

The Potential Costs of Police Databases: Exploring the Performance of California's Gang Database (CalGang)

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Informatics and databases used to track crime are an increasing part of crime prevention strategies and hold promise for identifying individuals likely to be involved in crime so they can be more easily tracked to prevent future crimes. This article uses cost analysis techniques to explore the utility of California's gang prevention database (CalGang) from 1997 to 2010. Costs included the primary operating costs of the database and secondary costs associated with Type I and Type II errors. CalGang tracks more than 235,000 individuals implicated in gang activity statewide. Although the primary costs of operating the database were relatively low, secondary costs resulting from errors were much larger and led to an overall greater cost to society. In addition, it appears that CalGang has not been successful in reducing the rate of gang-related crime in Los Angeles. Resources for CalGang may be better spent on other crime prevention activities that are less costly to society and lead to greater prevention.

In 1997, several California law enforcement agencies, including the Los Angeles Police Department (LAPD), merged their local gang databases to form a statewide online database called CalGang (O'Deane, 2010). The CalGang system is operated by the California Gang Node Advisory Committee (California Gang Node Advisory Committee, 2007) under the auspices of the California District Attorney's Office. All qualified law enforcement and criminal

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justice agencies across California and other states have access to CalGang at the user's expense. The state of California activated CalGang, a database designed to track gang activity as a strategy to improve and coordinate law enforcement and criminal justice systems, as part of a larger effort to prevent gang-related crime. This article explores the use of the CalGang system as a tool for reducing gang related crimes, using techniques from cost analysis methodologies.

BACKGROUND

The CalGang database is a statewide intranet system established to explicitly track gang members and gang-related crime (O'Deane, 2010). Today the CalGang database is the most used database of its kind and is designed to increase law enforcement's ability to prevent street-organized crimes. The system has advanced with technology and is accessible by law enforcement officials through any web browser, including via cell phones or laptops in police cruisers (Walczak, 2009).

The state of California funds CalGang and related gang suppression programs through the California Emergency Management Agency (Cal EMA). This funding supports gang suppression training and education for law enforcement officers and the appointment of a statewide gang coordinator (California Emergency Management Agency, 2011). These initiatives are funded by the state under the assumption that gang-related crime has become so organized and dispersed that it needs to be addressed at a high level (Everhart, 2003). CalGang is used by 486 distinct agencies and 5,401 individual law enforcement personnel, making it the most widely used gang database in the nation (Everhart, 2003).

It appears that the CalGang database emerged as a result of the Street Terrorism Enforcement and Prevention (STEP) Act of 1988 (2008; also see Van Hofwegen 2009) passed in California. The STEP Act was a broad piece of legislature with the ultimate intention of eradicating street gang criminal activity. The STEP Act represents one of the critical policies that made participation in a street gang explicitly illegal and punishable by the court. The STEP Act also provided increased sentences for gang-related crimes known as gang enhancements, which result in criminal defendants facing more harsh sentences than they would otherwise serve for the underlying offense (Van Hofwegen, 2009). Less than 10 years later, the CalGang information database was introduced as the accessibility of computers and information technology advanced.

The CalGang database is ultimately a policy that intends to reduce gang-related crime. Using the STEP Act definition of what constitutes a gang or gang member, law enforcement and criminal justice agencies can track gang-related activity via a faster, more interconnected process by allowing dependable access to shared information across multiple agencies (Mason,

2013). Prior to the introduction of electronic criminal databases, police departments maintained intelligence files on gangs and gang members (Jacobs, 2009). Electronic databases improved on this by allowing for more systematic information gathering and storage, powerful search capacity, and high-speed retrieval of intelligence. The CalGang database is primarily used for intelligence purposes, but jail and prison officials can use database information to enhance institutional order and discipline. Van Hofwegen (2009) outlined the theoretical approaches of punishment that underlie the STEP Act, including utilitarian, retribution, and rehabilitationist approaches. CalGang as a crime reduction strategy appears to coincide with the utilitarian approach, which posits that the overall societal benefit of a policy outweighs the potential impact on particular individuals. Prosecutors and judges can also access database information to assist criminal justice processes including charging, plea-bargaining, and sentencing decisions (Jacobs, 2009). Information entered into the database is not made available to the public because “doing so would jeopardize the use of the system as an investigative tool” (Everhart, 2003, p. 27).

In 2010, there were 6,442 gangs with 235,579 active members registered in the CalGang system (Harris, 2010). The Advancement Project (2007) estimated that at least 41,000 of California's registered gang members lived in the city of Los Angeles. The gang database tracks up to 200 items of personal information, including nicknames, tattoos, mug shots, vehicles, and known associates. To be entered into the database, an individual must meet only two of the following criteria (CGNAC, 2007):

- admitted to being a gang member;
- arrested with known gang members for offenses consistent with gang activity;
- identified as a gang member by a reliable informant or source;
- identified as a gang member by an untested informant;
- seen affiliating with documented gang members;
- seen displaying gang symbols or hand signs;
- seen frequenting gang areas;
- seen wearing gang attire; and
- known to have gang tattoos.

Criteria for entry into CalGang have been criticized for being overly broad, and database entry often relies on the discretionary judgment of law officers. Criteria for entry is also different than that of the STEP Act, which has also been criticized as “overbroad and vague” (Yoshino, 2008, p. 121). The STEP Act identifies individuals who actively participate and/or are convicted of a gang related crime (see <http://codes.lp.findlaw.com/cacode/PEN/3/1/7/11/s186.22>; California Penal Code 186.22). The CalGang criteria appears to add onto the STEP Act criteria to include information from untested sources. Gang-related signifiers such as “frequenting gang areas” and

“wearing gang attire” are vague and subject to individual prejudice and bias (Walczak, 2009). It is possible that these additional criteria could influence rates of individuals erroneously included in the database. Department-level misconduct may also increase error. One study reported evidence of a department purposely manipulating gang member estimates to secure more federal funding (Wright, 2005). The process for removing incorrect or outdated information is also lacking. Removal of a file occurs after 5 years of inactivity (CGNAC, 2007). This means 5 years without any interaction with law enforcement, not even a traffic violation. There is no removal process for ex-gang members, and individuals may remain in the database long after ceasing any gang-related activity. These factors create the opportunity for errors in the database. There has been little empirical examination of how effective gang-tracking databases, such as the CalGang system, are at preventing crime.

METHODS

This analysis was conducted to examine the costs and potential effects of the CalGang Database in the city of Los Angeles. The primary outcome measure was the related net financial costs accrued by the city since CalGang became active in 1997. Data came from city and state budget reports, media sources, and other published cost-analysis studies. All costs were converted to 2010 U.S. dollars. All data reported are for the city of Los Angeles, except in some cases in which extrapolation was not possible, in which case data for Los Angeles County were used. The estimated costs of CalGang were compared with statistics of gang-related homicide in Los Angeles during this same time period. Crime statistics were retrieved from the LAPD and the *Los Angeles Almanac*, which is published yearly by Los Angeles County.

Two costs associated with the CalGang database were considered: the costs associated with system operation and the costs associated with potential system error. System costs are accrued at both the city and state level and include the cost of software, hardware, user training, system implementation, licensing fees, maintenance, and technical support. The cost of potential system error includes Type I and Type II errors. Type I errors occur when an individual is mislabeled as a gang member and entered into the database. Type II errors occur when an active gang member remains unidentified. The potential costs associated with errors were determined through media reports and other published studies and will be discussed further (Aba-Onu, Levy-Pounds, Salmen, & Tyner, 2010; Barrows & Huff, 2006; Dussault, 1998).

RESULTS

As one of 24 California cities to receive support, Los Angeles received 10.92% of the total funding from a statewide antigang initiative proposed by the

TABLE 1 Annual Cost of CalGang Database for City of Los Angeles

	Cost
State CalGang operating cost ^a	\$62,301
Annual CalGang licensing fee	\$4,247
City personnel cost ^b	\$345,477
Total	\$412,025

^aProjected cost of gang suppression programs funded by California Emergency Management Agency taken from 2011 proposed state budget (California Department of Finance, 2011). The city of Los Angeles received 10.92% of state antigang funding distributed to 24 cities. This ratio was used to calculate the amount of state antigang funding distributed to Los Angeles for CalGant and supporting programs.

^bDussault (1998).

governor and Cal EMA. This figure was used to calculate the percentage of CalGang's budget dedicated to Los Angeles. According to this ratio, the city of Los Angeles pays \$62,301 of CalGang's yearly costs. Beyond state support, each agency using the database must use its own funding to support initial and yearly licensing fees and yearly personnel costs that include user training, hardware, and system maintenance. The initial licensing fee of \$31,750 and annual licensing fee of \$4,247 were estimated based on fees paid by Ramsey County, Minnesota, to use the comparable GangNet database, which is managed by the same distributor as CalGang. It is important to note that the LAPD has more users and a larger overall operation than Ramsey County; using Ramsey County's figures is most likely underrepresentative of CalGang's actual cost for Los Angeles. The cost of system-related personnel was estimated to be \$345,477. These costs include LAPD operations such as hardware and software maintenance and user trainings. These costs were estimated using excerpts from an LAPD press release published the year after the database was activated (Dussault, 1998). See Table 1 and Table 2 for estimated costs.

Cost of Error

The financial cost of operating the CalGang system is not the only cost that needs to be considered when evaluating the effectiveness of this database.

TABLE 2 Costs accrued by CalGang database, 1997–2010

	Annual costs	Years of accrual	Total
Initial user licensing fee ^a	\$31,750	1	\$31,750
Operating budget	\$312,025	13	\$5,356,325
Total			\$5,388,075

^aRegan (2011).

Secondary expenses include costs to individuals and society resulting from errors related to operating such a large database. To identify these secondary costs, a literature search was conducted to identify standard rates of errors for existing criminal databases and apply these rates to CalGang in Los Angeles. This approach was necessary because it is extremely difficult to get an accurate measure of error related to CalGang due to the classified nature of confidential criminal intelligence information.

A 2007 audit of the Minnesota Gang Pointer File, a state database with the same operating system as CalGang, revealed 300 of the 2,052 entries (14.6%) in the system had some type of error (Aba-Onu et al., 2010). Using this estimated rate of error, 5,986 of the 41,000 entries in GalGang related to Los Angeles would be erroneous. It is important to note that Minnesota's database is much smaller than CalGang, with 96 operating agencies compared to California's 486; thus, the level of error in CalGang is conceivably much higher (Dussault, 1998). One estimate suggested the rate of error for CalGang in Los Angeles could be as high as 50% (Olson, 2003).

In a review of state-level gang databases, Barrows and Huff (2006) identified two types of potential errors: Type I error (an individual being mislabeled as a gang member) and Type II error (an active gang member remaining unidentified and not entered in the database). There are obvious risks associated with Type I errors. A person does not need to commit a crime to be entered in the database, yet once entered that individual is at risk of being charged with gang-related crimes including the violation of civil gang injunction laws (Grogger, 2002). Gang injunctions are spatially based, neighborhood-level interventions designed to impede gang-related activity (Maxson, Hennigan, & Sloane, 2005). Injunction laws specific to gang neighborhoods prohibit gang members from engaging in otherwise legal behavior. Under these injunctions, known or assumed gang members that gather in groups of two or more are breaking the law and can be arrested. Individuals are not notified when they are entered into CalGang and cannot dispute their inclusion if they are falsely labeled as a gang member. This puts falsely labeled individuals at risk of being charged with crimes they had no way of knowing they were committing.

Allegations of gang membership significantly affect criminal case outcomes for both juveniles and adults. In a survey of members of the National Association of Criminal Defense Lawyers, four-fifths of respondents reported that gang allegations were frequently leveled against clients who were not gang members (Howell, Egley, Tita, & Griffiths, 2011). It was also reported that these allegations were rarely reviewed for accuracy. Expert testimony stating that an individual is in the CalGang database is typically sufficient evidence to establish gang membership and allegations of gang membership affect bail requests and pretrial releases and increase the probability of conviction (Wright, 2005). They also result in tougher sentencing due to gang enhancement statutes, which add 2 to 5 years to a sentence (Van Hofwegen,

2009). In 2011, a study found more than 1,480 wrongful incarcerations occurred in Los Angeles County as a result of identification errors (Faturechi & Leonard, 2011). The County Sheriff's Department defended this rate of error as a result of time restrictions, stating that claims of false innocence are so frequent it would be impossible to check every one.

In addition to city, county, and state costs associated with processing an individual accused of a gang crime, there are societal costs related to prosecuting misidentified individuals. Being charged with a gang crime affects employment background checks and limits potential educational opportunities (McGreevy & Banks, 2006). Documented gang members are also more likely to experience excessive force by law enforcement than undocumented individuals (Wright, 2005). In addition, false entry into a gang database can result in false assumptions of affiliation with a particular gang. In communities where law enforcement interaction is highly visible, rumored affiliations could increase an individual's risk of being targeted by rival gang members (Barrows & Huff, 2006). The per capita annual cost of the wrongful incarceration of an individual misidentified as a gang member is \$42,178 (see Table 3). This cost accounts for criminal justice processing fees, victim injury, and loss of earnings. Although not every individual would achieve this maximum cost of \$42,000 a year, given the estimated 5,986 individuals who may be inappropriately included in the CalGang database, there is the potential for a very significant cost related to misidentified individuals.

Being labeled as a gang member may also influence an individual's place in society. This label contains a harmful social stigma. Gang members are often automatically labeled as criminals; they are viewed as morally deviant, extremely violent, and potentially deadly, with little redeeming value for the community and society in general. In addition, gang databases run the risk of not targeting individuals for their criminal behavior but rather submitting entire neighborhoods and communities to increased police surveillance. In Los Angeles, these targeted communities are primarily racially and ethnically diverse and of low socioeconomic status. One study reported that approximately half of all African American men between the ages of 16

TABLE 3 Cost of Charging a Misidentified Individual with a Gang Crime

	Cost
Arrest, booking, and processing ^a	\$5,982
Court and prosecution ^a	\$2,075
Annual jail costs ^a	\$23,878
Annual lost earnings ^b	\$8,060
Victim injury costs ^b	\$2,183
Total	\$42,178

^aGolden, Siegel, and Forsythe (2007).

^bCohen (1998).

and 24 in Los Angeles were listed as gang members and associates (Van Hofwegen, 2009). In 2003, it was reported that 47% of African American men in Los Angeles County between the ages of 21 and 24 had been logged into the county's gang database (Siegel, 2003). In 2010, it was revealed that law enforcement personnel had entered more than 235,000 California residents into the CalGang database and more than two thirds were Hispanic or African American (Harris, 2010). In addition, a report by the Youth Justice Coalition (2012) highlights the database's racial imbalance, estimating that only 0.29% of all white individuals in Los Angeles County between the ages of 20 and 24 members are included in the database. This is compared to 3.5% of all Los Angeles County Latinos and 10.6% of all African Americans in the same age categories. The report also notes that Los Angeles County is home to the highest number of White supremacy groups in the nation. Critics of the database believe it unfairly targets minority youth, labeling them as criminals and gang members despite the fact that a significant percentage of the individuals in the database have never committed a criminal offense (Kernan, 2003).

It is slightly more difficult to determine the potential cost of a Type II error (i.e., an unidentified gang member). For this analysis, violent gang-related crime will be considered a result of CalGang Type II error. Violent crime in the United States has declined during the past decade. However, gang-related violence has not followed the same trend. Gang-related homicides in large cities increased 7% between 2005 and 2009 (Howell et al., 2011). Los Angeles has the highest prevalence of gang-related homicides in the nation. In 2009, approximately half of the homicides in Los Angeles were gang related. Table 4, Figure 1, and Figure 2 provide detailed statistics for homicides in the city of Los Angeles between 1989 and 2008. During the past 20 years, the number of gang-related homicides was lowest in 1998, a year after the CalGang was activated in the LAPD's jurisdiction. This represents a 66% reduction compared to 1992, the year with the most gang-related homicides.

In 2008, 10 years after the CalGang database was introduced in Los Angeles, gang-related homicides totaled 267. Superficially, it appears that gang-related crimes decreased. Although overall homicide rates in Los Angeles decreased sharply between 1989 and 2008, the percentage of homicides related to gang activity increased during this time. In 1996, 1 year before CalGang was used in Los Angeles, only 24.75% of homicides were gang related, the lowest rate on record. In 2008, 70% of homicides were gang related, the highest rate on record. Although examining causation between CalGang and homicide rates is beyond the scope of this paper, there is certainly an unexpected trend between the use of a gang database and the rate of gang homicide.

Since 1989, there has been a slight decrease in gang-related homicides in Los Angeles. There has also been a much sharper decrease in overall

TABLE 4 Los Angeles Police Department Gang and Total Homicide Statistics, 1989–2008

Year	Gang homicides	Total homicides	Rate (%)
1989	303	874	34.67
1990	329	983	33.47
1991	375	1,025	36.59
1992	430	1,092	39.38
1993	346	1,077	32.13
1994	370	850	43.53
1995	408	838	48.69
1996	175	707	24.75
1997	153	569	26.89
1998	129	420	30.71
1999	141	424	33.25
2000	254	542	46.86
2001	308	605	50.91
2002	350	646	54.18
2003	262	526	49.81
2004	291	515	56.50
2005	244	490	49.80
2006	266	478	55.65
2007	228	696	57.58
2008	267	382	69.90

Note. Data retrieved from <http://www.streetgangs.com/homicides/lachomichart.html>; figures in bold represent highest and lowest values in each column.

homicides. However, the rate of gang-related homicide has steadily increased since the LAPD began using CalGang. These trends may be associated with Type II error, which is extremely difficult to calculate due to the inherent difficulty of determining the number of unidentified gang members. Although this figure is unknown, it is safe to assume that this type of

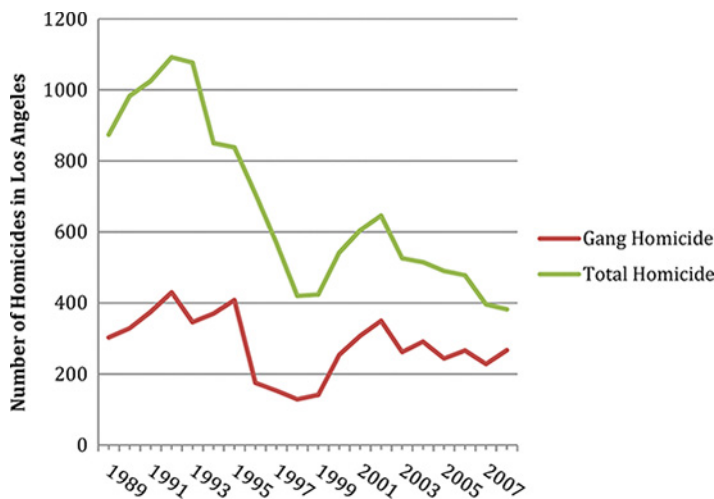


FIGURE 1 Number of gang-related homicides in Los Angeles, 1989–2008.



FIGURE 2 Rate of gang-related homicides in Los Angeles, 1989–2008.

error is extremely costly to the state and society because it may overlook gang members who theoretically could be prevented from committing a homicide. For example, the cost of a single gang-related homicide has been estimated to be as much as \$1.58 million (DeLisi et al., 2010).

DISCUSSION

This examination of the CalGang Database sought to add to the growing body of research evaluating the utility and effectiveness of various gang-crime-related policies and programs. Gang violence is a pivotal issue that needs to be addressed in the city of Los Angeles. There is potential value in tracking gang members and gang-related crime at city, county, and state levels. A tracking system can be used to locate suspected offenders, coordinate law enforcement, and prosecute gang members for crimes that cross jurisdictions. Maintaining an accurate count of active gang members is also important to understanding the severity of gang-related problems in various communities. Without an accurate measure, it would be difficult to appropriately distribute state and county funding. An accurate system would also enable the measurement of the effectiveness of antigang initiatives. Unfortunately, evidence found in the present study indicates that the accuracy of the CalGang database is questionable, at the very least.

The CalGang database serves several functions including tracking gang members and gang related crime. It also assists in prosecuting and monitoring suspects of gang-related crime. These functions are necessary in reducing the effects of gang-related crime in society however there is no empirical evidence to confirm that the CalGang database has contributed to these efforts. This examination has suggested that CalGang may actually contribute to inefficiencies in antigang strategies through widespread misidentification of individuals as gang members. The potential to misidentify an individual has

serious implications. There are large costs in the criminal justice system related to being wrongfully charged with gang-related violations. Without access to confidential internal law enforcement reports, there is no way of knowing the true rate of error. However, various anecdotal accounts continue to be published in state and local newspapers documenting that these errors are still occurring and that being inaccurately identified as a gang member has a significant negative effect on individuals (Hobson, 2012; Samaha, 2012).

California law enforcement policies and practices, including CalGang, unfairly enable the criminalization of gang members. They also prevent individuals from accessing opportunities to leave gangs. Being labeled a gang member can negatively affect employment, education, and interaction in various social systems. Although the total CalGang budget may seem small in comparison to other policing programs, it represents poorly spent funding if the database failed to reduce gang-related homicide, as evidence has suggested. In addition, the societal costs may be increased due to errors related to inclusion in the database. Professionals in the field that work with ex-gang members state that inclusion criteria are liberal. Frank Blaney, director of youth leadership development at Peace Over Violence, has facilitated a men's empowerment group at Homeboy Industries since 2007. Based on his experience in the field, Blaney said it would be "almost impossible to avoid meeting these criteria if you are a young resident living in a gang occupied community" (Frank Blaney, personal communication, March 17, 2011). The database also appears to disproportionately target minority youth and may have an additional cost of contributing to racial discriminatory policies. In 2003, Loren Siegel reported that 47% of African American men in Los Angeles County between the ages of 21 and 24 had been logged into the Los Angeles County gang database and that law enforcement personnel had entered more than a quarter million Californians into the CalGang database across the state. Critics of the database believe it unfairly labels minority youth as gang members and that a vast majority of the individuals in the database have never committed a criminal offense (Kernan, 2003). Improved operating strategies and inclusion criteria are needed to make CalGang more effective and limit the effect of erroneous or missed identifications.

The CalGang database is a tool that can be used by law enforcement officials to perpetuate racial profiling. Referring to the criteria for being entered into the database, only one criterion reflects a direct connection to criminal behavior, yet being entered into the database automatically labels individuals as criminals. The weight that comes with being entered into the database is significant. First, because the database is used only by law enforcement agencies, all information is confidential. This means that citizens are unable to know whether or not they have been entered in the database. In addition, the Los Angeles City Attorney's Office has stated that there is system in place that purges "files that have been inactive for over 5 years"

(Kernan, 2003). Because the information is confidential, there is no way to determine the effectiveness of this system.

Cessation of the CalGang database may not be feasible or necessary. However, resources may be better spent on other crime-prevention activities that have less room for error and more evidence for prevention. Recently, several intervention programs have proven to be successful in reducing gang-related crimes including homicide. Chicago's Cure Violence Program (CVP, formerly known as the CeaseFire Program) is an example of an intervention that uses a social-network-based violence prevention strategy (Bonner, McClean, & Worden, 2008; Deeney, 2012). Originally created to reduce gang violence, the program is driven by a theory known as social learning, which posits that learned behavior is reinforced by peers (Bandura, 1977). In the case of the CVP, intervening with the most high-risk and violent individuals in a social network is expected to reduce violence throughout the entire network. The program enlists community outreach workers to identify individuals who have a large influence over their peers. The hope is that assisting these key individuals will promote positive change that reverberates throughout the larger community (Deeney, 2012). CVP has proven to be a success. Rigorous evaluation by the U.S. Department of Justice found a 41% to 73% drop in shootings and killings in designated program zones and a 100% reduction in retaliation murders in five of the eight neighborhoods surveyed (Skogan, Hartnett, Bump, & Dubois, 2011). The program has also been successfully adapted and implemented in cities beyond Chicago (Webster, Whitehill, Vernick, & Curriero, 2013), yet it has not been adopted in California.

There are several limitations to note in this study. First, our data suggest that the CalGang database has not been successful in reducing the rate of gang-related crime, but without analyzing all criminal activity in Los Angeles there is no way to make conclusions regarding the database and crime in general. The data related to the effectiveness and errors associated with the database were inferred from various reports and news articles. Future research should be conducted with confirmed data received from government institutions. Further, the breadth of this study was unable to include the benefits and potential reduced costs related to use of the database. Future research should explore this further.

CONCLUSION

Gang members and gang-associated individuals hold a place in society with one of the most harmful social stigmas. Not only are they automatically labeled as criminals; they are morally deviant, extremely violent, often deadly, with no redeeming values to the community and society in general. This examination concludes that the CalGang database may contribute to

these social stigmas and does not appear to reduce gang-related crimes. The CalGang procedures and effects should be further examined to improve accuracy. In addition, alternative and complementary policies to alleviate the effects of gang-related crime should be explored.

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