work is mostly limited to geographic and population targeting and does not extend to risk and protective factors. Organizations leverage different sources of information in these processes—from official statistics provided by public agencies (e.g. Secretariat of the Interior - *SEGOB*, National Institute of Statistics and Geography - *INEGI*), used mostly by tertiary and rehabilitation programs, to observational fieldwork and direct data collection through surveys and interviews, used mostly by universal programs.

4. **Fidelity/Adherence:** *Fidelity and adherence to implementation and program design produce stronger treatment effects.*

   Fidelity: Few organizations recognize the importance of standardizing implementation procedures, thereby jeopardizing the fidelity of their programs. Organizations implementing primary and secondary prevention programs are particularly averse to standardizing processes and prefer to continuously adapt and change their activities. Without standardized protocols, the success of an intervention depends almost entirely on the personal characteristics and work of individual facilitators, which, at best, means high variation in the quality of services provided.

However, the mere existence of protocols does not guarantee their use. Often, emphasis is placed on the experience of service providers rather than on following established practices. Very few programs have rigorous monitoring mechanisms for guaranteeing the implementation of established manuals and protocols.

Adherence: Low program adherence is a common issue among the local programs analyzed. According to implementers, on average, 30 percent of participants start but do not complete programs. Programs commonly provide small economic incentives as a strategy for reducing attrition. Such incentives often include reimbursements for transportation or food, or in-kind assets for a productive activity, but are not usually explicitly conditioned on participation in the program. Programs channeled through courts or within juvenile centers have highest adherence, since individuals are legally required to participate and these requirements are monitored and enforced.

5. **Monitoring and evaluation:** *Strong M&E systems are crucial to continually assess the effectiveness of interventions.*

   Most local institutions and organizations have weak or absent monitoring and evaluation (M&E) strategies. While the small size and limited institutional capacity of most organizations can easily explain this pattern, it is interesting to note that there is a general reluctance, especially among universal programs, to gather and analyze data. Organizations perceive M&E as unimportant—a diversion of resources and efforts from everyday operations—and often believe that data and technical reports depersonalize and belittle the work they are carrying out. The incentive structures created by public funding fuel these perceptions of M&E. Organizations that receive this type of funding are required to produce limited reports that focus only on compliance with activities and operational indicators.

   Local trusts and international aid agencies are playing a key role in fostering a culture of evidence in Mexico, promoting the development of M&E systems among organizations working on crime prevention efforts. Local trusts require awarded organizations to produce monthly and quarterly reports on program results, which in turn are used to generate evaluations. International aid agencies provide local organizations with technical and financial support to strengthen their programs and execute rigorous impact evaluations. Currently, organizations supported under these two schemes are taking the first steps to evaluate their programs; however, these evaluations are mostly limited to less rigorous methods such as pre-post impact evaluations without control groups.

6. **Financial and technical capacity:** *Effective interventions must have sufficient and sustainable financial resources, as well as properly selected and trained facilitators.*

   An organization's sources of funding determine its capacity to effectively implement interventions. In the absence of sustainable funding, organizations have limited capacity to implement.

In Mexico, public funding typically constrains organizations to short implementation periods and their sustainability is hindered by short administrative cycles. Encouragingly, international aid agencies and local trusts are creating economic incentives for organizations to professionalize their work and focus on longer-term impacts. These competitive funds allow organizations to implement their interventions with longer term planning and monitoring activities.

In terms of facilitators, local institutions that work on tertiary prevention or rehabilitation generally clearly define the employee profiles they need. Organizations outline the education level and specialization required, and actively seek out candidates with field experience, preferably in the intervention neighborhoods. Generally, facilitators hold university degrees in fields such as psychology, social work, and criminology, among others. It is interesting to note that at the local level there is no difficulty recruiting qualified social workers.

The presence of qualified social workers does not guarantee the effective delivery of social services geared towards violence prevention—adequate training is key. While several programs that involve facilitators in their activities include training for their personnel, although the duration, intensity, continuity, and systematization vary widely. Trainings range from one-day informal meetings to year-long university-level courses. Although it is difficult to generalize, tertiary prevention and rehabilitation programs tend to have more advanced and structured training activities than universal programs. In contrast, universal programs provide initial orientation without reinforcement or follow-up, resulting in limited impacts on human capital. Interestingly, the most promising universal programs acknowledge their lack of internal resources to adequately train their facilitators. As a result, they often prefer to outsource specific training and implementation activities to external experts.

7. **Locally grounded:** *Interventions should be embedded within local communities. Having clear channels for communication and engagement between implementers, local stakeholders, and partners within the community is essential.*

   Partners: As previously discussed (see Coordination Principle), most organizations in Mexico fail to coordinate efforts with others working in their same communities. However, positive experiences of inter-institutional coordination offer promise—individuals from the target population are identified and channeled towards the most appropriate services, expanding the reach of each institution and avoiding duplication of efforts.

   Community: Organizations often do not have time to complete thorough needs assessments leading them to implement prevention programs in areas commonly considered to be vulnerable, generating an overconcentration of unstructured and short interventions in a few target neighborhoods. This mismatch may breed mistrust in both over- and under-treated communities that are skeptical of the benefits of these interventions.

Organizations recognize the need for clear communication channels and engagement with the community. To this end, some programs embed staff in communities. Organizations also seek out facilitators from the community and encourage participants to become part of the organization after they have graduated from their programs.

As a concluding remark, when programs fail to guarantee one or more of these elements, they often fail to generate the expected results in terms of crime prevention.

6. Recommendations for Policy and a Future Research Agenda

This paper's objective is to act as a guide to inform policy based on a deep understanding of the evidence. As such, we present the following recommendations to inform the formation of future policies and push forward the research agenda on youth crime and violence prevention.

1) Implement programs supported by strong evidence.

While the evidence offers clear insights into what approaches are either widely proven to be effective, may offer promise, or appear not to work, any potential program should be carefully adapted and implemented according to local circumstances.

The fundamental challenge of drawing on a global evidence base that is heavily weighted towards studies from higher-income settings is the questions of generalizability. Will the success of specific interventions implemented in one context carry over? Answering this question requires a sound understanding of both the local context and the mechanisms through which we understand interventions to have created change elsewhere—that is, why people responded the way they did. A clear understanding of these mechanisms allows implementers to determine whether these strategies will apply in a new setting.

To make this assessment, policymakers should follow these steps:[46]

1. Understand the disaggregated theory behind the program (i.e. understand the mechanisms).
2. Consider whether local conditions hold for that theory to apply.
3. Assess how strong the evidence is for a required general behavior change (for which this white paper is a helpful start).
4. Gauge whether the implementation process can be carried out well.

[46] See Glennerster and Bates (2017) for a practical generalizability framework that policymakers can use to decide whether a particular approach makes sense in their context.

For programs with sound evidence of effectiveness, if the context (local conditions and capacity for implementation) allows for the adoption of the essential elements of the theory of change, then the implementation can proceed with non-essential components adapted as necessary. If those conditions do not hold and a major compromise of essential elements is required, then a more contextually appropriate option should be selected (Abt, 2016).

Even if the evidence is strong for certain change mechanisms, several questions may remain regarding their applicability to other target populations—particularly in those circumstances where the problem being treated lies near the fuzzy boundary between community violence and violence related to organized crime. For example, whether or not CBT-inspired interventions will prove effective among gang-involved youth members remains a question for further research. An important question for focused deterrence strategies is whether they may be effective in preventing fighting between more organized gangs and cartels, or whether they can be used to target outcomes other than homicides, such as drug sales to minors or sex trafficking. As with all interventions developed in different contexts, focused deterrence will likely require adaptation to the Mexican context. Furthermore, in Mexico, more vanguard approaches targeted at the underlying risk factors affecting, for instance, gang involvement, are needed. For instance, programs that encourage new non-gang or non-criminal social identities, or aspirations style programs for youth.

For those interventions where there is only modest or contested evidence, piloting and testing to determine the exact mechanisms at work is essential. If testing certain interventions with a rigorous impact evaluation methodology is not feasible—for example because the outcome we want to measure is limited in scope—then our strategy should shift from testing the intervention itself to testing the assumptions that lie behind the intervention. For example, testing the effectiveness of focused deterrence on murder rates is difficult to do rigorously given the small number of high-risk potential murderers. A key underlying assumption is that certain types of serious crimes respond to large, punitive, relatively certain, and swift incentives. These principles could be tested on other more common and, hence, easily studied concerns, such as drug sales or recruitment of children into gangs. These are important intervention in themselves but also could inform how we think about focused deterrence in other domains.

Finally, there is evidence of interventions that do not seem to work that are nevertheless widely implemented in Mexico. Policymakers should develop a higher critical view and re-evaluate strategies moving forward. It is important to keep in mind the opportunity cost of funds being directed towards interventions with little probability of success.

2) Develop better diagnoses of local problems and design tailored solutions

One of the downsides of this type of literature review, focused on programmatic interventions, is that they tend to focus on solutions rather than problems. In order to advance towards

a better understanding of crime in Mexico, more research is needed on the different categories of crime and how they relate to one another. To respond to increasing levels of violence, Mexico will need to adopt two very different kinds of change:

1. Agile and adaptive innovation in the kinds of programming adopted
2. Strengthening of its law enforcement and justice system

Furthermore, investments in both should be made simultaneously. While this paper presents strategies for investing in the former, future policy efforts and research should focus on exploring how these two kinds of change may interact, and how innovative programs might also work to drive institutional strengthening.

For instance, highly relevant questions and policy priorities include:

- How can changes to the law and the judicial system be leveraged to reduce police corruption and align police incentives with program goals?
- Can governments "crowd out" gang governance in slums, who progressively undermine or assume certain state functions such as provision of security services and imposition of fees, and will that reduce violence?
- How can evidence-informed approaches be used to relieve the overburdened criminal justice system of its lower-level nonviolent offenders in order to reserve police, prosecutorial, judicial, and correctional resources for reducing impunity for the most serious offenses?

3) Foster local innovation following the key principles and elements of effectiveness

While one hopes that crime and violence prevention become the focus of future experimental and quasi-experimental work, the reality is that throughout Latin America governments and civil society are grappling with these issues and conducting all manner of interventions and policy experimentation. Widening the criteria and exploring the more suggestive findings from these experiences is also worthwhile. "Within the field of community violence prevention, significant evidentiary gaps remain, and the scientific process is an iterative one, meaning that our understanding of community violence and how best to prevent it must be continually updated and refined." (Abt, 2016. p.16).

Individual interventions should follow the key principles and elements of effectiveness. Interventions should be targeted towards risker people, places, and behaviors where violence is concentrated using data and risk assessments. Services should be proactive and focus on rehabilitation. To prevent crime from happening, programs should be focused on the underlying factors causing it. Particularly promising are secondary and tertiary prevention strategies. When crime cannot be prevented, rehabilitation programs are much better alternatives than purely correctional ones.

Following the above recommendations, programs should be based on strong program design and informed by theory and evidence, and they should follow the generalizability framework to decide whether and how a mechanism is adequate for a new context. The designs should ensure high dosages and high intensities, particularly for tertiary prevention and rehabilitation services. Developing implementation capacity is crucial to ensure fidelity and adherence. Implementers should build expertise by recruiting new personnel and training existing staff with an emphasis on analysis and evaluation in criminal justice or a closely related field. However, programs must be sufficiently funded in order to be able to develop needed capacities. Therefore, it is crucial to change priorities towards fewer and better programs and avoid a large number of low-capacity one-time interventions.

Finally, interventions should be continuously monitored and evaluated, using the best data available and most rigorous methodologies possible under the specific circumstances. Organizations should commit to developing M&E systems that enable the conditions for this to happen. The successful innovations of today will be the mainstream programs of tomorrow. Therefore, systematic approaches should be put in place to gather descriptive and qualitative data to inform future rigorous testing and to identify promising new approaches.

4) Create local networks of knowledge and capacity

A crucial corollary of the concentration principle is the need for greater coordination between violence and prevention actors. In this sense, fostering local networks with increased capacity and channels to share lessons both horizontally and vertically is critical. Efforts to coordinate specific, high-quality services that target the highest risk places, individuals, and behaviors are essential.

In this sense, getting individual organizations to commit to better program design and stronger M&E systems will not suffice. Governments, funders, international organizations, multilateral funds, local trusts and NGOs should work together to achieve these ends. This should be understood as an incremental process in which organizations work towards building capacity, creating sustainable processes for knowledge sharing, fostering leaders, and strengthening promising institutions or models by providing technical assistance. The aim should be to enable the environment for those promising innovations to be able to thrive, to generate knowledge and to identify new effective solutions with potential for scale.

There is incredible opportunity to work towards strengthening and creating better partnership practices. The commitment should be to plan together for the cumulative development of knowledge in violence reduction. Just as this review of the global evidence base provides some answers on how we can prevent and reduce youth violence in Mexico, innovative approaches adopted in Mexico in the coming years will provide many new insights into what works for the world.

Annex A – Search Strategy (Keywords and Databases)

We utilized different keyword strategies based on the type of study we wanted to retrieve. All searches were conducted in both English and Spanish. Our search strategy included an asterisk in our quest to include the root word and the Boolean operators AND and NOT. For each search, we performed additional ones including the words Mexico and Latin America in an effort to identify local evidence.

a) To identify systematic reviews, we used the following search terms:

First Keywords		**Second Keywords**
		Crime
Analytic review	+	Violence
Systematic review		Victimization
Meta-analytic review		Recidivism
		Disorder

b) To identify individual studies, we used another set of keywords:

First Keywords		**Second Keywords**		**Third Keywords**
Impact				
Evaluation		Crime		
Outcome		Violence		Juvenile
Effect	+	Victimization	+	Prevention
RCT		Recidivism		Community
Experimental		Disorder		
Quasi Experimental				

c) Additionally, for the specific topics of Victim Rehabilitation Programs we used a modified third set of keywords:

First Keywords		**Second Keywords**		**Third Keywords**
Impact				Victim Rehabilitation
Evaluation		Crime		PTSD
Outcome		Violence		Post traumatic
Effect	+	Victimization	+	Ex/former military
RCT		Recidivism		Ex/former police
Experimental		Disorder		Ex/former gang member
Quasi Experimental				Ex/former cartel member

d) Finally, for institutional reforms we used the following search terms:

First Keywords		Second Keywords		Third Keywords
Impact				Institution(al) Reform
Evaluation				Judicial Reform
Outcome		Crime		Police Reform
Effect	+	Violence	+	Police Training
RCT		Victimization		Police Recruiting
Experimental		Recidivism		Military Draft
Quasi Experimental		Disorder		Anticorruption
				Budget Change/Cut
				Prison Reform

During our review, we searched the following databases:

1. Criminal Justice Periodical Index
2. The Campbell Collaboration Library
3. The Cochrane Collaboration
4. National Criminal Justice Reference Service (NCJRS) Abstract
5. ProQuest
6. Educational Resources Information Clearinghouse (ERIC)
7. Web of Science
8. JSTOR
9. Medline
10. Google Scholar
11. Abdul Latif Jameel Poverty Action Lab (J-PAL)
12. Innovations for Poverty Action (IPA)
13. Crime Solutions
14. Scientific Electronic Library Online (SciELO)
15. Red de Revistas Científicas de América Latina y el Caribe (Redalyc)
16. Latin American Periodicals Tables of Contents (LAPTOC)

Annex B – List of Interviews

Table B1. List of interviewed organizations (n=61)

City, State	Organization Name	Type of Organization	Level	Topic
Monterrey, Nuevo León	Alianza Neo	PPP	International	Vocational Training
Monterrey, Nuevo León	RENACE	NGO	National	Juvenile Therapy
Escobedo, Nuevo León	Secretaria de Seguridad Publica	Government	Municipal	Community Policing
Monterrey, Nuevo León	Promoción de Paz	NGO	Local	Drug Treatment - Vocational Training - Juvenile Therapy
Monterrey, Nuevo León	Poder Judicial del Estado de Nuevo León	Judicial System	State	Juvenile Courts - Drug Treatment and Aftercare
Guadalupe, Nuevo León	Instituto Municipal de Planeación Integral	Government	Municipal	CPTED
Monterrey, Nuevo León	Instituto Estatal de Seguridad Pública del Estado de Nuevo León	Government	State	Juvenile Therapy
Monterrey, Nuevo León	Alianza Heartland	NGO	International	School-based Prevention
Monterrey, Nuevo León	Red Sumarse Y Vía Educación	PPP	State	Community-based Prevention
Monterrey, Nuevo León	Universidad de Monterrey	University	Local	Vocational Training
Monterrey, Nuevo León	Subsecretaría de Prevención del Estado de Nuevo León	Government	State	Vocational Training - Juvenile Therapy
Monterrey, Nuevo León	Supera	NGO	State	Community-based Prevention - Juvenile Therapy
Monterrey, Nuevo León	Servicios a la Juventud (Youthbuild International)	NGO	International	Vocational Training
Monterrey, Nuevo León	Seguridad Pública del Estado	Government	State	Judicial Reform (Restorative Justice, Non-custodial Sanctions)

City, State	Organization Name	Type of Organization	Level	Topic
Morelia, Michoacán	Centros de Integración Juvenil	Government	National	Drug Treatment and Aftercare - CBT
Morelia, Michoacán	Secretaria de Ayuntamiento de Morelia	Government	Municipal	Alcohol Control
Morelia, Michoacán	Juzgado Cívico de Morelia	Judicial System	Municipal	Judicial Reform (Restorative Justice, Non-custodial Sanctions)
Morelia, Michoacán	Comisión Municipal de Seguridad	Government	Municipal	Police Reforms - Community Policing - Judicial Reform
Morelia, Michoacán	Policía de Morelia	Government	Municipal	Drug Law Enforcement
Tijuana, B. California	Jóvenes con Rumbo (Youthbuild International)	NGO	International	Vocational training
Tijuana, B. California	Fundación Tú + Yo	Foundation	Local	CPTED
Tijuana, B. California	BBVA Bancomer	Company	International	CPTED
Tijuana, B. California	Tijuana Innovadora	NGO	Local	Community-based Prevention
Tijuana, B. California	Club de Niñas y Niños	NGO	National	School-based Prevention
Tijuana, B. California	Previa	NGO	Municipal	School-based Prevention (D.A.R.E.)
Mexicali, B. California	Juez Municipal	Judicial System	Municipal	Judicial Reform - Juvenile Courts
Mexicali, B. California	Gente Diversa	NGO	Local	Community-based Prevention
Mexicali, B. California	D.A.R.E. Mexicali	NGO	Municipal	School-based Prevention
Tijuana, B. California	Dirección de Prevención del Delito y Participación Ciudadana	Government	Municipal	School-based Prevention (D.A.R.E.), Boot Camps, Community-based Prevention
Tijuana, B. California	Fronteras Unidas Prosaludl	NGO	Local	Community-based Prevention

City, State	Organization Name	Type of Organization	Level	Topic
Chihuahua, Chihuahua	Consejo Ciudadano de Seguridad y Justicia	NGO	Local	Gang Outreach - Community Prevention
Chihuahua, Chihuahua	Fundación del Empresariado Chihuahuense	Foundation	Local	School Reform - Vocational Training
Chihuahua, Chihuahua	Centro de Atención y Prevención Psicológica	Government	Municipal	CBT
Chihuahua, Chihuahua	Dirección de Seguridad Pública Municipal	Government	Municipal	School-based Prevention - Gang Outreach - CPTED
Chihuahua, Chihuahua	Libres por Amor	NGO	Local	Juvenile Therapy - Juvenile Courts
Chihuahua, Chihuahua	Escuelas del Perdón y la Reconciliación	NGO	International	Juvenile Therapy - Community Prevention - Vocational Training
Chihuahua, Chihuahua	Busuleba	Company	Local	Juvenile Therapy - Community and School-based Prevention
Chihuahua, Chihuahua	Paz y Convivencia Ciudadana	NGO	Municipal	CPTED - School-based Prevention
Chihuahua, Chihuahua	Red de Cohesión y Participación Social	NGO	Municipal	CPTED
Chihuahua, Chihuahua	Gobierno Municipal de Chihuahua	Government	Municipal	CPTED
Ciudad de México	Enfoque DH	NGO	National	Judicial Reform - Juvenile Courts
C. Juárez, Chihuahua	Centro Familiar para la Integración y el Crecimiento	NGO	Municipal	Community-based Prevention - Juvenile Therapy
C. Juárez, Chihuahua	Crecimiento Humano y Educación para la Paz	NGO	Municipal	School-based Prevention
C. Juárez, Chihuahua	Fundación Comunitaria de la Frontera Norte	Foundation	Municipal	Vocational Training
C. Juárez, Chihuahua	Fideicomiso para la Competitividad y Seguridad Ciudadana	Foundation	Local	Gang Outreach - CPTED - Vocational Training - Juvenile Therapy

City, State	Organization Name	Type of Organization	Level	Topic
C. Juárez, Chihuahua	La Tenda di Cristo	NGO	Local	Gang Outreach
C. Juárez, Chihuahua	Red Tira Paro	NGO	Municipal	Community-based Prevention
C. Juárez, Chihuahua	Centro de Asesoría y Promoción Juvenil	Government	Local	Community-based Prevention - Vocational Training
Guadalajara, Jalisco	Prosociedad	NGO	Municipal	CBT
Guadalajara, Jalisco	CEDAT	NGO	Municipal	CBT
Guadalajara, Jalisco	Secretaría de Educación del Estado de Jalisco	Government	State	School Reform
Guadalajara, Jalisco	Jalisco SOS (Mesa de Seguridad y Justicia)	Civil Society	Local	Gun Buyback
Guadalajara, Jalisco	Comisaria de Justicia de Adolescentes de la Fiscalía General del Estado	Judicial System	State	CBT
Guadalajara, Jalisco	Comisaría General de Seguridad Pública de Zapopan	Government	Local	Police Reforms - Community Policing
Guadalajara, Jalisco	Agencia Metropolitana de Seguridad	Government	Municipal	Police Reforms – Community, Disorder, and Hot Spots Policing
Zapopan, Jalisco	Instituto de la Juventud de Zapopan	Government	Municipal	Mentoring
Zapopan, Jalisco	Autoridad del Espacio Público de Zapopan	Government	Municipal	CPTED
Connecticut, EEUU	Rodrigo Canales	University	International	Focused Deterrence - Police Reforms
Ciudad de México	Victoria Emergente	NGO	National	Community-based Prevention
Ciudad de México	Cauce Ciudadano	NGO	National	Gang Outreach
Ciudad de México	Reinserta	NGO	State	Juvenile Therapy - Vocational Training - Restorative justice

Annex C – Literature statistics and Matrix framework populated

Table C1. Descriptive statistics of selected literature (n=264)

Type of Publication			Intervention Focus		
Journal	204	77%	Place	27	10%
Report	42	16%	People	119	45%
Working Paper	18	7%	Behavior	109	41%
			Institutions	9	4%
Year			**Intervention Level**		
1997-2001	52	20%	Primary Prevention	40	16%
2002-2006	76	29%	Secondary Prevention	19	7%
2007-2011	75	28%	Tertiary Prevention	30	12%
2012-2017	61	23%	Suppression	32	12%
Methodology			Offender Rehabilitation	126	49%
RCT	114	43%	Victim Rehabilitatio	9	4%
Q-E	150	57%			

Country of Intervention			Sample Size	RCT		Q-E	
USA	200	76%	<99	25	22%	50	33%
UK	13	5%	100-249	35	31%	19	13%
Australia – New Zealand	11	4%	250-500	17	15%	22	15%
Canada	6	2%	>500	37	33%	59	39%
Latin America	18	7%	**Outcomes[47]**				
Colombia	(8)		Crime			125	47%
Brazil	(4)		Violence			46	18%
Argentina	(3)		Victimization			13	5%
Other Latin America	(3)		Recidivism			122	47%
Other	16	6%	Disorder			7	3%

[47] Some studies reported impact on more than one outcome

Table C2. Matrix Framework – Populated

	Primary prevention	Secondary prevention	Tertiary prevention	Suppression	Rehabilitation	
					Offender	Victim
Places	CPTED			Hot Spots Policing Disorder Policing Community Policing		
People	Community-based Violence Prevention Programs School-based Violence Prevention Programs Mentoring	Community-based Violence Prevention Programs Mentoring Vocational Training and Employment Conditional Cash Transfer	Hospital-based Violence Prevention Programs Cognitive Behavioral Therapy Mentoring Vocational Training and Employment Streetworkers Programs	Focused Deterrence Drug Law Enforcement	Restorative Justice Multidimensional Juvenile Therapy (MST-MTFC-FFT) Cognitive Behavioral Therapy Non-custodial Sanctions Boot Camps Scared Straight Mentoring Vocational Training and Employment	Restorative Justice
Behaviors	School-based Violence Prevention Programs Alcohol Control Juvenile Curfews Gun Buyback	School-based Violence Prevention Programs	Focused Deterrence Cognitive Behavioral Therapy	Focused Deterrence Drug Law Enforcement	Cognitive Behavioral Therapy Drug Courts and Treatment	
Institutions	Police Reform Judicial Reform					

Annex D – Selected and Analyzed Studies, by Intervention

D.1 Interventions with strong evidence of effectiveness

1.1 Focused deterrence

Authors	Year	Country	Methodology
Boyle et al.*	2010	USA	Quasi-experimental
Braga*	2008	USA	Quasi-experimental
Braga et al.*	2001	USA	Quasi-experimental
Braga et al.*	2008	USA	Quasi-experimental
Braga et al.*	2014	USA	Quasi-experimental
Corsaro et al.*	2009	USA	Interrupted time series
Corsaro et al.	2012	USA	Quasi-experimental
Corsaro and Brunson	2013	USA	Interrupted time series
Corsaro and Engel	2015	USA	Interrupted time series
Corsaro and McGarrell*	2009a	USA	Quasi-experimental
Corsaro and McGarrell*	2009b	USA	Interrupted time series
Engel et al.*	2010	USA	Interrupted time series
Fox et al.*	2015	USA	Interrupted time series
Fritsch et al.*	1999	USA	Quasi-experimental
Goulka et al.*	2009	USA	Quasi-experimental
Grogger*	2002	USA	Quasi-experimental
McGarrell et al.*	2006	USA	Quasi-experimental
Papachristos et al.*	2007	USA	Quasi-experimental
Papachristos et al.	2015	USA	Quasi-experimental
Picard-Fritsche and Cerniglia*	2013	USA	Interrupted time series
Saunders et al.*	2015	USA	Quasi-experimental
Sierra-Arevalo et al.*	2016	USA	Interrupted time series
Skogan et al.*	2008	USA	Interrupted time series
Sperger et al.	2003	USA	Quasi-experimental
Tita et al. *	2004	USA	Quasi-experimental
Webster et al.*	2013	USA	Quasi-experimental

1.2 Cognitive Behavioral Therapy

(People-based)

Authors	Year	Country	Methodology
Anderson	2002	USA	Quasi-experimental
Armstrong	2003	USA	RCT
Berman	2004	Sweden	Quasi-experimental
Berry	2003	New Zealand	Quasi-experimental
Blattman et al.	2017	Liberia	RCT
Bonta et al.	2000	Canada	Quasi-experimental
Bonta et al.	2011	Canada	RCT
Caldwell and Van Rybroek*	2001	USA	Quasi-experimental
Cann et al.	2005	UK	Quasi-experimental
Dowden et al.	1999	Canada	Quasi-experimental
Falshaw et al.	2004	UK	Quasi-experimental
Friendship et al.	2003	UK	Quasi-experimental
Gehring et al.	2010	USA	Quasi-experimental
Gordon et al.	2000	USA	RCT, Quasi-experimental
Heller et al.	2013	USA	RCT
Heller et al.	2017a	USA	RCT
Liau et al.	2004	USA	RCT
Mitchell and Palmer*	2006	UK	Quasi-experimental
Myers et al.*	2000	USA	Quasi-experimental
Ortmann	2000	Germany	RCT
Polaschek et al.*	2005	New Zealand	RCT
Van Voorhis et al.	2004	USA	RCT
Walters et al.	1999	USA	Quasi-experimental
Walters et al.	2005	USA	Quasi-experimental
Wilson and Davis	2006	USA	RCT

(Behavior-based)

Authors	Year	Country	Methodology
DiPlacido et al.*	2006	Canada	Quasi-experimental
Easton et al.*	2007	USA	RCT
Friedman et al.	2008	USA	RCT
Friendship et al.	2003	UK	Quasi-experimental
Hall et al.	2004	USA	Quasi-experimental
Hanson et al.	2004	Canada	Quasi-experimental
Looman et al.	2000	USA	Quasi-experimental
Marques et al.	2005	USA	RCT
Marshall et al.	2008	Canada	Quasi-experimental
McGrath et al.	2007	USA	Quasi-experimental
Ruddijs and Timmerman	2000	The Netherlands	Quasi-experimental
Schweitzer and Dwyer	2003	Australia	Quasi-experimental
Vaugh et al.	2004	Taiwan	Quasi-experimental

1.3 Multidimensional Juvenile Therapy

Multisystemic Therapy

Authors	Year	Country	Methodology
Aos	2004	USA	Quasi-experimental
Borduin et al.*	2009	USA	RCT
Butler et al.	2012	UK	RCT
Henggeler et al.	1999	USA	RCT
Henggeler et al.*	2002	USA	RCT
Little et al.*	2004	UK	RCT, Quasi-experimental
Schaeffer and Borduin	2005	USA	RCT

Multidimensional Treatment Foster Care

Authors	Year	Country	Methodology
Barth et al.	2007	USA	Quasi-experimental
Chamberlain and Reid*	1998	USA	RCT
Eddy et al.*	2004	USA	RCT
Lee and Thomson	2008	USA	Quasi-experimental
Leve et al.*	2005	USA	RCT
Leve et al.*	2007	USA	RCT
Robst et al.	2011	USA	Quasi-experimental
Robst et al.	2013	USA	Quasi-experimental
Ryan et al.	2008	USA	Quasi-experimental

Functional Family Therapy

Authors	Year	Country	Methodology
Sajid Humayun et al.	2017	USA	RCT
Sexton and Turner	2010	USA	RCT

1.4 Drug Courts and Treatment

Courts

Authors	Year	Country	Methodology
Breckenridge et al.*	2000	USA	RCT
Brewster	2001	USA	Quasi-experimental
Brown	2011	USA	Quasi-experimental
Fell et al.	2011	USA	Quasi-experimental
Fielding et al.	2002	USA	Quasi-experimental
Galloway and Drapela*	2006	USA	Quasi-experimental
Gottfredson and Exum	2005	USA	RCT
Granfield et al.	1998	USA	Quasi-experimental
Hurley	2017	USA	Quasi-experimental
Loman	2004	USA	Quasi-experimental
MacDonald et al.	2007	USA	RCT
Marlowe et al.	2003	USA	RCT
Messina et al.	2012	USA	RCT
O'Connell et al.	1999	USA	Quasi-experimental
Peters and Murrin	2000	USA	Quasi-experimental
Rempel et al.	2003	USA	Quasi-experimental
Rodruguez and Webb	2004	USA	Quasi-experimental
Shaffer et al.	2006	USA	Quasi-experimental
Shanahan et al.	2004	Australia	RCT
Sloan et al.	2004	USA	Quasi-experimental
Spohn et al.	2001	USA	Quasi-experimental

Treatment

Authors	Year	Country	Methodology
Brown et al.	2001	USA	RCT
Dugan and Everett	1998	USA	RCT
Dynia and Sung	2000	USA	Quasi-experimental
Farrell*	2000	USA	RCT
Haapanen and Britton	2002	USA	RCT
Hanlon et al.	1999	USA	RCT
Messina et al.	2006	USA	Quasi-experimental
Messina et al.	2010	USA	RCT
Mosher and Phillips	2006	USA	Quasi-experimental
Nemes et al.	1999	USA	RCT
Sacks et al.	2008	USA	RCT
Sacks et al.	2012	USA	RCT
Scott and Dennis	2012	USA	RCT
Sealock et al.	1997	USA	Quasi-experimental
Welsh	2007	USA	Quasi-experimental
Wexler et al.	1999	USA	RCT

1.5 Alcohol Control

Authors	Year	Country	Methodology
Banerjee et al.	2017	India	RCT
Kypri et al.*	2011	Australia	Quasi-experimental
Kypri et al.*	2014	Australia	Quasi-experimental
Marcus and Seidler	2015	Germany	Quasi-experimental
Rossow and Norstrom*	2012	Norway	Quasi-experimental
De Mello et al.	2013	Colombia	Quasi-experimental
Heaton	2012	USA	Quasi-experimental
Biderman et al.*	2010	Brazil	Quasi-experimental

1.6 Hot Spots Policing

Authors	Year	Country	Methodology
Blattman et al.	2018	Colombia	RCT
Braga et al.*	1999	USA	RCT
Braga et al.	2011	USA	Quasi-experimental
Collazos et al.	2017	Colombia	RCT
Di Tella and Shargrodsky	2004	Argentina	Quasi-experimental
Groff et al.*	2011	USA	RCT
Ratcliffe et al.	2010	USA	RCT
Rosenfeld et al.*	2014	USA	RCT
Santos and Santos*	2015	USA	RCT
Taylor et al.*	2011	USA	RCT
Telep et al.*	2014	USA	RCT

D.2 Interventions with modest evidence of effectiveness

2.1 Vocational Training and Employment

Authors	Year	Country	Methodology
Blattman et al.	2014a	Liberia	RCT
Cook et al.	2015	USA	RCT
Gelber et al.	2016	USA	RCT
Heller et al.	2017b	USA	RCT
Schochet et al.	2001	USA	RCT
Schochet et al.	2006	USA	RCT

2.2 Restorative Justice (Direct Mediation)

Authors	Year	Country	Methodology
Blattman et al.	2014b	Liberia	RCT
Bouffard et al.	2016	USA	Quasi-experimental
De Beus and Rodriguez	2007	USA	Quasi-experimental
McCold and Watchel	1998	USA	RCT
McGarrell et al.	2000	USA	RCT
McGarrell and Hipple	2007	USA	RCT
Rodriguez	2007	USA	Quasi-experimental
Shapland et al.	2008	UK	RCT
Sherman and Strang	2000	Australia	RCT
Smith and Weatherburn	2012	Australia	Quasi-experimental
Strang and Sherman	2005	UK	RCT

2.3 Non-custodial Sanctions (Alternative to Incarceration)

Authors	Year	Country	Methodology
Carney and Buttell	2003	USA	RCT
Kelley et al.	2003	USA	RCT
Killias et al.	2000	Switzerland	RCT
Killias et al.	2010	Switzerland	RCT
Patrick and Marsh	2005	USA	RCT
Smith et al.	2004	USA	RCT
Wermink et al.	2010	The Netherlands	Quasi-experimental

2.4 Conditional Cash Transfer

Authors	Year	Country	Methodology
Camacho and Mejia	2013	Colombia	Quasi-experimental
Chioda et al.	2015	Brazil	Quasi-experimental

D.3 Interventions with inconclusive or preliminary unfavorable evidence

3.1 Crime Prevention Through Environmental Design

Authors	Year	Country	Methodology
Cerdá et al.*	2012	Colombia	Quasi-experimental
Cook and MacDonald	2011	USA	Quasi-experimental
Gill and Spriggs*	2005	UK	Quasi-experimental
MacDonald et al.	2009	USA	Quasi-experimental
Munyo and Rossi	2016	Uruguay	Quasi-experimental
Painter and Farrington	1999	UK	Quasi-experimental
Priks	2015	Sweden	Quasi-experimental
Quinet and Nunn	1998	USA	Quasi-experimental
Ratcliffe et al.	2009	USA	Quasi-experimental

3.2 Community Policing

Authors	Year	Country	Methodology
Connell et al.*	2008	USA	Interrupted time series
Weisburd et al.*	2008	USA	RCT

3.3 Disorder Policing

Authors	Year	Country	Methodology
Braga and Bond*	2008	USA	RCT
Berk and MacDonald*	2010	USA	Quasi-experimental
Weisburd et al.	2012	USA	RCT

3.4 Community-based Prevention Programs

Authors	Year	Country	Methodology
Berk-Selikson et al.*	2014	El Salvador	RCT
Harrell et al.	1999	USA	RCT, Quasi-experimental
Hawkins et al.*	2012	USA	RCT
Kuklinski et al.*	2008	USA	RCT
Ruprah	2008	Chile	Quasi-experimental

3.5 Gang Outreach Programs

Authors	Year	Country	Methodology
McClanahan et al.*	2012	USA	Quasi-experimental
Wilson and Chermak	2011	USA	Quasi-experimental

3.6 Mentoring

Authors	Year	Country	Methodology
Barnoski and Drake	2006	USA	Quasi-experimental
Bernstein et al.	2009	USA	RCT
Blechman et al.	2000	USA	Quasi-experimental
Braga et al.	2009	USA	Quasi-experimental
Burke et al.	2003	USA	RCT
Cheng et al.	2008	USA	RCT
Grossman et al.	2002	USA	RCT
Herrera et al.	2007	USA	RCT
Herrera et al.	2011	USA	RCT
Johnson and Larson	2003	USA	Quasi-experimental
Lane et al.	2005	USA	RCT
Maxfield et al.	2003	USA	RCT
Rodriguez-Planas	2012	USA	RCT
Wiebush et al.	2005	USA	RCT

3.7 School-based Programs

(People-based)

Authors	Year	Country	Methodology
Botvin et al.	2006	USA	RCT
Esbensen et al.	2009	USA	Quasi-experimental
Gottfredson et al.	2004	USA	RCT, Quasi-experimental
Haggerty et al.	2007	USA	RCT
Swaim and Kelly	2008	USA	RCT

(Behavior-based)

Authors	Year	Country	Methodology
Esbenses et al.	2001	USA	Quasi-experimental
Esbensen et al.	2011	USA	RCT
Esbensen et al.	2013	USA	RCT
Flay et al.	2004	USA	RCT
Godley and Velasquez	1998	USA	Quasi-experimental
Harrington et al.	2001	USA	RCT
Ngwe et al.	2004	USA	RCT
O'Donnell et al.	1999	USA	Quasi-experimental
Perry et al.*	2003	USA	RCT

3.8 Non-custodial Sanctions (Supervision)

Authors	Year	Country	Methodology
Apel and Sweeten	2010	USA	Quasi-experimental
Bales and Piquero	2012	USA	Quasi-experimental
Bales and Piquero	2013	USA	Quasi-experimental
Dembo et al.	2006	USA	RCT
Guydish et al.	2011	USA	RCT
Joliffe et al.	2011	UK	Quasi-experimental
Loughran et al.	2009	USA	Quasi-experimental
Lulham et al.	2009	Australia	Quasi-experimental
McGrath and Weatherburn	2012	Australia	Quasi-experimental
Millson et al.	2010	USA	Quasi-experimental

D.4 Interventions with strong or moderate evidence of ineffectiveness

4.1 Hospital-based Programs

Authors	Year	Country	Methodology
Aboutanos et al.*	2011	USA	RCT
Cooper et al.*	2006	USA	RCT
Walton et al.	2010	USA	RCT
Zun et al.	2006	USA	RCT

4.2 Boot Camps

Authors	Year	Country	Methodology
Bottcher and Ezell	2005	USA	RCT
Jones and Ross	1997	USA	Quasi-experimental
Kempinen and Kurlychek	2003	USA	Quasi-experimental
MacKenzie et al.	2007	USA	RCT
Millenky	2011	USA	RCT
Stinchcomb and Terry	2001	USA	Quasi-experimental
Trulson et al.	2001	USA	Quasi-experimental
Wells et al.	2006	USA	Quasi-experimental

4.3 Juvenile Curfews

Authors	Year	Country	Methodology
Cole*	2003	USA	Interrupted time series
Kline*	2011	USA	Interrupted time series
McDowall et al.*	2000	USA	Interrupted time series
Roman and Moore*	2003	USA	Interrupted time series

4.4 Drug Law Enforcement

Authors	Year	Country	Methodology
Benson et al.*	1998	USA	Interrupted time series
Benson et al.*	2001	USA	Interrupted time series
Cohen et al.*	2003	USA	Quasi-experimental
Eck and Wartell	1998	USA	RCT
Lawton et al.	2005	USA	Quasi-experimental
Mazerolle et al.*	2000	USA	RCT
Resignato*	2000	USA	Interrupted time series
Shepard and Blackley*	2005	USA	Interrupted time series

4.5 Juvenile Curfews

Authors	Year	Country	Methodology
Baker and McPhedran*	2007	Australia	Quasi-experimental
Ronconi and Lewis	2011	Argentina	Quasi-experimental

Annex E – Analysis Tables

Tables presented in this Annex report on the overall effects reported by selected papers of each of the 22 analyzed interventions, showing how many RCTs and quasi-experimental studies have been selected for each. The effect size column resumes the size and direction of effects on relevant measured outcomes.

A guide to interpret the magnitudes:
Strong (effect size greater than 20%)
Moderate (effect size between 5% and 20%)
Weak (effect size smaller than 5%)
No effect/statistically non-significant effect: None
Negative effects: Negative

For cases in which the evidence is not clearly pointing towards one of the five defined dimensions, we use a mixed notation, e.g. "Moderate/Weak" where the first label is the predominant.

Group 1

Interventions with strong evidence of effectiveness

Name	# of papers	RCT	Q-E	Effect size	Outcomes
1.1 Focused deterrence	**26**	-	**26**	**Moderate/Strong**	Crime Violence
Gang violence	*16*	-	*16*	*Strong*	
Individual violence	*5*	-	*5*	*Moderate/Strong*	
Drug Market Intervention	*5*	-	*5*	*Weak/Moderate*	
1.2 Cognitive Behavioral Therapy	**39**	*14*	*25*	**Moderate/Strong**	Crime Recidivism
People-based	*26*	*11*	*15*	*Strong/Moderate*	
Behavior-based	*13*	*3*	*10*	*None/Weak*	
1.3 Multidimensional Juvenile Therapy	*16*	*10*	*6*	**Strong/Moderate**	Crime Recidivism
MST	*7*	*6*	*1*	*Strong*	
MTFC	*9*	*4*	*5*	*Strong/Moderate*	
1.4 Drug courts and treatment	**38**	*18*	*20*	**Moderate**	Recidivism
Courts	*21*	*6*	*15*	*Moderate/Strong*	
Treatment and Aftercare	*17*	*12*	*5*	*Weak/Moderate*	
1.5 Alcohol control	**8**	*1*	*7*	**Moderate/Strong**	Crime Violence Disorder
1.6 Hot Spots policing	**12**	*10*	*2*	**Moderate**	Crime Violence

Group 2

Interventions with moderate evidence of effectiveness

Name	# of papers	RCT	Q-E	Effect size	Outcomes
2.1 Vocational training and employment	**6**	6	-	**Moderate**	Crime Violence Recidivism
2.2 Restorative justice	**11**	*7*	*4*	**Moderate/Weak**	Recidivism Victimization
2.3 Non-custodial Sanc. (Alternative)	**7**	*3*	*4*	**Moderate/Weak**	Recidivism
2.4 Conditional Cash Transfer	**2**	-	*2*	**Moderate/Weak**	Crime

Group 3

Interventions with inconclusive or contested evidence

Name	# of papers	RCT	Q-E	Effect size	Outcomes
3.1 CPTED	**10**	-	*10*	**Weak/Mixed**	Crime Violence Victimization
3.2 Community policing	**2**	*1*	*1*	**Mixed**	Crime Violence
3.3 Disorder policing	**3**	*2*	*9*	**Mixed**	Crime Disorder
3.4 Community-based prevention	**5**	*4*	*1*	**Weak/Mixed**	Crime
3.5 Gang outreach programs	**2**	-	*2*	**Mixed**	Violence
3.6 Mentoring *Primary/Secondary Prevention* *Tertiary/Rehabilitation*	**14** *6* *8*	*10* *6* *4*	*4* - *4*	**None/Weak** *None* *None/Weak*	Crime Violence Recidivism
3.7 School-based prevention *People-based* *Behavior-based*	**14** *5* *9*	*10* *4* *6*	*4* *1* *3*	**None/Weak** *None/Weak* *None/Mixed*	Crime Violence Victimization
3.8 Non-custodial Sanc. (Supervision)	**12**	*5*	*7*	**None/Weak**	Recidivism

Group 4

Interventions with strong or moderate evidence of ineffectiveness

Name	# of papers	RCT	Q-E	Effect size	Outcomes
4.1 Hospital-based prevention	**4**	4	-	**None**	Violence Victimiz Recidivism
4.2 Boot campsg	**8**	*3*	*5*	**None/Negative**	Recidivism
4.3 Juvenile curfews	**4**	-	*4*	**None**	Crime
4.4 Drug law enforcement *Traditional* *Problem-oriented policing*	**8** *6* *2*	*2* - *2*	*6* *6* -	**Negative/None** *Negative* *Moderate (drug crime)*	Crime Violence
4.5 Gun buyback	**2**	-	*2*	**None**	Violence

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Notes

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